



State of the Park Report 2015

Fort Union Trading Post National Historic Site North Dakota and Montana



2017

On the cover: Once home to the Fort's manager and key staff, the Bourgeois House now serves as the historic site's Visitor Center and Administrative Building. NPS Photo.

Disclaimer. This State of the Park report summarizes the current condition of park resources, visitor experience, and park infrastructure as assessed by a combination of available factual information and the expert opinion and professional judgment of park staff and subject matter experts. The [internet version](#) of this report provides the associated workshop summary report and additional details and sources of information about the findings summarized in the report, including references, accounts on the origin and quality of the data, and the methods and analytic approaches used in data collection and assessments of condition. This report provides evaluations of status and trends based on interpretation by NPS scientists and managers of both quantitative and non-quantitative assessments and observations. Future condition ratings may differ from findings in this report as new data and knowledge become available. The park superintendent approved the publication of this report.

Executive Summary

The mission of the National Park Service is to preserve unimpaired the natural and cultural resources and values of national parks for the enjoyment, education, and inspiration of this and future generations. [NPS Management Policies \(2006\)](#) state that “The Service will also strive to ensure that park resources and values are passed on to future generations in a condition that is as good as, or better than, the conditions that exist today.” As part of the stewardship of national parks for the American people, the NPS has begun to develop State of the Park reports to assess the overall status and trends of each park’s resources. The NPS will use this information to improve park priority setting and to synthesize and communicate complex park condition information to the public in a clear and simple way.

The purpose of this State of the Park report is to:

- Provide to visitors and the American public a snapshot of the status and trend in the condition of a park’s priority resources and values;
- Summarize and communicate complex scientific, scholarly, and park operations factual information and expert opinion using non-technical language and a visual format;
- Highlight park stewardship activities and accomplishments to maintain or improve the State of the Park;
- Identify key issues and challenges facing the park to help inform park management planning.

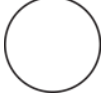
The purpose of Fort Union Trading Post National Historic Site (“Fort Union Trading Post NHS,” FOUS) is “to commemorate and interpret the significant role of the fort as the preeminent fur trading post on the Upper Missouri River, and to preserve its resources.”

Fort Union Trading Post National Historic Site is significant as a unit of the national park system for the following reasons:

- Fort Union is significant for its impact on the history, exploration, transportation, economics, and culture of the American frontier on the Upper Missouri River from 1828 to 1867.
- Fort Union epitomizes the mutually advantageous interaction of American Indian and European American cultures associated with the fur-trading empire on the Upper Missouri River region of the American frontier.
- Fort Union is the best representation of the establishment and maintenance of a permanent fur trading post on the Upper Missouri River that capitalized on a long-established American Indian trade network.
- Fort Union’s abundant archeological, archival, and documentary resources offer a rare comprehensive record of the physical site and human activities during the fur trade. This record allowed for accurate reconstruction of the fort and continues to support extensive exhibits of Northern Plains material culture (trade goods, tools, and personal items) from both the prehistoric and fur trade eras.
- Fort Union’s rural landscape provides a sense of place for visualizing the past, recognizing the isolation of the area, and appreciating the wide-open spaces of the confluence of the Missouri and Yellowstone Rivers to both American Indians and European Americans.

The summary table, below, and the supporting information that follows, provide an overall assessment of the condition of priority resources and values at FOUS based on scientific and scholarly studies and expert opinion. The internet version of this report, available at <http://www.nps.gov/stateoftheparks/fous/>, provides additional detail and sources of information about the resources summarized in this report, including references, accounts on the origin and quality of the data, and the methods and analytical approaches used in the assessments. Reference conditions that represent “healthy” ecosystem parameters, and regulatory standards (such as those related to air or water quality) provide the rationale to describe current resource status. In coming years, rapidly evolving information regarding climate change and associated effects will inform our goals for managing park resources, and may alter how we measure the trend in condition of park resources. Thus, reference conditions, regulatory standards, and/or our judgment about resource status or trend may evolve as the rate of climate change accelerates and we respond to novel conditions. In this context, the status and trends documented here provide a useful point-in-time baseline to inform our understanding of emerging change, as well as a synthesis to share as we build broader climate change response strategies with partners.

The Status and Trend symbols used in the summary table below and throughout this report are summarized in the following key. The background color represents the current condition status, the direction of the arrow summarizes the trend in condition, and the thickness of the outside line represents the degree of confidence in the assessment. In some cases, the arrow is omitted because data are not sufficient for calculating a trend (e.g., data from a one-time inventory or insufficient sample size).

Condition Status		Trend in Condition		Confidence in Assessment	
	Warrants Significant Concern		Condition is Improving		High
	Warrants Moderate Concern		Condition is Unchanging		Medium
	Resource is in Good Condition		Condition is Deteriorating		Low

State of the Park Summary Table

Priority Resource or Value	Condition Status/Trend	Rationale
Natural Resources web ►		
Air Quality		Vistas are sometimes obscured by pollution-caused haze. Ozone levels require no cautionary measures and are unlikely to cause breathing difficulty or injury to ozone-sensitive plants. Vegetation communities, including wetland and prairie vegetation, may be sensitive to excess nitrogen deposition that can affect biodiversity and increase invasive exotic species displacement of native vegetation. Park resources are unlikely to have acidification effects from sulfur due to relatively low deposition rate and ecosystem sensitivity. Airborne toxics, including mercury, can deposit with rain or snow and accumulate in organisms, such as fish, amphibians, and birds, causing reduced foraging efficiency, survival, and reproductive success. Mercury/toxics deposition is a significant concern as evidenced by the statewide fish advisories, consumption guidelines, and predicted very high methylmercury concentrations in park surface waters. The overall air quality assessment is a combination of ozone, deposition, and visibility.
Water Quality		The river and riverbanks remain the property of the adjacent states and, therefore, are not directly managed by the NPS. There is very limited data collected on the stretch of the Missouri River adjacent to FOUS. Samples collected at USGS and EPA gages for the parameters of interest to this assessment were obtained at one time in October 1974. Other available data, collected by Rust (2006) in 2004 and 2005, are nearly a decade old and represent ranges that occur in the summer months of the year; they do not reflect any variation that may be occurring through the influence of seasonal changes. A significant lack of available data makes it inappropriate to assess either condition or trend.

Priority Resource or Value	Condition Status/Trend	Rationale
River and Stream Geomorphology		The river was the transportation highway of the 1800s and its location at the base of the fort made for easy unloading of the steamboat cargo. Thus the river remains an important interpretive component of the park story. The present concern is that the river is meandering to the south and away from the fort. Though no park infrastructure is at immediate risk of damage, the significant changes in channel location and morphology, since the closure of the Fort Peck Dam, has altered natural habitats for both terrestrial and aquatic species. It also diminishes the river's value and effectiveness as one of the park's central interpretive features.
Riparian Forest Communities		Flow regulation of the Missouri River negatively affects the riparian forest community by reducing regeneration of species such as cottonwood. The resulting erosion has reduced the area of riparian forests along the river in FOUS. The erosion created by this regulation has created unnatural conditions, which have led to the introduction of a number of non-native plant species.
Natural Prairie Communities		Preservation of native prairie ecosystems is a natural resource management goal of the NPS. Native diversity at in the Bodmer Unit is at the low end of the natural range of variability seen in nearby grasslands. Exotic plants threaten plant communities by causing reductions in native diversity and changes in ecosystem function.
Reconstructed Prairie Communities		The park has replanted native species on 160 acres of once-farmed land. While this is a positive step in the right direction, the overall composition of the vegetation community lacks a significant number of native species, in comparison to a fully functioning native prairie. Non-native species continue to persist in the replanted areas.
Birds		Birds are of high interest to park managers because of the ecological, aesthetic, and recreational value they provide to the park. However, only the presence of 65 (64%) of the 102 previously documented species have been confirmed.
Mammals		Few large mammals (white tail deer, pronghorn, and moose) frequent the park, and are likely transient, as are coyotes, foxes, and badgers. Small animals such as rodents are common. Richardson's ground squirrels seem more abundant than would be expected. Thirteen-lined ground squirrels and cotton tail rabbits are currently rarely seen. Richardson's ground squirrels' burrowing has a negative impact on the archeological resources.
Viewshed		A viewshed is the area that can be "seen" from a particular location and the viewshed, or cultural landscape, visible from Fort Union is one of the park's fundamental resources and values. The park desires to preserve this historical setting and the feelings and associations it invokes so visitors, according to the park's Long-Range Interpretive Plan, can have the opportunity to "discover the landscape—views, wildlife, fort, and river—the same way and in the same condition to the extent possible that Lewis and Clark (1805–1856), the artists George Catlin (1834), and Karl Bodmer (1834) did." Development of oil wells in the area has negatively impacted the viewshed.

Priority Resource or Value	Condition Status/Trend	Rationale
Dark Night Sky		The modeled Anthropogenic Light Ratio (ALR), a measure of light pollution, was 0.44, which is considered a moderate condition. However, this model was derived from satellite data collected in 1996–1997 and does not take into account the rapid energy development adjacent to the park including natural gas flaring, oil wells and oil loading facilities. Based on these developments and their impact on night sky quality, the condition may be closer to poor. Additionally the city of Williston, ND and Sidney, MT near FOUS have shown rapid population growth over the last 5 years 45% and 21%, respectively, resulting in negative trend (U.S. Census Bureau).
Acoustic Environment		All sound resources, whether we hear them or not, are referred to as the <i>acoustic environment</i> of a park. The quality of the acoustic environment affects park resources including wildlife, cultural resources, the visitor experience, and landscapes. The condition of the acoustic environment is assessed by determining how much man-made noise sources contribute to the existing environment through the use of a national noise pollution model. This measure is referred to as the <i>mean acoustic impact level</i> . Impact is measured in A-weighted decibels (dBA). The mean acoustic impact level at the park is 4.1 dBA, meaning that the condition of acoustic resources warrants significant concern. Overall, long-term projected increases in ground-based and aircraft traffic indicate a downward trend in the quality of acoustic resources at this location.
Cultural Resources web ▶		
Archeological Resources		Significant archeological research, including excavations and artifact analysis, has been conducted to identify and document the park's fur trade-era resources. FOUS has a 100% reconnaissance level inventory. The overall trend in site conditions, archeological survey, and generation of new information are continuing to improve. Additional inventories such as geophysical and archeological testing are needed to provide more detailed information on the location, extents, and contents of archeological sites included in the park. A report synthesizing archeological investigations is needed, which will improve NPS and public understanding of the park's fundamental archeological resources and their significance, as well as aid in encouraging stewardship of those resources.
Cultural Anthropology		Four studies that identify and document FOUS ethnographic resources have been produced since 2006, with a fifth due for completion in 2014. These promote an understanding of the relationship between the park's ethnographic resources and their historic contexts.

Priority Resource or Value	Condition Status/Trend	Rationale
Cultural Landscapes		Sufficient research exists to understand the relationship of the park's cultural landscapes to the historic contexts of the park. The cultural landscape has been identified as a fundamental resource. An updated National Historic Landmark (NHL) nomination (2015), and a 2012 cultural landscape inventory document the resource, place it in its historic context, and facilitate its preservation. A Historic Resources Study will address all resources, including the cultural landscape, and the associated natural resources associated with human occupation and use of the area. Scenario planning as used by the Climate Change Response Program would be useful to aid the park in maintaining integrity of the cultural landscape in the future. This positive trend is counterbalanced by the need to improve the overall composition of the vegetation community in the restored prairie. Given the knowledge contained in the NHL, CLI, and LCS, past and future prairie restoration will improve the park's cultural landscape. Also, river meandering and erosion, while an historical process, has been changed by damming upstream, and impacts the historic relationship of river and fort. Oil-related development, including road widening and train track additions, would adversely impact the historic viewshed.
Historic Structures		One hundred percent of the reconstructed buildings and structures have been inventoried, evaluated for national significance, and included in the updated (2015) NHL nomination as contributing resources. The nine Fort Union above-ground resources are historically accurate, partial reconstructions of the fort to the 1851 era, developed by the NPS as the prime interpretive features for the area. They are identified as fundamental resources and are listed in the List of Classified Structures (LCS).
History		An updated (2015) NHL nomination addresses the significance of this fur trading post beyond the significance identified in the original 1961 nomination. Drawing on 40+ decades of scholarly research and archeological investigations at the fort, the updated NHL nomination addresses 4 themes to examine the complex discussion of cultural interaction, the impacts of Manifest Destiny and westward expansion, and a changing U.S. policy regarding its relationship with the American Indian tribes. While there is no Administrative history, sufficient research has been conducted to establish the reasons for park creation and site history.
Museum Collections		The 2011 Scope of Collections Statement guides park decisions, and three accessions have been deaccessioned as of 2014. There remains a need to identify and accession mission critical archival collections, contingent upon project funding. Ninety-eight percent of objects have been accessioned, and nearly 84 percent have been cataloged. Furnishing the Indian Trade House and Strong Room to a historic period follow a 1993 Historic Furnishings Report. The two collections storage locations by and large meet professional and NPS museum collections storage and environmental standards; however, since the passing of the park's long-time curator, recently recommended storage and environmental control upgrades have not been fully implemented. Although the park has hired a new museum curator, that hire is subject to furlough. To manage its collections appropriately, the park needs a full-time curator.

Priority Resource or Value	Condition Status/Trend	Rationale
Visitor Experience web ▶		
Number of Visitors		Visitation to the park has incrementally risen in recent years (2.1% in 2013 – 13,518 total visitors; 3.3% in 2012 – 13,236 total visitors) but is approximately 15% lower than the 10-year average 16,046 visitors for 2003–2012. Dramatic changes in the community due to the rapid increase in oil exploration and well drilling have altered visitation patterns; however, the park feels that visitation has stabilized.
Visitor Satisfaction		Our visitor surveys show 100% overall satisfaction with our facility and a 5% increase from our 2006–2010 survey results in national significance understanding.
Interpretive and Education Programs – Talks, Tours, and Special Events		Our living history Ranger Programs continue to be successful and popular with visitors, gaining a 100% visitor satisfaction rating on the 2012 and 2014 Visitor Surveys. Overall Fort Union Trading Post NHS special events continue to be well attended. Due to extensive road work in 2013–2014 related to oil development in the region, some events did show a considerable drop in visitation from the 10-year average. Our Education program suffered in 2014 due to a staff shortage, showing an almost 50% drop in classes participating. Other factors including a shortage of bus drivers have reduced the number of school groups visiting the park. When the park is able to hire staff they increase their outreach to schools, via a Ranger visiting the school and presenting a program.
Interpretive Media – Brochures, Exhibits, Signs, and Website		Fort Union Trading Post NHS's digital and printed publications are up to date and align with the park significance statement and defined interpretive themes. In 2013–2014 the park website underwent a significant renovation, including addition of a long needed sub-site relating to our extensive archeological collection. As well, the park unigrid brochure was updated in 2009. However, our wayside signs, orientation film, and museum exhibits were developed in the late 1980s, and as such, in light of new research, the themes presented are incomplete and disjointed and not in concurrence with the themes designated in our Long-Range Interpretive Plan (LRIP). Wayside signs and museum exhibit content need to be updated to incorporate and illustrate park themes described in the LRIP.
Accessibility		Accessibility remains a challenge in the park's reconstructed historic buildings. The Park's desire is to keep buildings as accurate as possible while providing for visitation. The uneven walking surface may pose a challenge to some. The interpretive media is also not accessible (sight impaired, hearing impaired). A formal Accessibility Survey is needed.
Safety		Visitor safety is a high priority. The park works quickly to identify and mitigate potential hazards, and the number of accidents is very low. Park Staff utilize Operational Leadership and most employees are certified in CPR, First Aid, and AED. A Job Hazard Analysis is conducted before most jobs throughout the park. Safety messages are given and distributed to staff members. The three North Dakota parks utilize a common safety committee.
Partnerships		Fort Union Trading Post NHS's formal partnerships (Friends of Fort Union/Fort Buford, and the Fort Union Association) and Volunteer groups (The Fort Union Muzzle Loader Association) are still very effective, engaged, and relevant to the site. Informal partnerships with Fort Buford State Historic Site, the Williston Convention and Visitors Bureau, the Williston Chamber of Commerce, the Sidney (MT) Chamber of Commerce, and the MonDak Heritage Center serve the park well.

Priority Resource or Value	Condition Status/Trend	Rationale
Park Infrastructure web ►		
Overall Facility Condition Index		The overall Facility Condition Index is fair. The park buildings are relatively new and have had preventative maintenance employed to prevent degradation. As time goes on, the exterior wooden members of the reconstruction will begin to suffer from normal wood fungus and require additional maintenance, both repair and replacement.

Summary of Stewardship Activities and Key Accomplishments to Maintain or Improve Priority Resource Condition

The list below provides examples of stewardship activities and accomplishments by park staff and partners to maintain or improve the condition of priority park resources and values for this and future generations:

Natural Resources

- Implemented a prescribed fire program to imitate the natural fire regime.
- Completion of all 12 basic natural resource inventories and completed Natural Resource Condition Assessment in conjunction with the NPS Northern Great Plains Inventory and Monitoring Network (NGPN).
- Implemented vegetation and land-bird monitoring with NPS NGPN.
- Re-planted 167 acres of former farm fields to native grass and forb species. Annual treatment of non-native vegetation by park staff and the Northern Great Plains Exotic Plant Management Team.
- Monitored and documented the bank loss on the south bank of the Missouri River.
- A Geologic Resources Inventory Report was completed in 2015.

Cultural Resources

- Amended National Historic Landmark nomination to provide additional archeological and historical context, including prehistory, and expand the NHL boundary to conform to the Federal property boundary.
- The new “Native Women at Fort Union” site bulletin examines the previously untold story of the connection between Euro-American and American Indian women and the economics of the fur trade era.
- Herbarium collection is 100% cataloged, and will be scanned and accessible to the public through the University of Wyoming.
- Extensive geophysical investigations at the park have revealed other important sites such as the Fort William Stockade and the Larpenieur Trading Post.
- Ranger Monitoring Program – Each year a percentage of the park’s archeological sites are monitored for condition by the park rangers.

Visitor Experience

- The site continues to be an active partner with the Fort Peck and Three Affiliated Tribes school system and our American Indian Language partnership, which brings tribal youth to Fort Union to give presentation about and in traditional tribal languages, and demonstrate Native American dances.
- The site developed an education program, which sends Park Rangers into classroom in the local area. Programs include “Fur Trade in North Dakota,” “Lewis and Clark,” and “Growing up Assiniboine.”
- The park website and social media is consistently improving and upgrading to a variety of new media to ensure visitor access. The website was expanded to include a much needed “Collections” web page.
- The Junior Ranger program was successfully expanded to include a trading component reinforcing visitor understanding of the historic trade process Euro-Americans and American Indians utilized at Fort Union Trading Post NHS.
- The Park developed “Fur Trade Life,” an immersive place-based learning program. While on site students rotate through hands-on stations where they can learn: Blacksmithing, Buffalo robe tanning and Traditional American Indian Games.
- Our special events continue to bring in high profile guest speakers, including; Billy Mills (U.S. Olympic Gold Medalist), Nathan Chasing Horse (Lakota Actor, best known for his role in Dances with Wolves), Gerome Kills Small (Oglala Sioux storyteller) and Rex Norman (Fur Trade historian).
- In 2014 the park hired a Teacher-Ranger-Teacher from a local school district. The teacher developed curriculum-appropriate lesson plans for our outreach efforts.

- The park annually provides programs to various groups including the MonDak Heritage Center and children’s programs at the Williston Public Library.

Park Infrastructure

- A radon mitigation system was installed in the Trade House vault and the Bourgeois House to reduce radon levels to safe levels.
- An air-to-air heat pump system was installed in the Bourgeois House (Visitor Center) in 2012, which will reduce energy costs.
- The park palisade walls were white-washed in 2014–2015.
- At 25 years old the wooden exterior members of the park structures are beginning to develop wood rot. Special project funding has been requested to repair / replace damaged wooden members.
- An excess FEMA trailer was acquired in 2013 to provide additional park housing for park staff.

Key Issues and Challenges for Consideration in Management Planning

As northwest North Dakota and northeast Montana are near the epicenter of the country’s largest “oil boom” of recent memory (the “Bakken”) there are many challenges facing the park. Physical challenges include a reduction in air quality, ambient noise levels, and loss of dark night skies. The Missouri River that was the transportation highway of the 1800s is dammed upstream and flows are regulated versus the historically free and natural flows. Increased truck traffic is hazardous to park staff and visitors and also disrupts wildlife movements and is often fatal to individual animals.

The human environment is challenged in many ways, from the loss of quality of life to the challenges of living in the area. Visitors become discouraged from visiting the area due to a lack of motel rooms, the reports of increased crime, or the rampant rumors of what life is like in the “Bakken.”

Of critical importance is the increased difficulty in recruiting and retaining employees. Housing prices are among the highest in the nation, and documented as higher than San Francisco or New York City. The park has two houses, a mobile home and RV site which currently houses 3 permanent employees and up to 6 summer employees. Without offering housing, very few people can afford to live or work here. For those employees who live away from the park, the daily commute includes a steady stream of semi-truck traffic, hauling crude oil, oil rigs, frack sand, oil pipe and more. Highways are under constant construction to address the new transportation needs of the area. Grocery stores are often in short supply, all businesses are short-staffed, and there is always a wait time for services. Even without the challenges of the high cost of housing, this is a difficult place to live.

As this report documents, the park resources are largely in satisfactory or better condition. The ability of the park staff to maintain and protect resources into the future depends on employee retention and the ongoing support of government and community partners.

Chapter 1. Introduction

The purpose of this State of the Park report for Fort Union Trading Post National Historic Site (FOUS) is to assess the overall condition of the park's priority resources and values, to communicate complex park condition information to visitors and the American public in a clear and simple way, and to inform visitors and other stakeholders about stewardship actions being taken by park staff to maintain or improve the condition of priority park resources for future generations. The State of the Park report uses a standardized approach to focus attention on the priority resources and values of the park based on the park's purpose and significance, as described in the park's Foundation Document or General Management Plan. The report:

- Provides to visitors and the American public a snapshot of the status and trend in the condition of a park's priority resources and values.
- Summarizes and communicates complex scientific, scholarly, and park operations factual information and expert opinion using non-technical language and a visual format.
- Highlights park stewardship activities and accomplishments to maintain or improve the state of the park.
- Identifies key issues and challenges facing the park to inform park management planning.

The process of identifying priority park resources by park staff and partners, tracking their condition, organizing and synthesizing data and information, and communicating the results will be closely coordinated with the park planning process, including natural and cultural resource condition assessments and Resource Stewardship Strategy development. The term "priority resources" is used to identify the fundamental and other important resources and values for the park, based on a park's purpose and significance within the National Park System, as documented in the park's foundation document and other planning documents. This report summarizes and communicates the overall condition of priority park resources and values based on the available scientific and scholarly information and expert opinion, irrespective of the ability of the park superintendent or the National Park Service to influence it.

Park Overview

The American Fur Company established Fort Union Trading Post in 1828. From most of the time from then to 1867, it was the largest and most important fur trading post on the upper Missouri River. During this period, many Native American tribes came to the fort to trade buffalo robes and other animal hides for a variety of globally-sourced trade goods. The trading post was an example of the possibility of peaceful economic and social interactions between very different cultures, the Euro-Americans and diverse Native American peoples.

The President of the United States and Congress passed public law 89-458 (80 Stat. 211) on June 20, 1966, authorizing the establishment of Fort Union Trading Post National Historic Site (FOUS) "to commemorate the significant role played by Fort Union as a fur trading post on the upper Missouri River" ([NPS 2010](#)).

Fort Union is a 180-hectare (444-acre) park located in Williams and McKenzie Counties, North Dakota, and Roosevelt and Richland Counties, Montana. The fort structure is located near the north bank of the Missouri River, and park lands are adjacent to the Missouri River and the Montana-North Dakota border ([Ellis 2008](#)). The river, up to the banks of normal high water, remains property of the adjoining states.

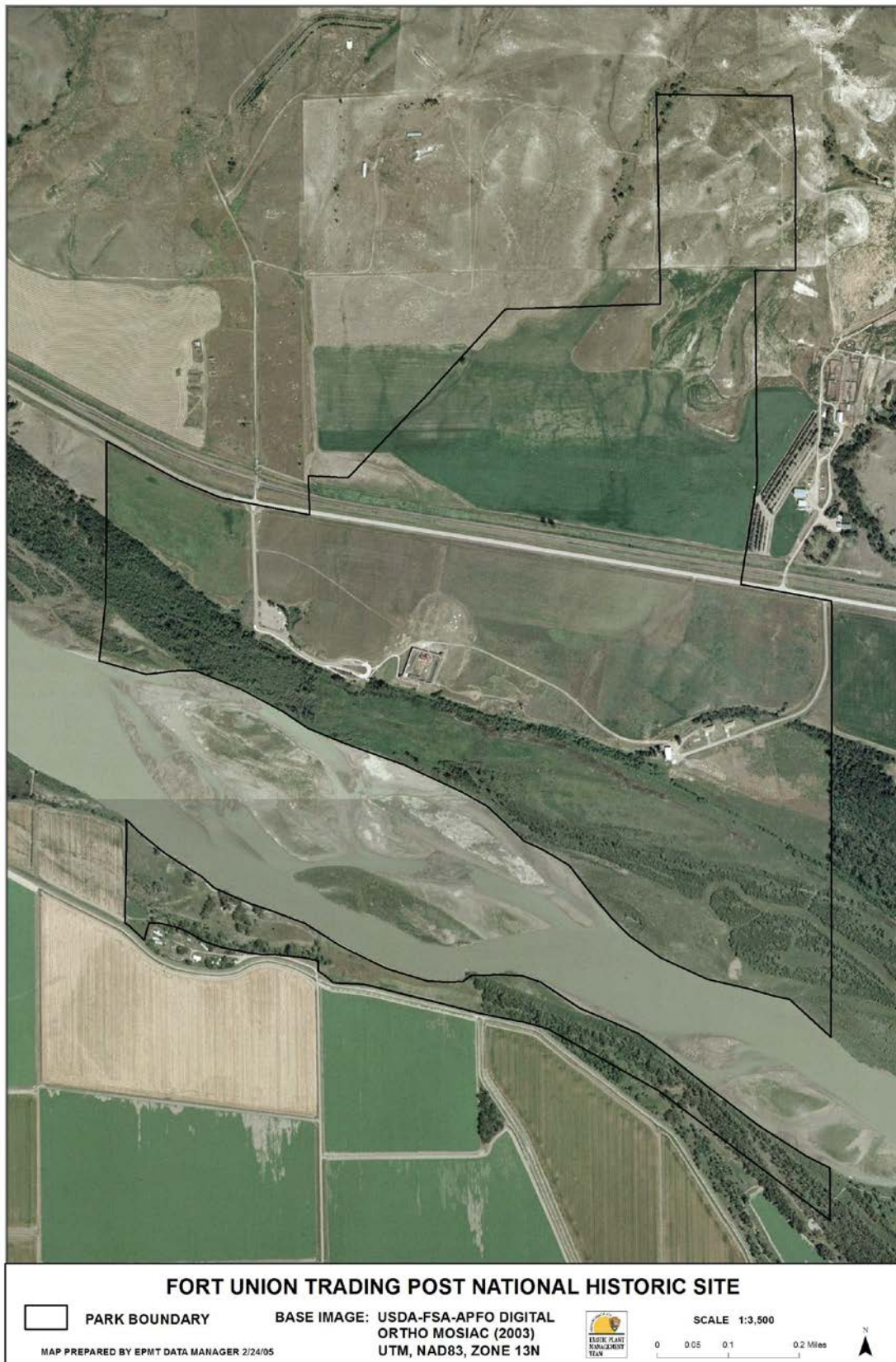
The purpose of FOUS is to commemorate and interpret the significant role of the fort as the preeminent fur trading post on the Upper Missouri River and to preserve its resources.

FOUS is significant as a unit of the national park system for the following reasons:

- Fort Union is significant for its impact on the history, exploration, transportation, economics, and culture of the American frontier on the Upper Missouri River from 1828 to 1867.
- Fort Union epitomizes the mutually advantageous interaction of American Indian and European American cultures associated with the fur-trading empire on the Upper Missouri River region of the American frontier.
- Fort Union is the best representation of the establishment and maintenance of a permanent fur trading post on the Upper Missouri River that capitalized on a long-established American Indian trade network.
- Fort Union's abundant archeological, archival, and documentary resources offer a rare comprehensive record of the physical site and human activities during the fur trade. This record allowed for accurate reconstruction of the fort and continues to support extensive exhibits of the Northern Plains material culture (trade goods, tools, and personal items) from both the prehistoric and fur trade eras.
- Fort Union's rural landscape provides a sense of place for visualizing the past, recognizing the isolation of the area, and appreciating the wide-open spaces of the confluence of the Missouri and Yellowstone Rivers to both American Indians and European Americans.



Location of the Park in North Dakota and Montana



Map of the Park

Chapter 2. State of the Park

The State of the Park is summarized below for four categories—Natural Resources, Cultural Resources, Visitor Experience, and Park Infrastructure—based on a synthesis of the park’s monitoring, evaluation, management, and information programs, and expert opinion. Brief resource summaries are provided below for a selection of the priority resources and values of the park. Clicking on the [web ►](#) symbol found in the tables and resource briefs below will take you to the internet site that contains content associated with specific topics in the report.

The scientific and scholarly reports, publications, datasets, methodologies, and other information that were used as the basis for the assessments of resource condition are referenced and linked throughout the report and through the [internet version of this report](#) that is linked to the NPS [IRMA data system](#) (Integrated Resource Management Applications). The internet version of each report, and the associated workshop summary report available from the internet site, provide additional detail and sources of information about the findings summarized in the report, including references, accounts on the origin and quality of the data, and the methods and analytical approaches used in data collection and the assessments of condition. Resource condition assessments reported in this State of the Park report involve expert opinion and the professional judgment of park staff and subject matter experts involved in developing the report. This expert opinion and professional judgment derive from the in-depth knowledge and expertise of park and regional staff gained from their being involved in the day-to-day practice of all aspects of park stewardship and from the professional experience of the participating subject matter experts. This expert opinion and professional judgment utilized available factual information for the analyses and conclusions presented in this report. This State of the Park report was developed in a park-convened workshop.

The status and trends documented in Chapter 2 provide a useful point-in-time baseline measured against reference conditions that represent “healthy” ecosystem parameters, or regulatory standards (such as those related to air or water quality). We also note that climate change adaptation requires us to continue to learn from the past, but attempting to manage for conditions based on our understanding of the historical “natural” range of variation will be increasingly futile in many locations. Thus, these reference conditions, and/or our judgment about resource condition or trend may evolve as the rate of climate change accelerates and we respond to novel conditions. Our management must be even more “forward looking,” to anticipate plausible but unprecedented conditions, also recognizing there will be surprises. In this context, we will incorporate climate considerations in our decision processes and management planning as we consider adaptation options that may deviate from traditional practices.

2.1. Natural Resources

Air Quality  web ►			
Indicators of Condition	Specific Measures	Condition Status/Trend	Rationale
Ozone	Annual 4th-Highest 8-Hour Concentration		Ozone is in good condition. This condition is based on NPS Air Resource Division benchmarks and the 2008–2012 estimated ozone of 57.6 parts per billion (ppb) (NPS-ARD 2015). No trend information is available because there are not sufficient on-site or nearby ozone monitor data. List of ozone-sensitive plant species .
Deposition	Sulfur Wet Deposition		Wet sulfur deposition is in good condition. This condition is based on NPS Air Resource Division benchmarks and the 2008–2012 estimated wet sulfur deposition of 0.7 kilograms per hectare per year (kg/ha/yr) (NPS-ARD 2015). No trend information is available because there are not sufficient on-site or nearby wet deposition monitor data.

Air Quality (continued)

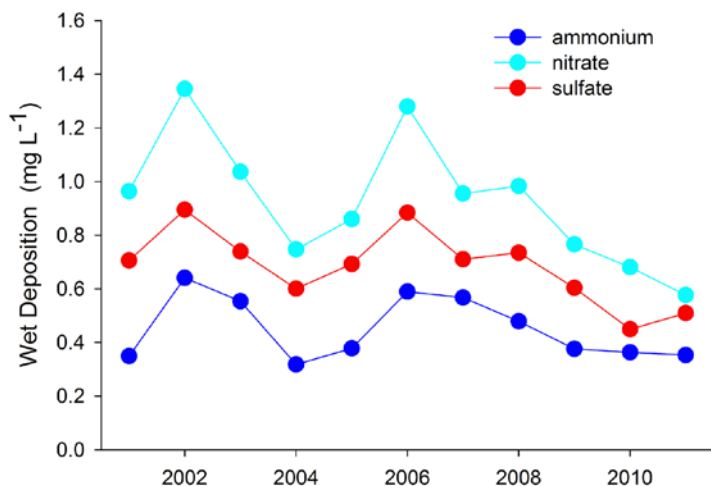
[web](#) ▶

Indicators of Condition	Specific Measures	Condition Status/Trend	Rationale
Deposition (continued)	Nitrogen Wet Deposition		Wet nitrogen deposition warrants moderate concern. This condition is based on NPS Air Resource Division benchmarks and the 2008–2012 estimated wet nitrogen deposition of 1.7 kilograms per hectare per year (kg/ha/yr) (NPS-ARD 2015). Ecosystems in the park were rated as having moderate sensitivity to nutrient-enrichment effects relative to all Inventory & Monitoring parks (Sullivan et al. 2011c ; Sullivan et al. 2011d). No trend information is available because there are not sufficient on-site or nearby wet deposition monitor data.
	Mercury/Toxics Deposition		The U.S. Environmental Protection Agency issued a statewide fish advisory in Montana and North Dakota for various freshwater species of different lengths (EPA NLFA 2014). The predicted concentrations of methylmercury in surface waters at the park are very high, as compared to other NPS units (Krabbenhoft <i>In Press</i>). Given the consumption guidelines and predicted methylmercury concentrations, mercury/toxics deposition is rated as a significant concern at the park.
Visibility	Haze Index		Average visibility warrants moderate concern. This condition is based on NPS Air Resource Division benchmarks and the 2008–2012 estimated average visibility of 6.6 deciviews (dv) above estimated natural conditions (NPS-ARD 2015). For 2003–2012, the trend in visibility improved on the 20% clearest days and remained relatively unchanged on the 20% haziest days.

Resource Brief: Air Quality Monitoring

Wet deposition occurs when air-pollutant emissions, such as sulfur dioxide, nitrogen oxides, and ammonia from power plants, automobiles, agriculture, oil exploration and other sources are transported and transformed in the atmosphere and deposited to ecosystems via rain or snow. Atmospheric deposition can have a variety of effects on ecosystems, including acidification, fertilization, or eutrophication, and accumulation of toxins. Increasing atmospheric deposition may increase the probability that plants with higher nutrient demands, such as invasive grasses, will become established.

Wet deposition has been monitored in the region of Fort Union Trading Post NHS at Theodore Roosevelt NP since 2001. Over the past 10 years, the wet deposition of sulfate, nitrate, and ammonium has remained fairly low, and there is no apparent threat from acidic deposition at the present time. Continued monitoring of deposition is critical because oil and gas development and increasing agricultural emissions throughout the region may cause increased pollution in the future.



Ten years of wet deposition data in the region of Fort Union Trading Post NHS. Courtesy of the National Atmospheric Deposition Program.

Water Quality

[web](#) ▶

Indicators of Condition	Specific Measures	Condition Status/Trend	Rationale
Dissolved Oxygen	≥5 mg/L		In 2004 and 2005, Rust (2006) collected a total of 30 Dissolved Oxygen (DO) samples across 10 transects on the Missouri River adjacent to FOUS. During this sampling, DO levels ranged from 8.4 to 9.4 mg/L. The mean and median DO levels during this time were 8.9 and 9.0 mg/L, respectively. These measurements are well within state criteria for protection of freshwater aquatic life.
pH	≥7.0 – ≤9.0 (up to 10% of representative samples collected during any 3-year period may exceed this range provided that lethal conditions are avoided)		There were two pH observations in 1974, one measurement from each of the monitoring stations (NPS 1999). pH levels in the Missouri River near FOUS during this time were measured at 8.4 and 9.0 (NPS 1999). These measurements are at the upper end of the state criteria range for protection of aquatic life. Rust (2006) collected 30 pH measurements along the Missouri River from 2004 to 2005. Three samples were taken at each of 10 transects along the river. During this sampling, pH levels ranged from 7.7 to 8.4. The mean and median pH levels during this time were 8.2 and 8.3, respectively. All samples fell within the state criteria range for protection of aquatic life.

Water Quality (continued)

[web](#) ▶

Indicators of Condition	Specific Measures	Condition Status/Trend	Rationale
Temperature	<85 °F or 29.4 °C (for Class I streams)		NPS (1999) indicates water temperature was recorded one time in October 1974. The temperature measurement was 3 °C (NPS 1999). Rust (2006) collected 30 temperature measurements at 10 transects along the Missouri River adjacent to FOUS during the summer months of 2004 and 2005. During this sampling, temperature measurements ranged from 16.5 °C to 23.8 °C. Mean and median temperatures during this time were 19.1 °C and 17.5 °C, respectively.
Turbidity	50 NTU (EPA standard)		NPS (1999) indicates turbidity was recorded one time in October 1974. The turbidity measurement was 37 NTU, which is within the WRD screening criteria for protection of freshwater aquatic life (NPS 1999). Rust (2006) collected four turbidity measurements adjacent to FOUS in 2004 and 2005. Sample measurements ranged from 47 NTU to 152 NTU. The mean and median turbidity measurements were 74 NTU and 48 NTU, respectively. Rust (2006) suggested this was moderately high turbidity compared to other stretches of the Missouri River that were sampled.

River and Stream Geomorphology



[web](#) ▶

Indicators of Condition	Specific Measures	Condition Status/Trend	Rationale
Flooding Events and Discharge Patterns	Best professional Judgment		The timing of peak flows have moved from spring to winter which can have considerable effects on geomorphology because of the presence of river ice in the winter months. The closure of the Fort Peck Dam has regulated high flow events, nearly eliminating all large floods, lowering the magnitude of peak flows, and disrupting the seasonality of flood flows (Ellis 2006). Ellis (2006) stated that, historically, flood flows occurred between April and June, as a result of ice thaw, ice jams, and increased precipitation; however, since the closure of Fort Peck Dam, winter discharge has increased and flood flows occur between February and March (Komp et al. 2014). This increase in discharge during the winter months further compounds the problems of river ice, causing more high flows, resulting in heavily saturated and weak river banks (Ellis 2006).
Erosion Rates	Meters of bank erosion annually		Cummings (2011) indicated that channel migration due to observed erosion was a natural process, prominent in the evolution of meandering rivers. However, due to changes in sediment levels and stream power, considerable amounts of erosion have shifted to the southern bank near FOUS (Ellis 2006).

Riparian Forest Communities



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Indicators of Condition	Specific Measures	Condition Status/Trend	Rationale
Cottonwood Regeneration	Best professional judgment		Data have not been collected on cottonwood regeneration within the riparian forest community of FOUS. Flow regulation of the Missouri River negatively affects the riparian forest community by reducing regeneration of species such as cottonwood. The resulting erosion has reduced the area of riparian forests along the river in FOUS (Ellis 2006). The loss of the cottonwood trees also has a negative impact on the quality of the visitor experience and our interpretive efforts.
Non-native Species Abundance	<1% of the riparian floodplain should be comprised of federal, state, or county listed noxious weeds (Symstad 2012)		Non-native plant species are a threat to the native riparian plant communities in FOUS. A number of non-native plant species have been documented in FOUS, although there are no estimates of abundance (Komp et al. 2012).

Natural Prairie Communities



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Indicators of Condition	Specific Measures	Condition Status/Trend	Rationale
Plant Diversity	Native species richness in one meter squared quadrat		Preservation of native prairie ecosystems is a natural resource management goal of the NPS. Native diversity at in the Bodmer Unit, 9 ± 1 species (Ashton and Prowatzke 2014) is at the low end of the natural range of variability seen in nearby grasslands (8–18 species (Symstad and Jonas 2014)).
Vegetation Composition	Exotic species cover (%)		Exotic plants threaten plant communities by causing reductions in native diversity and changes in ecosystem function. Desired condition for vegetation in upland areas comprises $\leq 10\%$ total cover of exotic species. The plots read in 2013 had an average exotic cover of 5 ± 3 (Ashton and Prowatzke 2014).

Reconstructed Prairie Communities



[web](#) ▶

Indicators of Condition	Specific Measures	Condition Status/Trend	Rationale
Plant Diversity	Native species richness in one meter squared quadrat		Preservation of native prairie ecosystems is a natural resource management goal of the NPS. Native diversity is below the natural range of variability seen in nearby grasslands (8–18 species (Symstad and Jonas 2014)).
Vegetation Composition	Exotic species cover (%)		Exotic plants threaten plant communities by causing reductions in native diversity and changes in ecosystem function. Desired condition for vegetation in upland areas comprises $\leq 10\%$ total cover of exotic species. The plots read in 2013 had an average exotic cover of 18 ± 8.3 (Ashton and Prowatzke 2014).

Resource Brief: Plant Community Monitoring

In 2013, the Northern Great Plains Inventory and Monitoring Network (NGPN) completed the third year of plant community monitoring at Fort Union Trading Post NHS. A total of 6 plots were visited, and 82 species were documented in the park.

Despite the park's small size (440 acres), monitoring sites in Fort Union Trading Post NHS exhibit a surprising range of variability. Sites near the Bodmer Overlook are rich in native species, while sites in the more heavily managed area surrounding the fort have little plant diversity. However, almost all areas exhibit an undesirable occurrence of exotic species.

Large beardtongue (*Penstemon grandiflorus*), a showy wildflower found near the historic fort. Photo Credit: Ryan Manuel, NPS



Birds



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Indicators of Condition	Specific Measures	Condition Status/Trend	Rationale
Species Observed versus Species Expected	Percentage		Rocky Mountain Bird Observatory (RMBO) staff detected a total of 90 bird species at Fort Union during three visits to FOUS in 2002–2004. RMBO confirmed the presence of 21 (50%) of the 42 expected species, reconfirmed the presence of 65 (64%) of the 102 previously documented species, and confirmed the presence of four additional species not listed as either documented or expected. Although these percentages are low, some of the documented species were likely documented in error or were otherwise documented outside of the breeding season, and many of the expected species should probably not have been expected to breed in or near the park (Panjabi 2005).
Species Richness	Number of species		The Panjabi (2005) surveys found a large number of bird species during each visit. The unusually high number of breeding bird species detected during these surveys may be attributed to the high diversity and good condition of the habitats in FOUS (Panjabi 2005). The diverse riparian vegetation and other wetland habitats accounted for 90% of the bird species observed during the surveys.

Resource Brief: Landbird Monitoring

The Northern Great Plains Inventory and Monitoring Network (NGPN) jointly developed a long-term landbird monitoring protocol with Rocky Mountain Bird Observatory (RMBO) and three other NPS Inventory and Monitoring (I&M) Networks (Sonoran Desert, Chihuahuan Desert, and Southern Plains). The 2013 breeding season was the first year of surveys for 11 of the NGPN Parks.

The basic sampling unit is a 1-km² grid that contains 16 evenly-spaced sample points, separated by 250 m. RMBO technicians stand at pre-determined fixed points and record birds observed/heard over a 6-minute period. After completing the survey, the technicians navigate to the next point using GPS units. Last summer, a total of 252 birds spanning 55 species were recorded at Fort Union Trading Post NHS. Landbird monitoring resumed at the park in June of 2014.



The most common species at Fort Union Trading Post NHS was the Cliff Swallow, representing 26% of all birds detected. Two new species were found at Fort Union Trading Post NHS in 2013: the Sedge Wren and Virginia Rail. In addition, four other species that were previously listed as unconfirmed in the park's certified [NPSpecies list](#) were confirmed as present in the park. These species included the Eastern Bluebird, Marsh Wren, Savannah Sparrow, and Upland Sandpiper.

Occurrence of the Savannah Sparrow (*Passerculus sandwichensis*) was confirmed in the park as a result of the 2013 monitoring efforts. Photo Credit: Bill Thompson, USFWS

Mammals



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Indicators of Condition	Specific Measures	Condition Status/Trend	Rationale
Small Mammals	Species richness		There are two primary habitats available to small mammals at FOUS: the riparian deciduous woodland community and the grasslands (Schmidt et al. 2004). Twenty-two small mammal species are present in FOUS, including a variety of rodents and bats (NPS 2011). Schmidt et al. (2004) documented 38% of species expected in FOUS during the 2002–2004 mammal survey. In addition to small mammals, white-tailed deer, moose, coyote, and fox may be present but are transient. Most recently we have seen an increase in Richardson’s ground squirrel and an elimination of the 13-lined ground squirrel.
Bat Population Abundance	Density (number/acre)		Bats are the mammals of greatest concern in FOUS due to their specific habitat requirements (Schmidt et al. 2004). There are four species of bats present at FOUS: big brown bat, western small-footed bat, little brown myotis, and long-legged myotis (Schmidt et al. 2004). The riparian woodlands provide near-optimal habitat for many bat species. However, due to the lack of flooding these forests are not regenerating (Schmidt et al. 2004), and bank erosion is further reducing the riparian habitat in FOUS (Ellis 2006).

Viewshed



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Indicators of Condition	Specific Measures	Condition Status/Trend	Rationale
Developed Areas within Viewshed	Occurrence of both human-caused and unnatural development for both near and distant views		A viewshed is the area that can be “seen” from a particular location. The park intends to preserve the historical setting, feeling and association, as described in FOUS’s long-range interpretive plan, which indicates that visitors will have the opportunity to “discover the landscape—views, wildlife, fort, and river—the same way and in the same condition to the extent possible that Lewis and Clark, Catlin, and Bodmer did” (NPS 2010). While some data help explain the integrity of Bodmer Overlook viewshed with respect to development over time, a standard method for analyzing and assessing the condition of the visual resources in the park does not exist. Therefore, trend currently unknown (Komp et. al. 2012). Most recently there has been an increase in houses, oil well pumpjacks, and flares related to oil wells.

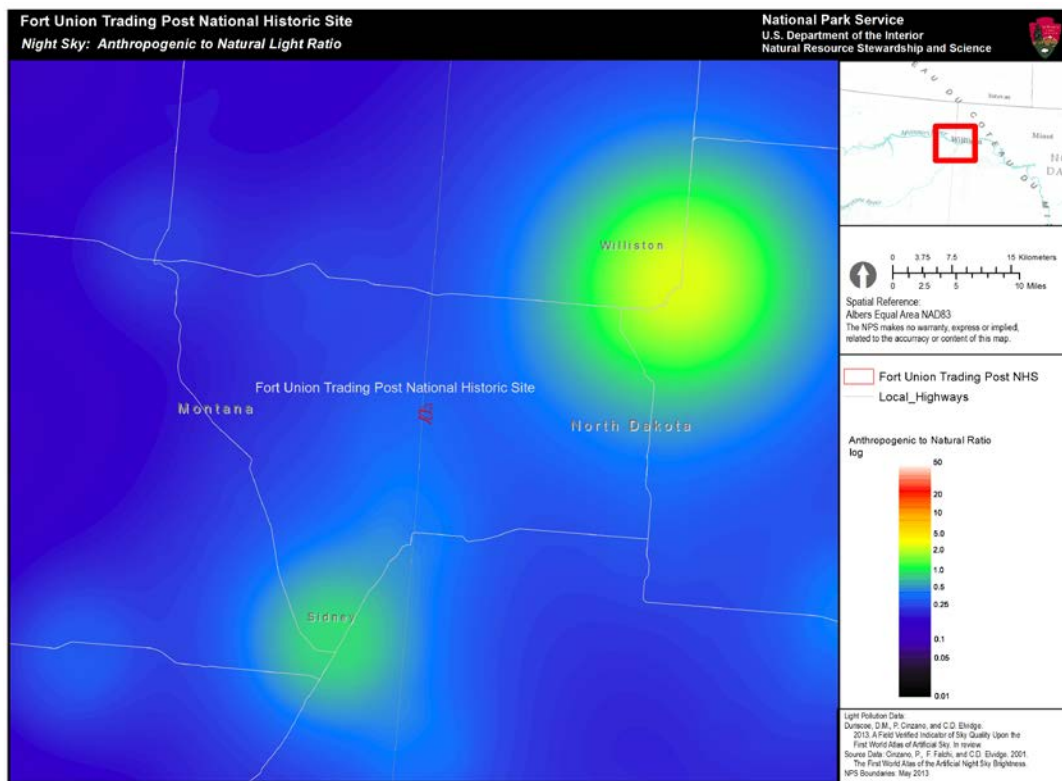
Dark Night Sky



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The night sky has been a source of wonder, inspiration, and knowledge for thousands of years. Unfettered night skies with naturally occurring cycles of light and dark are integral to ecosystem function as evident by the fact that nearly half the species on earth are nocturnal. The quality of the nighttime environment is relevant to nearly every unit of the NPS system as the nighttime photic environment and its perception of it by humans (the lightscape) are both a natural and a cultural resource and are critical aspects of scenery, visitor enjoyment, and wilderness character. Based on these considerations and the non-urban character of the park, it is recommended that FOUS be categorized as Level 1 (more sensitive). Learn more in the document [Recommended Indicators and Thresholds of Night Sky Quality](#), and the NPS Natural Sounds & Night Skies Division [website](#).

Indicators of Condition	Specific Measures	Condition Status/Trend	Rationale
Anthropogenic Light	Anthropogenic Light Ratio (ALR) — Average Anthropogenic Sky Glow: Average Natural Sky Luminance		The modeled Anthropogenic Light Ratio (ALR), a measure of light pollution, was 0.44, which is considered a moderate condition. However, this model was derived from satellite data collected in 1996–1997 and does not take into account the rapid energy development adjacent to the park including natural gas flaring, oil wells and oil loading facilities. Based on these developments and their impact on night sky quality, the condition may be closer to poor. Additionally the city of Williston, ND and Sidney, MT near FOUS have shown rapid population growth over the last 5 years—45% and 21%, respectively—resulting in negative trend (U.S. Census Bureau).



Regional view of anthropogenic light near Fort Union Trading Post NHS based on satellite data from 1996–1997. These data were collected prior to the rapid energy development in the region, which has drastically altered the photic environment within and surrounding the park. White and red represents more environmental influence from artificial lights while blues and black represent less artificial light.

Acoustic Environment



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To characterize the acoustic environment, the National Park Service has developed a national model of noise pollution (Mennitt et al. 2014). This model predicts the increase in sound level that can be traced back to human activity on an average summer day. The model is based on measured sound levels from hundreds of national park sites and about one hundred other variables such as location, climate, vegetation, hydrology, wind speed, and proximity to noise sources such as roads, railroads, and airports. The model reveals how much quieter parks would be in the absence of human activities.

The quality of the acoustic environment affects visitor experience and ecological health. Acoustic resource condition, both natural and cultural, should be evaluated in relation to visitor enjoyment, wilderness character, ecosystem health, and wildlife interactions. Based on these considerations and the character of the park, the acoustic resource condition at the park warrants significant concern under non-urban criteria. Learn more in the document [Recommended indicators and thresholds of acoustic resources quality for NPS State of the Park Reports](#) and the NPS Natural Sounds and Night Skies Division [website](#).

Indicators of Condition	Specific Measures	Condition Status/Trend	Rationale
Acoustic Impact Level	A modeled measure of the noise (in dBA) contributed to the acoustic environment by man-made sources.		The condition of the acoustic environment is assessed by determining how much noise man-made sources contribute to the environment through the use of a national noise pollution model. The mean acoustic impact level at the park is 4.1 dBA, meaning that the condition of acoustic resources warrants significant concern. Overall, long-term projected increases in ground-based (Federal Highway Administration 2013) and aircraft traffic (Federal Aviation Administration 2010) indicate a downward trend in the quality of acoustic resources at this location. In 2015, the park initiated a request for a baseline acoustic inventory. This study will reveal which noise sources are most prevalent, how loud they are, and how often they are audible. Specific noise sources of concern at the park include highway and train traffic associated with gas and oil development.

Resource Brief: Recent Climate Change Exposure of Fort Union Trading Post National Historic Site

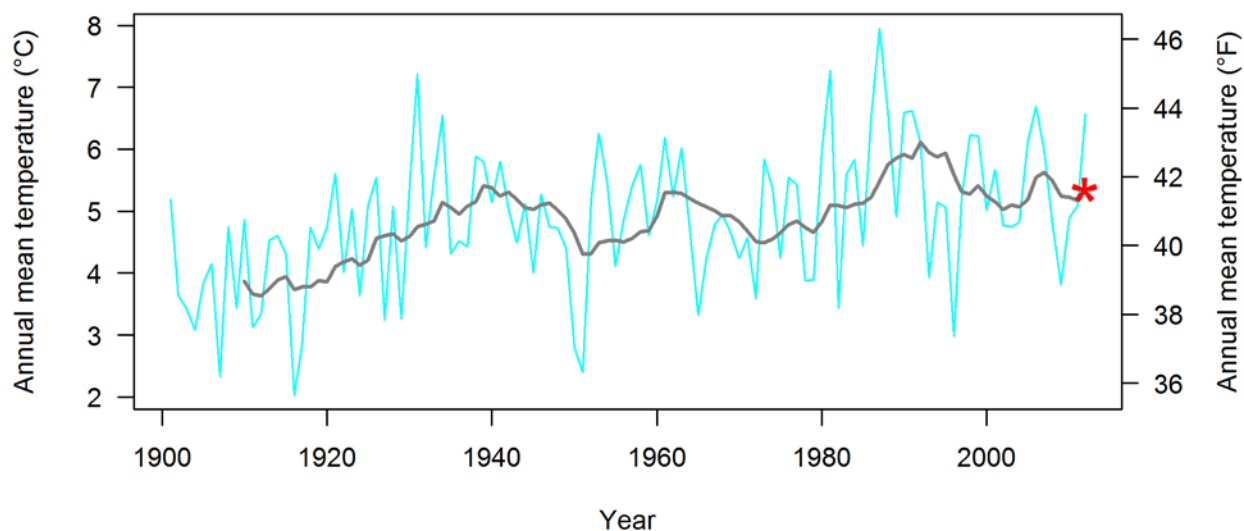
To understand Fort Union Trading Post National Historic Site recent “climate change exposure”—that is, the magnitude and direction of ongoing changes in climate—we investigated how recent climate compares to historical conditions (see [Monahan & Fisichelli 2014](#) for updates to the basic climate inventories for 289 national park units). We evaluated climate change exposure by asking which of 14 biologically relevant climate variables recently (past 10–30 years) experienced “extreme” average values relative to the 1901–2012 historical range of variability. We define “extreme” conditions (e.g., extreme warm, extreme wet) as, on average, exceeding 95% of the historical range of conditions.

Methods

To evaluate recent climate values within the context of historical conditions at FOUS, we used the following methods (also illustrated in figure below):

- For each temperature and precipitation variable, we analyzed data within three progressive time intervals, or “moving windows,” of 10, 20, and 30 years to calculate a series of averages over the entire period of analysis (1901–2012).
- We compared the average temperature and precipitation values for each of the most recent 10, 20, and 30-year intervals (2003–2012; 1993–2012; and 1983–2012) to those of all corresponding intervals across the entire period of 1901–2012. These results (expressed as percentiles) describe “recent” conditions relative to historical conditions. As an example, a temperature percentile of 80% means that recent conditions were warmer than 80% of the historical range of conditions.
- We then averaged the percentiles of the most recent 10, 20, and 30-year time periods and classified variables <5th percentile or >95th percentile as “extreme.”

See [Monahan & Fisichelli \(2014\)](#) for a detailed explanation of methods, and the figure below for an example analysis applied to annual mean temperature at the park.

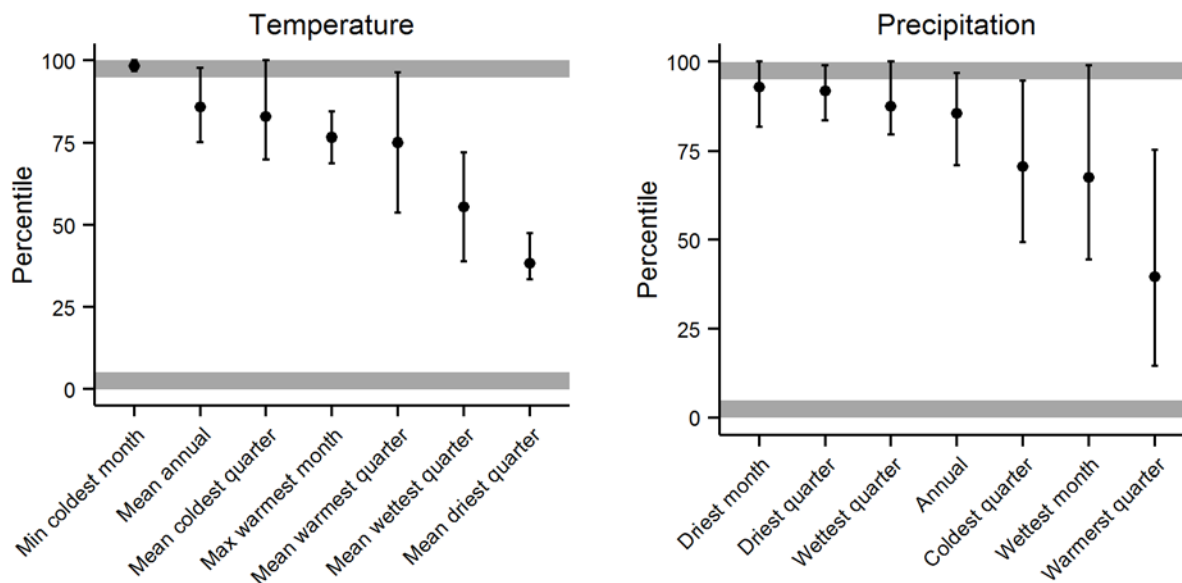


Data used to characterize the historical range of variability and recent annual mean temperature at FOUS (including areas within 30-km [18.6-mi] of the park’s boundary). The blue line shows temperature for each year, the gray line shows temperature averaged over progressive 10-year intervals (10-year moving windows), and the red asterisk shows the average temperature of the most recent 10-year window (2003–2012). The most recent percentile is calculated as the percentage of values on the gray line that fall below the red asterisk. Here, the most recent 10 years was warmer than 84% of the historical range of conditions (see results of most recent percentiles for all temperature and precipitation variables in the figures below).

Results

Recent percentiles for 14 temperature and precipitation variables at Fort Union Trading Post appear in the figures below. Results for “extreme” variables at the park were as follows:

- One temperature variable was “extreme warm” (minimum temperature of the coldest month).
- No temperature variables were “extreme cold.”
- No precipitation variables were “extreme dry.”
- No precipitation variables were “extreme wet.”



Recent temperature and precipitation percentiles at FOUS (including areas within 30-km [18.6-mi] of the park's boundary). Black dots indicate average recent percentiles across the 10, 20, and 30-year intervals (moving windows). Variables are considered "extreme" if the average percentiles are <5th percentile or >95th percentile (i.e., the gray zones, where recent climate is pushing the limits of all observed climates since the year 1901). Black bars indicate the range of recent percentiles across 10, 20, and 30-year moving windows.

Key points for interpreting these results in the context of park resources include:

- Recent climatic conditions are already shifting beyond the historical range of variability.
- Ongoing and future climate change will likely affect all aspects of park management, including natural and cultural resource protection as well as park operations and visitor experience.

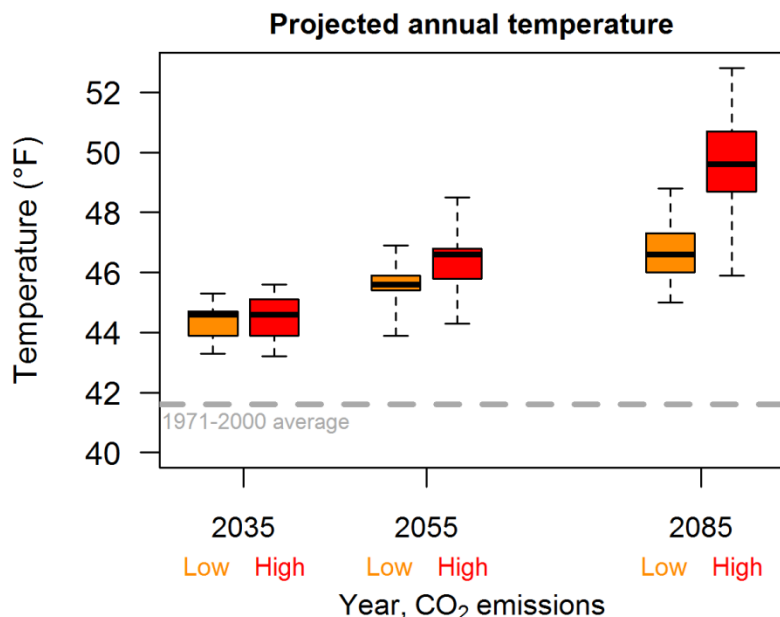
Climate Change Adaptation

These findings can inform climate change adaptation at FOUS by helping park managers, planners, and interpreters to understand how recent climates compare to past conditions. For example, these findings may be used to:

- Characterize park exposure to recent climate change in a vulnerability assessment.
- Develop plausible and divergent futures for use in a climate-change scenario planning workshop.
- Synthesize desired future conditions (i.e., reference conditions) for use in a Resource Stewardship Strategy or other National Park Service management plan.
- Create interpretive materials for communicating with local communities and park visitors.

Resource Brief: Future Climate Projections for Fort Union Trading Post National Historic Site

Climate change impacts all aspects of park management from natural and cultural resource protection to park operations and visitor experience. Effective planning and management must be grounded in our comprehension of past dynamics as well as the realization that future conditions may shift beyond the historical range of variability. For example, average annual temperature (30-year mean) is projected to be higher than the 1971–2000 average under all future climate projections (see figure below). Climate change will manifest itself not only as shifts in mean conditions (e.g., increasing mean annual temperature and sea level) but also as changes in climate variability (e.g., more intense storms and flooding). At FOUS, these changes may alter land and riverscapes and accelerate weathering, deterioration, and loss of cultural resources. Understanding climate change projections and associated levels of uncertainty will facilitate planning actions that are successful under a range of plausible future conditions.



Historical and projected mean annual temperature for Fort Union Trading Post National Historic Site. Historical data (1971–2000 average) are from Monahan and Fisichelli (2014). Projected climate change (30 year means) for the region including the park are for three future time periods centered on 2035 (2021–2050), 2055 (2041–2070), and 2085 (2070–2099) (Kunkel et al. 2013). Two greenhouse gas emissions scenarios are presented, the **low** (B1) and **high** (A2) scenarios (IPCC 2007). Projected climate boxplots indicate the variability in future projections among 15 CMIP3 climate models. Values for the area including the park are based on the mean model output for that location and the range of climate model projections for the region: the bold horizontal black line represents the mean among all models, the upper and lower bounds of the boxes indicate the 25th and 75th percentile model output values and the whiskers show the minimum and maximum values.

2.2. Cultural Resources

Archeological Resources			
		 web	
Indicators of Condition	Specific Measures	Condition Status/Trend	Rationale
Knowledge	Percent of sites with known date ranges associated with a research theme.		Beyond the 100% reconnaissance level inventory, 33% of the park has received a more intensive level inventory (i.e., geophysical inventory, systematic investigations and testing of geophysical anomalies for archeological resources. Of that, roughly 50% of the recorded sites have a known date range. In addition to fur trade era (1828–1867) resources, cultural material associated with prehistoric (pre-1738 A.D.) and historic (1860s–1884) American Indian occupations and the 20th-century community of Mondak are also present. Additional research at sites could reveal more information about occupation periods that would benefit the park's understanding of its archeological resources and cultural history. A draft archeological overview and assessment has been prepared. Needed is a synthetic report of the 1986–1988 archeological excavations of Fort Union. These excavations have been reported in technical formats but a synthetic volume is needed to interpret the results to archeologists and the general public.
Inventory	Percent of park adequately surveyed.		FOUS has a 100% reconnaissance level inventory. Additional inventories (such as geophysical and archeological testing) are needed to provide more detailed information on the location, extents and contents of archeological sites included in the park. The generation of new information continues to improve. 100% of the known archeological sites (19) in the park are listed in the Archeological Sites Management Information System (ASMIS) database.
Documentation	Percentage of known sites with adequate National Register documentation.		According to the ASMIS database, 32% of the sites have been evaluated for or are listed on the National Register (6 of the 19 sites are evaluated). The 2015 NHL nomination identifies six archeological sites as contributing to the nationally significant district, although not all have been officially evaluated. There are another eight sites that are potentially eligible, have not been evaluated, or have been determined eligible for National Register listing at a local or state level of significance.

Archeological Resources (continued)

[web](#) ▶

Indicators of Condition	Specific Measures	Condition Status/Trend	Rationale
Condition	Percentage of archeological resources in good condition.		92% of known archeological sites are in good condition (18 of 19 sites) and one is in fair condition. Impacts to known sites are minimal. Ongoing rodent activity (burrowing) at the main fort site is the primary issue. Bank slumping is an ongoing concern at the Garden Coulee site. River erosion is not a major threat, at this time, but is always a possibility. Effects from climate change could impact resources in the future, from events such as flooding and drought.

Resource Brief: Geophysical Prospection of Archeological Resources at the Park

Since 1977, extensive investigation of the park's archeological resources has been undertaken by the Midwest Archeological Center and other partners through the use of geophysical prospection technologies such as magnetic survey, resistivity, and ground penetrating radar. These surveys have revealed that these techniques are very useful for site discovery at the park and resulted in five new sites being identified; the Fort William stockade, the Larpenteur Trading Post, Garden Coulee site, and three trash middens. All six sites contain intact archeological deposits related to 19th-century activities at the fort and are believed to be eligible for listing on the National Register of Historic Places. Additional research at the sites, including excavation of some of the identified anomalies, could be needed to make a final determination of the eligibility of the sites. Identification of these resources enhances the park's knowledge of the area's history and provides information needed for appropriate management and preservation of buried archeological features.



Left: Geophysical prospection, Midwest Archeological Center; **Right:** Historic and prehistoric objects continue to appear at the park, as this portion of the serpent side plate off a Northwest Trade gun, a smoothbore flintlock and the most popular firearm traded at Fort Union, worked its way through the soil in April 2014. NPS Photos.



Indicators of Condition	Specific Measures	Condition Status/Trend	Rationale
Knowledge	Sufficient research exists to understand the relationship of the park's ethnographic resources and the historic contexts.		There have been five studies addressing FOUS ethnographic resources produced since 2006. Three of these are contemporary use studies—a Native American ornithology, a contemporary analysis of the eagle as a cultural resource, and a contemporary ethnobotany study—and the fourth is an ethnographic overview and assessment. The studies combined Fort Union with Knife River Indian Villages N.H.S. and Theodore Roosevelt N.P. because the American Indian tribes culturally associated with Fort Union are also associated with those units. The background cultural history context of all three is virtually the same, so having them looked at as a group makes sense, especially if approached from a regional landscape or ecosystem perspective. The fifth study, an ethnohistory specific to FOUS, was completed in 2015. There is also a cultural affiliation statement.
	Appropriate studies and consultations document ethnographic resources and uses with regards to the park.		The above-referenced studies inform park actions related to ethnographic resources. The Park superintendent undertakes consultation with relevant tribes on planning projects, NAGPRA summary, and the regional ethnographer is consulted when questions arise. Most routine projects are small and consultation is undertaken with the SHPO. True tribal consultation is lacking. The park would benefit from devoting more attention to tribal consultation. Even with appropriate studies, and the completion of the ethnohistory, without staff to utilize the new information, the studies get little use.

Cultural Landscapes



[web](#) ▶

Indicators of Condition	Specific Measures	Condition Status/Trend	Rationale
Knowledge	Sufficient research exists to understand the relationship of the park cultural landscapes to the historic contexts of the park.		An updated National Historic Landmarks (NHL) nomination (2015) addresses the landscape and the central role of geography and topography to historical process. The significance of the Yellowstone-Missouri River confluence area is identified, and the importance of this specific location in the creation of a fur trading post. The updated NHL describes the relationship of the Fort Union area cultural landscape to the historic contexts of the park. The importance of the Missouri River, the terrace area, the flood plain and riparian area, and the surrounding bluffs are recognized as important features of the landscape. If not addressed in the ethnohistory, to provide a greater perspective of resources important to various cultures, the upcoming Historic Resource Study could address each affiliated tribe's particular relationship with and values attributed to (including spiritual) the cultural landscape. Such information would include tribal naming of landscape features and how that reflects each tribe's historic/prehistoric understanding and use of the greater confluence area.

Cultural Landscapes (continued)

[web](#) ▶

Indicators of Condition	Specific Measures	Condition Status/Trend	Rationale
Knowledge (continued)	Adequate research exists to document and preserve the cultural landscape of the park.		A Cultural Landscape Inventory (CLI) has been prepared for the park and was updated in 2012. An updated (2015) NHL nomination describes the relationship of the Fort Union area cultural landscape to the historic contexts of the park. The park has reconstructed native prairie vegetation on the terrace surrounding the palisade. The park has obtained parcels immediately south of the Missouri River to aid in retaining the riparian viewshed. Reconstructed prairie has also been established on parcels on the south side of the river. While research is adequate regarding the landscape, moderate concern is warranted for these evaluation criteria due to adjacent development pressures. This includes intense oil and gas production and transportation on adjoining parcels within the viewshed, and possibly future alternative energy, communication or other infrastructure development. A land protection plan or other device is necessary in order to preserve the viewshed and pastoral scene beyond the NPS boundary. Such a plan should be produced in collaboration with a natural resource/vegetation management document (see Symstad report), and address both cultural landscape features and archeological resources. Cultural landscape preservation planning can be informed by the Natural Resource Condition Assessment, which among other things evaluates the prairies, viewsheds, and riparian areas. The assessment identifies adverse impacts to the riparian area due to anthropogenic changes to natural flood patterns. Producing a Cultural Landscape Report is a low priority. Scenario planning as used by the Climate Change Response Program would be useful to aid the park in maintaining integrity of the cultural landscape in the future, should climate change affect views, context, vegetation, or flooding events. Such planning might also address potential threats from associated infrastructure development occurring adjacent to or inside the site.
Inventory	The scope of cultural landscapes in the park is understood and a determination has been made whether or not they are a fundamental resource.		The fort's cultural landscape and viewshed have been identified as fundamental resources in the park's 2013 Foundation Document. They help visitors gain an understanding of the area's appearance, including setting, feeling, and association with events of the 1800s. The Foundation Document also identifies the Missouri River, the watershed and associated habitat zones as fundamental resources. These can be considered a part of the cultural landscape and are essential to understanding the human interaction with the environment and the presence of cultural resources at the site. The natural and built resources serve as tangible reminders of Native American life ways, Euro-American exploration, exploitation of resources, and events that contributed to the settlement and development of the American West.

Cultural Landscapes (continued)

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Indicators of Condition	Specific Measures	Condition Status/Trend	Rationale
Inventory (continued)	Percentage of landscapes eligible for the National Register with accurate, complete, and reliable Cultural Landscape Inventory (CLI) data.		Percentage of landscape inventoried: 100. A CLI has been prepared for the park, and was updated in 2012 based on information provided by park staff. It will be updated again in 2016. The landscape is listed in “good” condition.
Documentation	Percentage of cultural landscapes with adequate National Register documentation.		Percentage of landscape documented: 100. The updated (2015) NHL nomination describes and addresses the cultural landscape as a contributing site. This includes the landscape beyond the park boundary. All NHL documents are automatically included on the National Register as well.

Resource Brief: Parcel Acquisitions Aid in Improving Cultural Landscape

More than a decade in the making, Fort Union recently acquired the last of a series of parcels fronting the south side of the Missouri River, across from the reconstructed fur trade-era fort. The park’s Federal boundaries now extend south of the river to include over 43 acres of both riparian and prairie vegetation. This achievement would not have been possible without the successful cooperation of the Friends of Fort Union/Fort Buford, the National Park Trust, and North Star Caviar. Acquiring these parcels has been a high priority for the park, as federal ownership will allow for the maintenance of a riparian vegetative setting that both partially screens views of development to the south, and helps set the historic scene associated with the mid-19th-century fur trade era. The southward meandering of the Missouri River and erosion of the south bank has created a new challenge as much of this land has been lost. Park efforts to plant trees to provide screening have largely failed. Oil and gas development of the past 10 years has impacted the greater agricultural setting of the surrounding area and is expected to continue.

The Friends of Fort Union/Fort Buford was established in 1984 to promote the preservation, interpretation, and development of Fort Union Trading Post NHS and Fort Buford SHS, the Sitting Bull surrender site. North Star Caviar is a non-profit community-based entity that utilizes the caviar from Paddlefish caught by local fisherman in the Missouri River. All of their profits are returned to the local community through a grants program. The National Park Trust is the only land conservancy dedicated to preserving America’s national system of parks, wildlife, and historic monuments.

Historic Structures



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Indicators of Condition	Specific Measures	Condition Status/Trend	Rationale
Knowledge	Percentage of historic structures evaluated using appropriate historical contexts.		Percentage of historic structures evaluated: 100. The nine above-ground Fort Union resources are historically accurate, partial reconstructions of the fort to the 1851 era, developed by the NPS as the prime interpretive features for the area. The updated (2015) NHL nomination evaluated their relation to the historic contexts of the park (NHL criteria 1 and 6, NHL themes I, IV, V, VI). The park's 2013 Foundation Document identifies the reconstructed fur trading post as a fundamental resource.
Documentation	Percentage of historic structures with adequate National Register documentation.		Percentage of historic structures documented: 100 The updated (2015) NHL nomination identifies nine reconstructed buildings and structures as contributing resources because their design was based upon the level of detail provided in archeological, written, and pictorial records concerning historic construction and appearance. They were designed to be as accurate as possible, are presented in a dignified manner, and are part of a formal design plan. They are managed as historic structures, although they are not misrepresented as authentic historic property. All NHL documents are automatically included on the National Register as well.
	All historic structures have been recorded commensurate with their significance and mandated purposes.		The nine reconstructed buildings and structures were designed to be as accurate as possible, based upon the existing level of detail provided in archeological, written, and pictorial records. This reconstruction was driven by a 1985 Congressional mandate to reconstruct portions of the fort on the site itself.
Condition	Percentage of historic structures in good condition.		Percentage in "good" condition: 95 There are 19 structures identified on the List of Classified Structures (LCS), which was updated in 2012. These include the nine reconstructed buildings identified in the updated (2015) NHL nomination, a number of archeological features, and the park entrance sign. It is not uncommon to list archeological resources as "structures" on the LCS. One such example, the kiln, is listed in "fair" condition on the LCS. All other structures are in "good" condition. All reconstructed buildings and structures require general maintenance.

Resource Brief: Radon Mitigation Success

Between 2010 and 2012, park staff successfully mitigated high radon levels in the basement of two reconstructed buildings at Fort Union Trading Post, thus ensuring the health and safety of park employees. In the Bourgeois House, basement radon levels dropped from .38 picocuries per liter (pCi/L) down to .01(pCi/L); in the Trade House Vault, they went from 200 down to a range of 6(pCi/L) to 11(pCi/L). A safe working environment is .10 (pCi/L).

Both spaces are routinely monitored. Long-term monitoring will be necessary to ensure long-term continuous mitigation. The mitigation was also undertaken in a way that avoided impacting the character-defining elements of the reconstructions. Radon, a radioactive gas, is known to cause lung cancer in people exposed to the gas. As critical park administrative and operational activities occur in both buildings, it was critical to mitigate the situation. In the basement of the Indian/Artisans Trade House, an underground vault for storing museum collections, the gas was collected below the floor surface and exhausted out of the roof of the shed structure that screens the access stairwell. The exhaust pipe was camouflaged as a chimney pipe. The Bourgeois House serves as both visitor center and administrative offices. Mitigation entailed using the existing sub-floor duct work to collect radon and pump it outside of the building. The existing duct work from the basement was sealed, and new duct work installed along the ceiling of the work space in the basement. The radon is exhausted through existing underground conduits that run from the air conditioning compressors outside the fort into the Bourgeois House.

History  web ▶			
Indicators of Condition	Specific Measures	Condition Status/Trend	Rationale
Knowledge	Sufficient research is conducted to understand significance of site.		An updated (2015) NHL nomination addresses the significance of this fur trading post beyond the significance identified in the original 1961 nomination. Drawing on 40+ years of scholarly research and archeological investigations at the fort, the updated NHL nomination addresses 4 themes to examine the complex discussion of cultural interaction, the impacts of Manifest Destiny and westward expansion, and a changing U.S. policy regarding its relationship with the American Indian tribes. The Park could benefit from a Historic Resource Study to document the human history from prehistory to the present.
	Sufficient research is conducted to establish the reasons for park creation and site history.		The updated (2015) NHL nomination drew on a number of scholarly research documents. It does not have an Administrative History, but aspects of the park's operation and development are addressed in John Matzko's 2001 <i>Reconstructing Fort Union</i>, which focuses on events leading up to and during reconstruction of the fort. Barton Barbour's 2001 <i>Fort Union and the Upper Missouri Fur Trade</i> provides a good historical overview. In addition, extensive archeological investigations undertaken in the past 40+ years document the site's history, and have resulted in 10 Material Culture Reports, (covering the 1960s and 1970s excavations, not the 1980s investigations) along with numerous trip reports, journal articles, theses, and dissertations. The 2013 Foundation Document identifies the creation of a cultural resources bibliography as a low priority data need, in order to provide a quick and complete reference to cultural resource studies at the park. Creating IRMA references to consolidate all research and reference documents in one database would be useful.

History (continued)

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Indicators of Condition	Specific Measures	Condition Status/Trend	Rationale
Knowledge (continued)	Research at the appropriate level precedes planning decisions involving cultural resources.		Extensive archeological investigations and research informed reconstruction of the fort in the 1980s. Subsequent archeological investigations and site survey work are undertaken prior to proposed work on the site. The updated (2015) NHL nomination provides summary information on all known archeological sites and features, on the reconstructions, and the cultural landscape, as well as contextual information on the history of the fur trade era in general and the site, specifically. The park has identified the need to create an NPS-funded administrative history that addresses administrative aspects of the reconstruction process. Such a document would facilitate current and future management decision-making related to the reconstructed post structures, which are included as contributing resources in the NHL nomination.
Inventory	Percentage of cultural resources listed in appropriate Servicewide inventories, including the National Register.		Percentage of cultural resources listed: estimated at 90%, as the remaining archives have yet to be identified or inventoried, and ⅔ of the park has yet to be surveyed for archeological resources. All known resources have been documented in the appropriate databases (CLI, LCS, ASMIS, and ICMS). While the updated (2015) NHL nomination identifies historic structures and landscapes, the need to identify and accession mission-critical archival collections reduced this statistic, as did the percentage of park property surveyed for archeological resources. All NHL documents are automatically included on the National Register as well.
Documentation	Percentage of historic properties with adequate National Register documentation or with Determinations of Eligibility.		Percentage of known historic properties adequately documented: 100. The updated (2015) NHL nomination addresses 4 themes to examine the complex discussion of cultural interaction, the impacts of Manifest Destiny and westward expansion, and a changing U.S. policy regarding its relationship with the American Indian tribes. The NHL document identifies 16 contributing resources (including 9 reconstructed buildings and structures) and 8 non-contributing resources. The cultural landscape is identified as a contributing resource, with both natural and built features. The central role of geography and topography to historical process is included as part of the narrative. All NHL documents are automatically included on the National Register as well.

Resource Brief: National Historic Landmark Updated Documentation

On April 15, 2015, the Secretary of the Interior approved an amended and updated National Historic Landmark nomination for Fort Union Trading Post. Prepared under contract, this nomination addresses the substantial increase in knowledge about the site, its resources, and development since 1961. The original, two-page 1961 designation included approximately eight acres within which only cellar pits were confirmed to exist. No boundary was described, and no period of national significance established. The updated document reflects reconsideration of historical themes from multiple cultural perspectives, and recognizes the attribution of cultural value on natural resources. It also considers the property from a cultural landscape perspective, and includes a boundary encompassing approximately 600 acres (corresponding to NPS property, and state land below the ordinary high water mark on either side of and including the Missouri River), including the riparian area south of the Missouri River.

Fort Union was one of the largest and most important fur-trading posts on the Upper Missouri River region from 1829 to 1867. It played a vital role in commerce, westward expansion of settlement and culture, scientific exploration, frontier transportation, and economic and cultural relations with American Indians. The updated NHL nomination provides in-depth context for these themes, and examines how Fort Union represents the impact of white settlement and resource extraction upon native cultures, alliances, and economies, including changes in the relationships between established tribal groups.

The fort also represents the change in Federal policy regarding its relationship with American Indian tribes. It discusses how the fur trading fort directly and indirectly affected changes to the economic, religious, social, and domestic structures of Plains bands; provides additional narrative on the lives of the fort's occupants and visitors; and describes the role Fort Union played as host to a number of important artists and scientists traveling through the area.

Archeological investigations undertaken in the past 40+ years have substantially increased knowledge about Fort Union, supporting the site's nationally significant research potential on a dynamic period of economic expansion in the early nineteenth century in the Trans-Mississippian West and Upper Missouri River. Data derived from the site, taken in context with data from related sites of the region, may also contribute meaningfully to a continuing theoretical debate concerning the frontier experience in North America.

The combination of archeological, documentary, and material records demonstrate that a great quantity of nationally significant information about the American Indian Trading era has been compiled. The central role of geography and topography to historical process is also presented in the updated document.

The updated nomination also evaluates the reconstructed fort buildings, whose presence was mandated by Congress in 1985. These accurate, partial reconstructions are part of a formal design plan based on available archeological, written, and pictorial records. They are built on the location of the original structures and serve as the primary interpretive resource for the NPS unit.

Museum Collections



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Indicators of Condition	Specific Measures	Condition Status/Trend	Rationale
Inventory	The scope of museum collections in the park is understood. All resources have been surveyed to determine their appropriateness for inclusion in the museum/archive collection.		The excavations at FOUS have created an “archeological library” of massive scale and enormous scope, consisting of thousands of pages of field observations, thousands of photographs and drawings, and hundreds of thousands of objects. Current FOUS Scope of Collections Statement (SOCS) was reviewed and approved by MWRO regional curator and superintendent in 2011 and then distributed to park and regional staff as appropriate. FOUS’s 209 existing museum accessions have been evaluated for appropriateness. Two 1980s accessions found to be outside FOUS’s SOCS have been deaccessioned, and one 2002 accession found to be outside the SOCS criteria will be deaccessioned and transferred to the appropriate repository, which opened in 2014. With the exception of official park and resource management records that have yet to be surveyed and appraised for administrative history/archival value, all known park resources have been assessed for appropriateness for inclusion in the museum collections. FOUS staff in 2014 prepared and submitted a PMIS project statement to request funds for a three-year project to survey and appraise official park records, (an estimated 100 linear feet of paper records and 360 gigabytes of electronic data), to identify, accession, and catalog as museum collections those that possess administrative history/archival value. The need to identify and accession mission-critical archival collections, which is contingent upon the receipt of project funding, is the reason for the current collection status and trend.

Museum Collections (continued)

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Indicators of Condition	Specific Measures	Condition Status/Trend	Rationale
Inventory (continued)	Percentage of objects accessioned and cataloged.		Percentage of objects accessioned: 100. Percentage of objects cataloged: 83.60. As of the date of completion for the FY 2013 Collections Management Report (9/10/2013), FOUS's museum collection includes a total of 693,662 objects. Of that, 579,942 have been cataloged and 113,720 remain to be cataloged. The park's 2013 Foundation Document notes that archeological project archive cataloging is planned, but has not been funded. Although cataloging of FOUS's fundamental resource continues, hence the trend improvement, the pace of that cataloging is slower than in previous fiscal years. The reason for this slower improvement also accounts for the museum collection's yellow (warrants moderate concern) condition status: FOUS's curator position was vacant for more than a year, which contributed to the delay. A new, permanent staff person will manage the collections and oversee the recruitment, training, and supervision of the seasonal employees and interns who have in the past completed a large percentage of the annual cataloging improvement (gains). Even so, one seasonal museum technician and the Midwest Archeological Center have made incremental improvements in accessioning and cataloging new accessions and in reducing the existing backlog. Future inventory and monitoring projects will likely create additional accessions and cataloging backlogs. This includes a current multi-year, multi-park air quality monitoring project, and a bird inventory and monitoring project.
	The scope of NAGPRA collections in the collection is understood. The museum collection has been inventoried to complete the NAGPRA Inventory.		The FOUS NAGPRA Inventory of Human Remains and Associated Funerary Objects was published in the Federal Register in October 1996. The 7 MNI (minimum number of individuals) and 2,293 AFO (associated funerary objects) were listed as culturally affiliated with the Assiniboine and Sioux Tribes of the Fort Peck Indian Reservation, Gros Ventre and Assiniboine Tribes of Montana, and Three Affiliated Tribes of the Fort Berthold Reservation and repatriated in 1997.
Documentation	Park has current and appropriate baseline documentation (scope of collections statement, collection management plan, housekeeping plan(s), IPM plans(s), EOP, security and fire safety plan(s), and conservation survey(s).		• Collection Management Plan (CMP) (2005) • Collection Condition Survey (2000) • Collection Storage Plan (CSP) (2010) • Emergency Operations Plan (2004) • Scope of Collection Statement (SOCS) (2011) • Integrated Pest Management Plan (IPM) (2000) • Housekeeping Plan (2006) • Collections Access Policy (1996) • Fire Survey (2013)

Museum Collections (continued)

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Indicators of Condition	Specific Measures	Condition Status/Trend	Rationale
Condition	Overall condition of the collection based on condition survey and improvements to storage.		A Collection Condition Survey (CCS) was completed in June 2000; a Collections Storage Plan (CSP) was completed and approved in June 2010. The MWR Museum CSP, 2006, proposes to have either FOUS or KNRI serve as a multi-park storage facility for the North Dakota parks. Because of this proposal, the park's 2013 Foundation Document recommends updating the 2005 Collection Management Plan (CMP) and the 1996 Collections Access Policy, as medium priorities, and updating the CSP. Updating the CMP would take priority over either the CSP or the CAP. According to the CSP assessment, FOUS's two collections storage locations, the HS-6 and HS-7 Collections Storage Vaults, meet professional and NPS collections standards and collections; completion of required FY 2013 Checklist for Preservation and Protection of Museum Collections confirmed standards compliance. An area of concern for HS-6 Vault is water leaking in the facility. The CSP's recommendations to upgrade storage techniques, including "creation of microenvironments for specific collections types," have not yet been fully implemented in part because FOUS's curator position was vacant for more than a year. Assessment confidence is moderate because of the temporary/seasonal nature of collections condition and storage monitoring and the temporary staff's limited, though improving, knowledge of collection management history, storage conditions, and regional climate.

2.3. Visitor Experience

Visitor Numbers and Visitor Satisfaction

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Indicators of Condition	Specific Measures	Condition Status/Trend	Rationale
Number of Visitors	Number of visitors per year		Visitation to the park has incrementally risen in recent years (2.1% in 2013 – 13,518 total visitors; 3.3% in 2012 – 13,236 total visitors), but is approximately 15% lower than the 10-year average of 16,046 total visitors for 2003–2012. This decrease in visitation directly correlates to the development of the Bakken Oil Formation and subsequent impacts on local infrastructure, including a lack of hotel availability and oil industry-related congestion. Other factors in the decrease in visitation may include the economic downturns, and high fuel prices.
Visitor Satisfaction	Percent of visitors who were satisfied with their visit		Based on the standard visitor satisfaction survey conducted each year, the percentage of visitors satisfied was 100% in 2012 and 2014, (up from the 2006–2010* average of 98%). Visitor understanding has increased. From 2006–2010, the average understanding of Fort Union Trading Post NHS's national significance was 76%; it rose to 81% in 2012. *In 2011 & 2013 there were too few respondents for a valid sample, so no results are available for those years.

Interpretive and Education Programs – Talks, Tours, and Special Events



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Indicators of Condition	Specific Measures	Condition Status/Trend	Rationale
Education Programs	Number and quality of programs, and number of participants		Begun in 2009, our offsite Education Program sends Park Rangers to schools within a 200-mile radius of Fort Union Trading Post NHS for an immersive classroom program, utilizing the park's traveling trunks. Although well received by the surrounding communities, staffing shortages and seasonal turnover meant Fort Union could only accommodate 50% of school programming requested in 2014, compared to our four year (2009–2012) average of 32 programs and 1,061 students participating. In 2013 we saw a decrease to 17 programs and 517 students participating. The site recently acquired a Distance Learning suite, which will allow us to expand our outreach nationwide via the video cameras and the internet.
Ranger Programs	Number and quality of programs and attendance		Our Living History programs continue to be very popular with visitors. Our 2014 survey results showed 100% satisfaction with these programs (98% very good, 2% good). This result also held steady from our 2010 and 2012 survey results.

Interpretive and Education Programs – Talks, Tours, and Special Events (continued)

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Indicators of Condition	Specific Measures	Condition Status/Trend	Rationale
Junior Ranger Programs	Number of programs and attendance		In 2014, Fort Union Trading Post NHS expanded its Jr. Ranger program by incorporating an immersive Jr. Trader activity. Kids earn a buffalo robe token for completing the program successfully. They can then trade that robe for items such as the Jr. Ranger patch, a bear claw necklace, or American Fur Company flag. This free program is funded by the Fort Union Trading Post Cooperating Association. It has proved wildly successful and enjoyable for kids and their families. We are actively developing new, more advanced learning-outcome-based activities that provide opportunities for kids to earn more buffalo robe tokens and additional achievement awards.
Special Events	Variety and longevity of events, community involvement		Fort Union Trading Post NHS hosts three major events each year. Rendezvous, an annual four-day fur trapper's rendezvous reenactment, celebrated its 32nd year in 2014 and attracted 15% more visitors than the ten-year average (3,798 versus 3,212). 2014 was the 23rd annual Indian Arts Showcase. This event has an 8-year (2005–2012) average of 690 visitors, although 2013 saw a 45% drop in visitation (382 total visitors). An extensive summer-long road construction project on the state highway providing access to the site may have contributed to this decrease, as the public's ability to travel to the fort was severely impacted. Living History Weekend averages 570 total visitors (2005–2014), although 2013, with 350 total visits, showed a 38% decrease. This decrease was most likely related to the aforementioned road construction project.
Hiking Trail	Variety of outdoor recreational offerings		Fort Union Trading Post NHS has two established hiking trails. The Bodmer Trail presents a new physical activity for visitors. This one-mile roundtrip hike leads visitors to the most likely location from which Karl Bodmer painted Fort Union in 1833. The Lewis and Clark trail leads visitors to the historic Missouri River stream bank.

Resource Brief: Jr. Trader



Poster for Fort Union Trading Post NHS's New Jr. Trader Program.

In 2014 Fort Union Trading Post NHS expanded its Jr. Ranger program by incorporating an immersive Jr. Trader activity. Kids earn a buffalo robe token for completing the program successfully. They can then trade their robe for items such as the Jr. Ranger patch, a bear claw necklace, or an American Fur Company flag. This free program is funded by the Fort Union Trading Post Cooperating Association. It has proved wildly successful and enjoyable for kids and their families. Park staff is actively developing new, more advanced learning-outcome-based activities that provide opportunities for kids to earn more buffalo robe tokens and additional achievement awards.

Resource Brief: Special Events

Fort Union Trading Post NHS hosts three popular annual events, The Fort Union Rendezvous, Indian Arts Showcase, and Living History Weekend. Rendezvous celebrated its 32nd year in 2014 with a 15% (3,798 total visitors) increase in visitation over the ten-year average (3,212). This four-day event is co-hosted by the Fort Union Muzzle Loader Association (FUMLA), which marshals over 100 volunteers who donate 3,000 hours. 2014 was the 23rd annual Indian Arts Showcase, which commemorates American Indian history and culture through music, traditional crafts, and talks by tribal historians and elders from tribes of the Upper Missouri. This event featuring the tribes that historically traded at Fort Union Trading Post NHS gives visitors a better understanding of the confluence of cultures that existed during the fort's historic period.

Living History Weekend every Labor Day weekend is a work weekend that showcases the FUMLA volunteers' varied skills. Each year the group works on a specific project for the fort, often building things like carts, benches, or shacks.



Just over 100 volunteers helped to make Fort Union Trading Post NHS's 2014 Rendezvous a success. NPS Photo.

Interpretive Media – Brochures, Exhibits, Signs, and Website



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Indicators of Condition	Specific Measures	Condition Status/Trend	Rationale
Wayside Signs	Condition and currency of signs		Content of signs should be refreshed to incorporate park themes as described in the park's Long-Range Interpretive Plan (LRIP). Additional signs are needed; for example: front entrance and walking trail signs.
Park Directional Signs (off-site)	Usefulness, quantity, and placement		A significant road construction project on ND Highway 1804/58 caused lack of directional signage for part of 2013–2014. Post-construction replacement signs are smaller than the originals and are not displayed as prominently. Visitor Center staff regularly received visitor complaints about the lack of effective directional signage.
Exhibits	Bourgeois House Museum		Although visitors have consistently rated our museum as 95–100% successful, our Bourgeois House museum, designed in the late 1980s, highlights a Euro-centric viewpoint. It does not tell a cohesive story about the Fort and its American Indian trading partners. Also, as our site's reconstruction is based on the archeological excavations, our site needs an archeological impact and significance display. Themes presented are incomplete and disjointed, and not in concurrence with our National Significance statement or the designated Long-Range Interpretive Plan and NHL nomination themes. The exhibits contain very few interactive elements or displays.
Print Media	Accuracy and availability of primary park publications		In 2009 Fort Union Trading Post NHS's park unigrid was updated and expanded. It is now twice the size of the previous version and has a clear concise theme based on our park's significance statement. We've also increased our park's printed offerings, adding a Map and Guide, and site bulletins related to Guns of Fort Union, The Women of the Fur Trade, The Bourgeois and Artist of Fort Union. All of our park brochures are also available as pdf downloads on our park webpage. Theodore Roosevelt National Park provides a newspaper Park Guide, serving all the parks in North Dakota.
Audio-visual Media	Orientation Films		Produced in 1987, our slideshow-style orientation film is dated. Lacking a cohesive narrative that identifies and discusses the park's significance, interpretive themes, and recent scholarship, it should be updated with a more comprehensive and multi-perspective program that develops a theme-driven interpretation based on our Oct. 2010 Long-Range Interpretive Plan.

Interpretive Media – Brochures, Exhibits, Signs, and Website (continued)

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Indicators of Condition	Specific Measures	Condition Status/Trend	Rationale
Audio-visual Media (continued)	Other AV material		The site presents seven podcasts (short videos) about various topics, including Guns of Fort Union, The Museum Collection, and The Trade House. These are locally produced and available in our museum, on our YouTube Chanel and our Park Website . Fort Union's YouTube channel has over 4,500 views from its inception in 2009. The videos provide all visitors with opportunities to see demonstrations of activities that would normally be available to visitors only during the summer months.
Websites	Currency and scope of website; number of website visitors		In 2013–2014 our NPS website underwent a literary overhaul. Our homepage, Plan your Visit page and History and Culture pages were updated with new interpretive visual media and text. We also added a Museum Collections page, which speaks about our extensive archeological collection.
	Social media: Facebook updates and “likes,” overall activity		Attention to our Facebook page is steadily growing. Our increase in overall “likes” has grown substantially: from 2010 to 2011 we saw an increase of 14%; in 2012, an increase of 35%; and in 2013, an increase of 25%. From 2011–2014 “likes” increased from 371 to 1,345,913. These increases can be attributed in part to a focused effort to develop and post theme-based interpretive content consistent with our 2010 LRIP themes and popularizing little-known site history and museum (archeology) collections.

Resource Brief: Brochure Collection Increased and Accessible

Fort Union has increased its locally developed site bulletins, adding site bulletins related to the Firearms of Fort Union, the Women of the Fur Trade, and the Bourgeois and Artists of Fort Union. In all, we now have 11 site bulletins related to various topics of Fort Union's history. We also increased our availability of these brochures by moving them to an easily accessible wall-mounted brochure rack, instead of behind the visitor center desk. Most of our park brochures are also available as pdf downloads on our [park webpage](#).

Two new brochures available, Guns of Fort Union and Native Women.

Fort Union Trading Post

GUNS OF FORT UNION

Visitors to The American Fur Company's Fort Union marveled at the variety of firearms amassed within the walls of the fort. Many were guns destined for trade with various bands of Northern Plains Indians while others were owned by employees of the fort. As well, the quality of these weapons ran the gamut from the most basic, inexpensive to the best weapons on the market. Including all sizes; everything from large caliber rifles to small pocket pistols. Guns, of all shapes and sizes, were a part of daily life at Fort Union.



Fort Union Trading Post

NATIVE WOMEN

The Upper Missouri tribes including the Assiniboiné, Crow, Blackfeet, Plains Cree, Plains Chippewa (Ojibwa), Mandan, Hidatsa, Arikara, and Sioux (Lakota) came to Fort Union to trade and establish ties in the region. Native women of these tribes were crucial to the Upper Missouri trade. Most visibly they served as romantic companions to non-Natives. However, Native women were not important simply because they married the men of Fort Union. They also served as political and cultural mediators, as producers, traders, and consumers and even as warriors.

AS ROMANTIC COMPANIONS . . .

Native women became involved in the fur trade often through mixed relationships. At Fort Union, women from various Upper



Accessibility



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Indicators of Condition	Specific Measures	Condition Status/Trend	Rationale
Mobility	ADA compliance		Fort Union Trading Post NHS's reconstruction poses challenges to visitor mobility. Currently, the Bourgeois House (Visitor Center) and restrooms are fully accessible. Site staff can use a park-owned motorized cart to drive visitors from the parking lot up to the fort site. Challenges to mobility include areas of uneven ground and some areas accessible only by stairs.
Visual Accommodation	ADA compliance		The site currently carries a Braille brochure and has Auditory captioning for its main park video. The site presents challenges to accommodate visually impaired visitors.
Auditory Accommodation	ADA compliance		Park movie and all podcasts are closed captioned.
Multi-lingual Resources	Audio and print materials in multiple languages; Bi-lingual staff		Site currently has park unigrid brochures in French and German language translations.

Safety



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Indicators of Condition	Specific Measures	Condition Status/Trend	Rationale
Visitor Safety	Recordable incidents		The safety of visitors is a park priority. The park works to quickly identify and mitigate potential hazards, and the number of accidents is very low-to-none per year.
Staff Safety and Training	Number of staff trained		Operational Leadership Training has been completed by park staff in 2012. CPR, First Aid, and AED training and fire extinguisher training are offered to staff annually. Job Hazard Analysis is conducted before jobs throughout the park. Safety messages are given and distributed to staff members.

Partnerships



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Indicators of Condition	Specific Measures	Condition Status/Trend	Rationale
Volunteers	Number and hours contributed		121 Fort Union Trading Post NHS volunteers contributed 4,421 hours in 2014. Volunteers provide living history/period dress interpretive support as, among other things, woodworkers, blacksmiths, and traders. The Fort Union Rendezvous, in mid-June, includes a variety of period crafts and vendors. The camp has over 100 volunteer re-enactors in period dress. Living History Weekend (Labor Day weekend) brings in over 15 volunteers with the Fort Union Muzzle Loader Reenactment Association, who dressed the part of fur trade personnel. This event's immensely popular Last Bell Tours entertain visitors as park staff and volunteers reenact a story from the fort's past.
Partnerships	Number of official and unofficial partnerships		Ongoing successful partnerships are established with the Friends of Fort Union/Fort Buford, The Fort Union Association (the park cooperative association), Missouri Yellowstone Confluence Interpretive Center/Fort Buford State Historic Site, and the Fort Union Muzzle Loaders Association. Partnerships result in collaborative programming and events, increased publicity, financial support, consultation and technical advice, and volunteers.

Resource Brief: Continued Successful Partnerships



Friends of Fort Union and Fort Buford received the 2013 National Park Service Midwest Region Partnership Award.

For more than 28 years, the Friends of Fort Union Trading Post have provided vital support to the park. The “Friends” have coordinated significant fund-raising efforts for park reconstruction and annual interpretive events. They have supported publication of books related to the park and funded the park’s Cooperating Association.

The “Friends” was incorporated in 1984 to work toward the recognition of the historic sites at the confluence of the Yellowstone and Missouri Rivers. With this as their goal, they have both coordinated fund raising efforts and provided significant funding for the reconstruction of Fort Union, the Fort Buford Barracks, the Yellowstone and Missouri Confluence Visitor Center, and also funded guest speakers and history symposiums at both sites. The Friends are a partner in North Star Caviar, which provides Paddlefish cleaning services at the Confluence boat ramp. All of their proceeds fund history-related projects in the community.

2.4. Park Infrastructure

Overall Facility Condition Index



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The National Park Service uses a facility condition index (FCI) to indicate the condition of its facilities and infrastructure. FCI is the cost of repairing an asset, such as a building, road, trail, or water system, divided by the cost of replacing it. The lower the FCI number, the better the condition of the asset. The condition of the buildings and other infrastructure assets at each park is determined by regular facility inspections, or “condition assessments,” including daily informal inspections and formal yearly inspections. Deficiencies identified from these assessments are documented in the NPS Facility Management Software System and the cost for each repair determined. Repairs that cannot be completed within the year count against the condition of a structure. The total cost of these deferred repairs divided by the total cost to replace the structure results in the FCI, with values between 0 and 1 (the lower the decimal number, the better the condition). The FCI is assigned a condition category of Good, Fair, Poor, or Serious based on industry and NPS standards. Deferred maintenance projects that require additional funding are identified based on FCI. Planned preventive maintenance on critical components occurs during the year, using a park’s base budget. For additional information about how park managers use information about the condition of facilities and infrastructure to make decisions about the efficient use of funding for maintenance and restoration activities at the park, [Click Here](#).

Asset Category	Number of Assets 2008 / 2013	FCI 2008 / 2013	Condition Status/Trend	Rationale
Buildings	8 / 9	0.032 / 0.054		Park buildings are a critical part of the park experience and a fundamental resource. The reconstructed fort provides a Living History “stage” from which we interpret the park story. The reconstructed fort buildings also serve as the visitor center, bookstore, and museum. They also house our administrative, interpretive, and curatorial offices. The maintenance buildings and housing support the behind-the-scenes activities that are critical to the maintenance, and safety of the historic site. Normal deterioration of the wood structures is evident.
Trails	1 / 1	0.000 / 0.000		The Bodmer Trail requires minimal maintenance, mowing the path only. Visitor usage is low. The short trail from the lower parking area to the river bottom also requires minimal maintenance and sees light usage.
Waste Water Systems	2 / 2	0.000 / 0.000		The park has a septic tank and leech field at the reconstructed fort. The shop and housing area has a septic tank, lift station and (two) mound leech field systems. The housing/ maintenance shop system is currently at 100% utilization and a replacement system is being designed. The park does not feel that the FCI data for this category represents the actual condition that they see locally; therefore the park has modified this rating to reflect their professional view of the condition. This is an exception to the State of the Parks model.

Overall Facility Condition Index (continued)

[web](#) ▶

Asset Category	Number of Assets 2008 / 2013	FCI 2008 / 2013	Condition Status/Trend	Rationale
Water Systems	1 / 1	0.000 / 0.000		The park uses “Dry Prairie Rural Water,” which provides high quality drinking water from the Missouri River near Wolf Point, Montana. The well that the fort once used is still in place but no longer used.
Unpaved Roads	1 / 3	0.000 / 0.042		The Fort Benton trail is the trace of a historic road and used only during special events. The access road to the Bodmer Trailhead is owned by Roosevelt County, MT, and used under an agreement. The unpaved road, which once provided direct access from the fort to the maintenance shop is only used as a walking path, as it crosses an archeological site.
Paved Roads, Parking Areas, Bridges, Tunnels	7 / 8	0.151 / 0.193		The park access road, shop access road, two visitor parking areas, shop parking area and seasonal house parking area are in poor condition and scheduled to be chip sealed in the near future. The Bodmer parking area and Permanent house parking areas are in good condition.
All Others	8 / 5	0.087 / 0.014		This includes the Maintained Landscape, and Fuel System.

Resource Brief: Green Parks Plan

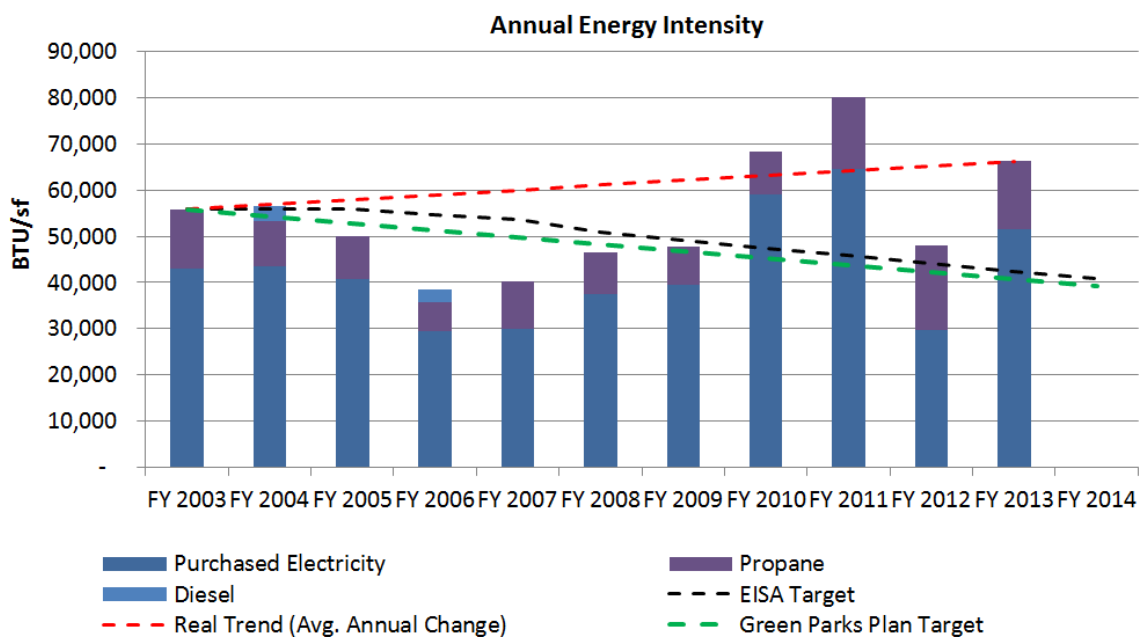
The NPS manages the largest number of constructed assets of any civilian agency in the Federal Government. It operates more than 67,000 structures that account for more than 50 million square feet of constructed space such as visitor centers and historic structures. The [Green Parks Plan](#) (GPP) defines a collective vision and a long-term strategic plan for sustainable management of NPS operations. A critical component of the implementation of the GPP will be informing and engaging parks' staff, visitors, and community partners about climate change and sustainability to broaden opportunities to foster change.

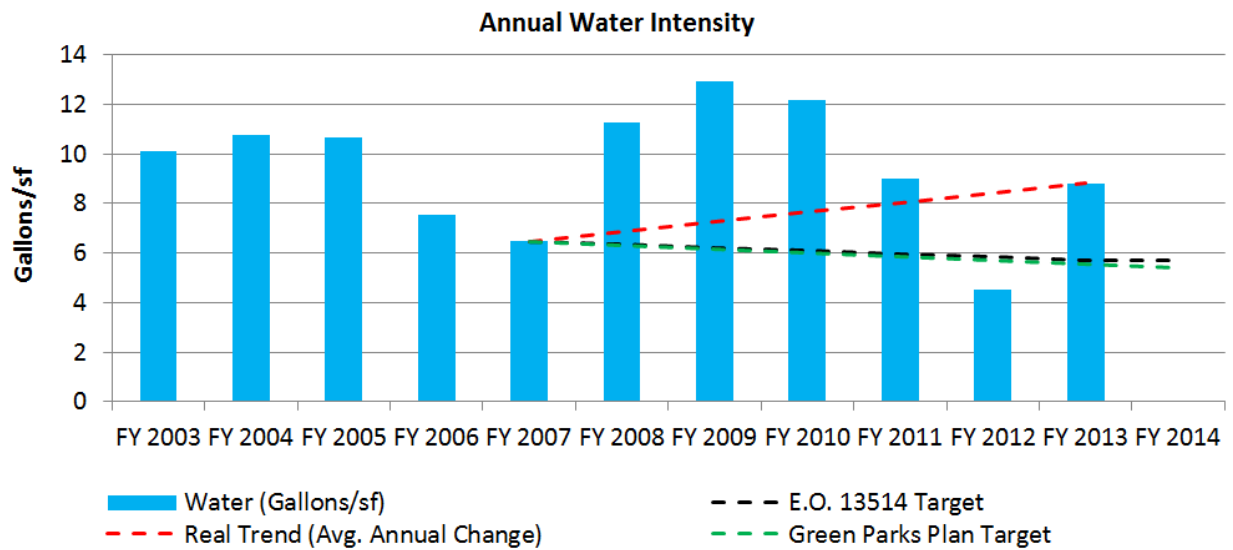
The Vision defined in the GPP plan is, "The NPS will preserve park resources unimpaired for the enjoyment of current and future generations by reducing its environmental impact through sustainable operations, design, decisions, and management at every level of the organization." The plan is based on nine strategic goals that focus on the impact of facilities on the environment and human welfare. Two of those goals are closely aligned with Park Infrastructure as defined in this State of the Park report. Those are:

- Be Energy Smart: The NPS will improve facility energy performance and increase reliance on renewable energy; and
- Be Water Wise: The NPS will improve facility water use efficiency.

For Energy, one of the performance objectives is to reduce Servicewide building energy intensity by 35 percent by 2016 from the 2003 baseline, where energy intensity is energy consumption per square foot of building space. For Water, one of the performance objectives is to reduce potable water use intensity by 30 percent by 2020 from the 2007 baseline.

Historical data for energy and water consumption reported by FOUS and available in the Energy Data Reporting Tool (EDRT) is shown below.





Highlights for FOUS include:

- Initial declines in energy use following the 2003 base line have returned to higher levels in recent years.
- Energy usage is very variable due to extreme variability in winter weather conditions.
- Water use increased from 2008 to 2010 and has declined since then.
- Water usage depends on the number of staff employed and number of people living in park housing.
- The primary use of water is at the Bourgeois House, Maintenance Shop and in the park housing area.
- One additional home (FEMA Trailer) was added to the site in 2013, increasing water and electrical usage.

Chapter 3. Summary of Key Stewardship Activities and Accomplishments

Activities and Accomplishments

The list below provides examples of stewardship activities and accomplishments by park staff and partners to maintain or improve the condition of priority park resources and values for this and future generations:

Natural Resources

- Implemented a prescribed fire program to imitate the natural fire regime.
- Completion of 11 of 12 basic natural resource inventories and completed Natural Resource Condition Assessment in conjunction with the [Northern Great Plains Inventory and Monitoring Network \(NGPN\)](#).
- Implemented vegetation and land-bird monitoring with NGPN.
- Re-planted 167 acres of former farm fields to native grass and forb species. Annual treatment of non-native vegetation by park staff and the Exotic Plant Management Team.
- Monitored and documented the south bank loss of the Missouri River.

Cultural Resources

- Amended National Historic Landmark nomination to provide additional historical context, include archeological information, and expand the NHL boundary to conform to the Federal property boundary, accepted 4-15-2015.
- “Native Women at Fort Union” (2014) site bulletin examines the previously untold story of the connection between Euro-American and American Indian women and the economics of the fur trade era.
- Herbarium collection is 100% cataloged, scanned, and accessible to the public on the University of Wyoming’s website.
- Extensive geophysical investigations at the park have revealed other important sites such as the Fort William Stockade and the Larpenteur Trading Post.
- Ranger Monitoring Program – Each year a percentage of the park’s archeological sites are monitored for condition by the park rangers.
- Full-performance curator position established and staffed on subject-to-furlough basis.
- Superintendent attended a Montana THPO/SHPO summit (2014).
- Maintain up-to-date national databases and condition reassessment cycles (ASMIS, CLI, LCS, ICMS/national catalog).

Visitor Experience

- Northwest North Dakota and Northeast Montana are at the epicenter of an unprecedented “Oil boom.” Extensive and rapid development of this resource has taxed virtually every aspect of the area. Heavy truck traffic and a lack of motel and other accommodations have discouraged potential park visitors from visiting the site and had a negative impact on visitors arriving to and departing from the site as well on their ability to see and experience the fort’s viewshed beyond park boundaries.
- The site continues to be an active partner with the Fort Peck school system with our American Indian Language partnership, which brings tribal youth to Fort Union to give presentation about and in traditional tribal languages.
- The site recently developed new education programs in which Park Rangers visit classrooms in the local school districts. Programs include “Fur trade in North Dakota,” “Lewis and Clark,” and “Growing up Assiniboine.”
- The park’s website and social media are consistently improving and upgrading with a variety of new content and media to ensure visitor access to the site’s stories and resources. The website was recently improved and expanded, including a much needed “Collections” web page.
- The Junior Ranger program was successfully expanded to include a trading component reinforcing visitor understanding of the historic trade process utilized by Euro-Americans and American Indians at Fort Union Trading Post NHS.
- The site developed “Fur Trade Life,” an immersive place-based learning program. While on site, students rotate through hands-on stations where they can learn things like: Blacksmithing, Buffalo and Traditional American Indian Games.
- Our special events continue to bring in high profile headliners, including; Billy Mills (U.S. Olympic Gold Medalist in 10,000 Meter Run), Nathan Chasing Horse (Lakota Actor, best known for his role in Dances with Wolves), Gerome Kills Small (Oglala Sioux storyteller) and Rex Norman (Fur Trade historian).
- In partnership with partner Fort Buford State Historic Site, successfully developed and organized a Boy Scout retreat, including completing the Indian Lore merit badge requirements.
- Interpretive staff continues to develop a variety of successful Trade House living history and off-site programs.

Park Infrastructure

- Radon Mitigation systems were installed in the Bourgeois House basement and Trade House vault to reduce hazardous Radon levels in 2012.
- An air-to-air heat pump system was installed in the Bourgeois House (Visitor Center) in 2012.
- The park palisade walls were partially white-washed in 2014.
- At 25 years old, the wooden exterior members of the park structures are beginning to develop wood rot. Special project funding has been requested to repair or replace damaged wooden members.
- The Bodmer Trail was established to provide access to the Bodmer Overlook.
- An excess FEMA trailer was acquired in 2013 to provide additional park housing for park staff.
- The single RV trailer pad was reconfigured in 2012 to two RV pads. One of these pads is used by the FEMA trailer and one is used by a permanent park employee.

Chapter 4. Key Issues and Challenges for Consideration in Management Planning

Staffing

When fully staffed, the permanent, full-time employees include the Superintendent, Administrative Officer, Chief Park Ranger for Interpretation, Park Ranger Interpretation, Museum Curator, Facility Manager, Maintenance Worker, and Park Ranger Law Enforcement. Current long-term vacancies include the Law Enforcement Ranger; the Chief Park Ranger; and the Museum Curator, which is Subject to Furlough, working 6 to 11 months/year instead of permanent, full time.

Temporary staff includes five interpreters (one in the spring for school outreach) and one summer maintenance worker. As special program funding allows, two Museum Technicians and 1–2 additional Maintenance Workers are hired.

Tribal Relationships

When Fort Union was active in the 1800s, at least nine tribes traded here. Fully half of the park's story is about these Native American peoples. The park would like to increase the number of tribal members who come to the park as visitors and event participants.

The park is most active with the Three Affiliated Tribes (Mandan, Hidatsa, and Arikara) of North Dakota and the Fort Peck Tribes (Assiniboiné and Sioux) of Montana. The park's partners pay youth dancers and a Native American drum group to perform at the annual "Indian Arts Weekend."

Park Ranger Loren Yellow Bird has worked closely with the Fort Peck Tribes and the Three Affiliated Tribes to assist them in providing tribal youth with language and other cultural education. Tribal youth provide cultural demonstrations at the park.

Partnerships and Community Involvement

Fort Union Trading Post enjoys exceptional support from the surrounding communities in North Dakota and Montana, and it is vital to the success of the park to maintain and foster this community involvement. The dedication of the community was the catalyst for development of the site in the 1980s. Their outcry in 2008 prevented a casino from being built next to the park boundary. As rapid oil resource extraction continues on lands surrounding the park, the community's support will remain vital to Fort Union Trading Post NHS's long-term success and protection.

The Friends of Fort Union and Fort Buford were chartered in 1984 to support the two historic sites at the Confluence of the Yellowstone and Missouri Rivers. This group of community supporters has provided funding and a political voice to communicate and promote the significant historic resources of the area.

The Fort Union Cooperating Association (FUA) was established in 1993 and provides interpretive material for park visitors. FUA operates a bookstore in the park visitor center, and all profits support the park interpretive programs.

The Williston Convention and Visitor's Bureau provides extensive advertising and promotional support for the park, as does the Williston Chamber of Commerce.

Media outlets, including television, radio, and newspapers, faithfully promote and report on park events.

Resource Management

Natural Resources

Although needed, the park has no dedicated Natural Resource Management staff. The Park Superintendent plans and coordinates resource projects with supporting programs. Supporting programs include the North Dakota Group Fire Management Officer, the Northern Great Plains Inventory and Monitoring Program, and the Exotic Plant Management Team. Planning includes NEPA compliance. It is paramount to retain the support of these programs for the success of the site to manage Natural Resources. Dedicated Natural Resource Staff would greatly enhance the park's ability to manage Natural Resources. A full-time natural resources specialist would help the park identify, document, manage, preserve, and interpret its natural resources.

A park goal is to maintain the appearance of the vegetation to mimic what likely would have been present in the mid-1800s, when the fort was in operation. As the fort livestock, primarily horses, were corralled inside the fort at night and turned out during the day, the vegetation near the fort would have been heavily grazed. The park effort is to increase the warm season, sod-forming grasses that are of low stature. A small percentage of exotic grasses are tolerated due to the impracticality of eliminating all of them. The vegetation

along the river will be largely left to natural process, including periodic flooding. A view of the river from the front of the fort is to be maintained, even if it requires cutting down trees.

Through the support of the programs previously mentioned, the park has an active prescribed fire program. The park has recorded 11 of the 12 basic park resource inventories and actively controls non-native vegetation each summer. The park established a Vegetation Management Plan through a contract with the USGS ecologist stationed in Rapid City, SD. The geologic inventory report is scheduled for FY15.

The meandering Missouri River is a cause for concern. The river will soon meander through the south boundary of the park and on to private farm land. The dynamics of the river are documented in NPS Publication NPS/NRPC/WRD/NRR—2008/098 authored by Dr. Lucy Ellis. As the transportation corridor when the fort was active the river is a critical interpretive component of the park story. As the river meanders away from the fort, its interpretive value is diminished.

Fire Management Planning and five-year reviews are undertaken by the North Dakota Group Fire Management Officer. The current plan was completed in 2008 and the North Dakota Fire Management Officer updates the plan every other year.

Cultural Resources

Cultural Resource planning and management is undertaken by the Museum Curator and Superintendent. When requested by the Superintendent, subject-matter experts from the Midwest Region's Cultural Resources Division and the Midwest Archeological Center provide technical assistance.

Fort Union's cultural resources consist of its museum collections, archeological and ethnographic resources, cultural landscapes, a National Historic Landmark District, and National Register of Historic Places properties. Of these, the following are classified in the park's Foundation Document as fundamental resources and values:

- The Fort Union archeological site and the museum collection and archives
- Reconstructed trading post and American Indian encampment
- Cultural landscape/viewshed

The Foundation Document names these cultural resources as "Other Important Resources and Values" that must be considered during park management planning and decision-making:

- Bodmer Overlook
- Garden Coulee archeological site (Crow Flies High village)
- 17 other archeological sites identified to date, including Mondak townsite, Larpenteur's Trading Post, Fort William, and the Fort Benton Road

Of the 19 known archeological sites, 18 are in good condition. One, the Fort Union site, is in fair condition.

Management planning activities that address these cultural resources include long-range strategic planning, near-term project management, and Section 106 compliance. A number of key issues and challenges affect the management of some or all park resources:

- Increased and accelerated oil-industry-related developments outside park boundaries that impact the cultural landscape/viewshed seen from the reconstructed fort and the Bodmer Overlook;
- The oil-industry-inflated, highest-in-the-country cost of housing in the area, which impedes the hiring and retention of employees (including maintenance staff) to plan, do, and manage consistently multi-season/multi-year projects;
- The subject-to-furlough/career-seasonal status of the park's museum curator versus a permanent full time employee;
- The meandering Missouri River; and
- The incomplete baseline documentation of the
 - archeological resources in the park (only 33% of park lands have been surveyed) and
 - archeological artifacts/museum collections recovered during the 1986–1988 excavations completed as part of the mitigation process prior to the post's reconstruction between 1987 and 1993.

In addition to addressing the broad issues and challenges listed above, specific cultural resource planning needs include:

- more consultation with affiliated tribes;
- a redesign and upgrade of existing museum collections exhibits to improve the display cases' internal environmental conditions, make cases easier to clean, allow for the display of more museum objects/artifacts, and bring the interpretive content up to date with Long-Range Interpretive Plan themes and new scholarship produced since the 1980s;

- completion of a Historic Resource Study, the baseline history management document that would explore Fort Union’s history within the confluence-region context from prehistory to the present;
- development of an architectural history that identifies, describes, and analyzes the reconstruction process decision-making (this could be done as an addendum to the park’s Administrative History or as a Historic Structure Report);
- creation of a plan for rehabilitation and repair of aging reconstruction features such as palisade staircase, trade house boardwalk, catwalk planks, and wood palisades;
- completion of a survey and inventory of all park records, both paper and electronic, to identify resource management and administrative records that, per Director’s Order #11D, should be accessioned into and managed as park museum collections;
- development and publication of a synthesis report that documents the methods and findings of the 1986–1988 archeological excavations;
- submission of PMIS funding requests to:
 - catalog the un-cataloged archeological collections accessioned following the 1986–1988 excavations
 - complete an archeological survey and inventory of all as-yet un-surveyed park lands, especially the Rendezvous grounds
 - upgrade the museum collections storage facilities and equipment to seal cracks in the concrete that enable water to seep into the vaults, where it heightens the risk of damage to collections by increasing vault humidity and its variability

Preservation of Historic Structures

The reconstructed park buildings completed in the late 1980s and early 1990s are built of wood. As such, the wood is subject to natural decomposition processes and some is beginning to need repair or replacement. A thorough inspection and documentation of the park infrastructure will remain a constant and high priority. The park continues in consultation with historic architect Rick Cronenburger, the designer of the park reconstruction effort.

New Visitor Opportunities

The park is beginning to engage in Distance Learning efforts. Through the internet and video cameras, the park is able to present real-time interpretive programs to school children and others throughout the nation.

Park Sustainable Practices

The park actively recycles paper, plastic, and metal cans. Recyclables are transported to Sidney, MT, or Williston, ND, recycling centers. Water, electricity, and fuel use is closely monitored.

Safety

The park, along with the National Park Service, is pursuing a renewed effort to maintain a safe work and recreational environment. Permanent Park staff attended Operational Leadership (OL) training in 2012. The new (December 2014) Facility Manager is a trained OL instructor.

Conclusion

In 1832, the artist George Catlin traveled up the Missouri River to Fort Union to observe the region’s Native American peoples and their cultures. He spent several weeks at the post before returning down river. His purpose was to see the Native Americans before the destructive effects of westward expansion impacted Indian civilization, wildlife, and wilderness. While on the Upper Missouri, he penned the thought that the Indians and buffalo may be preserved “by some great protecting policy of government... in a magnificent park...a nation’s park, containing man and beast, in all the wildness and freshness of their nature’s beauty.”

This proposal, credited with being the first articulation of the National Park idea, may well have been inspired at Fort Union.

Although located in the northwest corner of North Dakota and the northeast corner of Montana, far from population centers, Fort Union Trading Post preserves the site and stories of an important piece of American History. From the thriving of Native American Tribes, to the Lewis and Clark expedition, to the fur trade and the Euro-American settlement of the West, this area’s natural and cultural history has played a significant role. While active, Fort Union was a place of peaceful co-existence for very different cultures that felt they had much to gain from one another. This lesson in peaceful-coexistence remains valuable to the world yet today.

References

See the [State of the Park Report for the Park website](#) for a more complete list of references to documents and data sets upon which the assessments in this State of the Park report are based. References for several of the key documents cited in this report are as follows:

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See Also:

[Collection of Natural Resource-Related References](#)

[Collection of Cultural Resource-Related References](#)

[Collection of Visitor Experience-Related References](#)

Glossary

See the [State of the Parks home page](#) for a link to a complete glossary of terms used in State of the Park reports. Definitions of key terms used in this report are as follows:

Americans with Disabilities Act (ADA)	Law enacted by the federal government that includes provisions to remove barriers that limit a disabled person's ability to engage in normal daily activity in the physical, public environment.
Archeological Sites Management Information System (ASMIS)	The National Park Service's standardized database for the basic registration and management of park prehistoric and historical archeological resources. ASMIS site records contain data on condition, threats and disturbances, site location, date of site discovery and documentation, description, proposed treatments, and management actions for known park archeological sites. It serves as a tool to support improved archeological resources preservation, protection, planning, and decision-making by parks, centers, regional offices, and the national program offices.
Baseline Documentation	Baseline documentation records the physical condition of a structure, object, or landscape at a specific point in time. A baseline provides a starting point against which future changes can be measured.
Cultural Landscapes Inventory (CLI)	A Cultural Landscapes Inventory describes historically significant landscapes within a park. The inventory identifies and documents each landscape's location, size, physical development, condition, characteristics, and features, as well as other information useful to park management.
Cultural Landscape Report (CLR)	A Cultural Landscape Report is the principal treatment document for cultural landscapes and the primary tool for long-term management of those landscapes. It guides management and treatment decisions about a landscape's physical attributes, biotic systems, and use when that use contributes to historical significance.
Curation	National parks are the stewards of numerous types of objects, field notes, publications, maps, artifacts, photographs, and more. The assemblage of these materials comprises a museum collection. Curation is the process of managing, preserving, and safeguarding a collection according to professional museum and archival practices.
Exotic Plant Management Team (EPMT)	One of the ways the NPS is combating invasive plants is through the Exotic Plant Management Team Program. The program supports 16 Exotic Plant Management Teams working in more than 225 park units. EPMTs are led by individuals with specialized knowledge and experience in invasive plant management and control. Each field-based team operates over a wide geographic area and serves multiple parks.
Facility Condition Index (FCI)	FCI is the cost of repairing an asset (e.g., a building, road, bridge, or trail) divided by the cost of replacing it. The lower the FCI number, the better the condition of the resource.
Foundation Document	A park Foundation Document summarizes a park's purpose, significance, resources and values, primary interpretive themes, and special mandates. The document identifies a park's unique characteristics and what is most important about a park. The Foundation Document is fundamental to guiding park management and is an important component of a park's General Management Plan.

Fundamental and Other Important Resources and Values	Fundamental resources and values are the particular systems, processes, experiences, scenery, sounds, and other features that are key to achieving the park’s purposes and maintaining its significance. Other important resources and values are those attributes that are determined to be particularly important to park management and planning, although they are not central to the park’s purpose and significance. These priority resources are identified in the Park Foundation Document and/or General Management Plan. The short-cut name that will be used for this will be Priority Resources.
General Management Plan (GMP)	A General Management Plan is a strategic planning document that outlines the future management of a National Park Service site for the next 15 to 20 years. The plan will set the basic philosophy and broad guidance for management decisions that affect the park’s resources and the visitor’s experience.
Green Parks Plan (GPP)	The Green Parks Plan defines a collective vision and a long-term strategic plan for sustainable management of NPS operations. A critical component of the implementation of the GPP will be informing and engaging park staff, visitors, and community partners about climate change and sustainability to broaden opportunities to foster change.
Historic Integrity	Historic Integrity is the assemblage of physical values of a site, building, structure, or object and is a key element in assessing historical value and significance. The assessment of integrity is required to determine the eligibility of a property for listing in the National Register.
Historic Resource Study (HRS)	The historic resource study is the primary document used to identify and manage the historic resources in a park. It is the basis for understanding their significance and interrelationships, a point of departure for development of interpretive plans, and the framework within which additional research should be initiated.
Historic Structures Report (HSR)	The historic structure report is the primary guide to treatment and use of a historic structure and may also be used in managing a prehistoric structure.
Indicator of Condition	A selected subset of components or elements of a Priority Resource that are particularly “information rich” and that represent or “indicate” the overall condition of the Priority Resource. There may be one or several Indicators of Condition for a particular Priority Resource.
Integrated Resource Management Applications (IRMA)	The NPS-wide repository for documents, publications, and data sets that are related to NPS natural and cultural resources.
Interpretation	Interpretation is the explanation of the major features and significance of a park to visitors. Interpretation can include field trips, presentations, exhibits, and publications, as well as informal conversations with park visitors. A key feature of successful interpretation is allowing a person to form his or her own personal connection with the meaning and significance inherent in a resource.
Invasive Species	Invasive species are non-indigenous (or non-native) plants or animals that can spread widely and cause harm to an area, habitat, or bioregion. Invasive species can dominate a region or habitat, out-compete native or beneficial species, and threaten biological diversity.
List of Classified Structures (LCS)	LCS is an inventory system that records and tracks the condition of the approximately 27,000 historic structures listed in the National Register of Historic Places that are the responsibility of NPS.

Museum Collection	NPS is the steward of the largest network of museums in the United States. NPS museum collections document American, tribal, and ethnic histories; park cultural and natural resources; park histories; and other aspects of human experience. Collections are managed by professionally-trained NPS staff, who ensure long-term maintenance of collections in specialized facilities.
National Historical Landmark (NHL)	National Historic Landmarks are nationally significant historic places designated by the Secretary of the Interior because they possess exceptional value or quality in illustrating or interpreting the heritage of the United States. Today, fewer than 2,500 historic places bear this national distinction.
Native American Graves Protection and Repatriation Act (NAGPRA)	A federal law passed in 1990. NAGPRA provides a process for museums and federal agencies to return certain Native American cultural items (e.g., human remains, funerary objects, sacred objects, objects of cultural patrimony) to lineal descendants and culturally-affiliated Indian tribes and Native Hawaiian organizations.
Natural Resource Condition Assessment (NRCA)	A synthesis of existing scientific data and knowledge, from multiple sources, that helps answer the question: what are current conditions of important park natural resources? NRCAs provide a mix of new insights and useful scientific data about current park resource conditions and factors influencing those conditions. NRCAs have practical value to park managers and help them conduct formal planning and develop strategies on how to best protect or restore park resources.
Northern Great Plains Network (NGPN)	One of 32 I&M networks established as part of the NPS Inventory and Monitoring Program . The Northern Great Plains Network provides scientific data and expertise for natural resources in 13 parks located in North Dakota, South Dakota, Nebraska, and Wyoming.
Priority Resource or Value	This term refers to the Fundamental and Other Important Resources and Values of a park. These can include natural, cultural, and historic resources as well as opportunities for learning, discovery, and enjoyment. Priority Resources or Values include features that have been identified in park Foundation Documents, as well as other park assets or values that have been developed or recognized over the course of park operations. Priority Resources or Values warrant primary consideration during park planning and management because they are critical to a park's purpose and significance.
Project Management Information System (PMIS)	A servicewide intranet application within the National Park Service to manage information about requests for project funding. It enables parks and NPS offices to submit project proposals to be reviewed, approved, and prioritized at park units, regional directorates, and the Washington Office.
Resource Management	The term "resources" in NPS encompasses the many natural, cultural, historical, or sociological features and assets associated with parks. Resource management includes the knowledge, understanding, and long-term stewardship and preservation of these resources.
Specific Measure of Condition	One or more specific measurements used to quantify or qualitatively evaluate the condition of an Indicator at a particular place and time. There may be one or more Specific Measures of Condition for each Indicator of Condition.