National Park Service U.S. Department of the Interior





CLIMATE Friendly PARKS

# Big Hole National Battlefield Action Plan

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## **BIG HOLE NATIONAL BATTLEFIELD BECOMES A CLIMATE FRIENDLY PARK**

As a participant in the Climate Friendly Parks program, Big Hole National Battlefield belongs to a network of parks nationwide that are putting climate-friendly behavior at the forefront of sustainability planning. By conducting an emission inventory, setting an emission reduction goal, developing this Action Plan, and committing to educate park staff, visitors, and community members about climate change, Big Hole National Battlefield provides a model for climate-friendly actions within the National Park Service.

This Action Plan identifies steps that Big Hole National Battlefield can undertake to reduce GHG emissions and mitigate its impact on climate change. The plan presents the park's emission reduction goals, and associated reduction actions to achieve the park's goals. Strategies and action plan items were developed by working groups at the North Coast & Cascade and Upper Columbia Basin Climate Friendly Parks Workshop.<sup>1</sup> While the plan provides a framework needed to meet the park's emission reduction goals, it is not intended to provide detailed instructions on how to implement each of the proposed measures. The park's Environmental Management System will describe priorities and details to implement these actions.

This plan helps the park with its management strategy by setting achievable goals. When Big Hole National Battlefield meets its goals and is able to minimize its carbon footprint, the park will be doing what it can to ensure the resources will be here for future generations to experience and enjoy.

Big Hole National Battlefield intends to:

- Reduce GHG emissions from the park to 30% below 2008 levels by the year 2016 by implementing emission
  mitigations actions identified by the park.
- Reduce park operations' energy use emissions to 40 percent below 2008 levels by 2016.
- Reduce park operations' transportation emissions to 15 percent below 2008 levels by 2016.
- Reduce park operations' waste emissions to 15 percent below 2008 levels by 2016 through waste diversion and reduction.

To meet these goals, the park will implement strategies proposed in this plan that relate to the park's current and future emission inventories. Specifically, the plan recommends three strategies:

**Strategy 1**: Identify and implement mitigation actions that the park can independently take to reduce GHG emissions resulting from activities within and by the park.

Strategy 2: Increase climate change education and outreach efforts.

Strategy 3: Monitor progress with respect to reducing emissions and identify areas for improvement.

<sup>&</sup>lt;sup>1</sup> Original notes from these workshops, including detailed action items not presented in the final plan have been archived by Big Hole National Battlefield and are available upon request.



## THE CHALLENGE OF CLIMATE CHANGE

Climate change presents significant risks and challenges to the National Park Service and specifically to Big Hole National Battlefield. Scientists cannot predict with certainty the general severity of climate change nor its impacts. Average global temperatures on the Earth's surface have increased about  $1.1^{\circ}$ F since the late  $19^{th}$  century, and the 10 warmest years of the 20<sup>th</sup> century all occurred in the last 15 years. The single leading cause of this warming is the buildup of GHGs in the atmosphere—primarily carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>) and nitrous oxide (N<sub>2</sub>O) —which trap heat that otherwise would be released into space.

The continued addition of CO<sub>2</sub> and other GHGs to the atmosphere will raise the Earth's average temperature more rapidly in the next century; a global average warming of 4-7°F by the year 2100 is considered likely.<sup>2</sup> Rising global temperatures will further raise sea levels and affect all aspects of the water cycle, including snow cover, mountain glaciers, spring runoff, water temperature, and aquatic life. Climate change also is expected to affect human health, crop production, animal and plant habitats, and many other features of our natural and managed environments.

At Big Hole National Battlefield, increasing temperatures, and changing precipitation patterns may alter park ecosystems, changing vegetation communities, habitats available for species, and the experience of park visitors. If these changes go unchecked, they could have an adverse effect in the warming of the environment that in turn could affect animal and plant life as we know it now. If warming does continue, the species that are present in the park either will move up slope with temperature, or become extinct. Either way climate change will alter the way the park is today. This area is very fragile and would be easily changed with just a few degrees of warming.

<sup>&</sup>lt;sup>2</sup> IPCC 2008. Climate Change 2008: The Physical Science Basis. Intergovernmental Panel on Climate Change, Geneva Switzerland. Available online at < http://ipcc-wg1.ucar.edu/wg1/wg1-report.html>



## GREENHOUSE GAS EMISSION INVENTORY AT BIG HOLE NATIONAL BATTLEFIELD

Naturally occurring GHGs include CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, and water vapor. Human activities (e.g., fuel combustion and waste generation) lead to increased concentrations of these gases (except water vapor) in the atmosphere.

## **Greenhouse Gas Emissions**

GHG emissions result from the combustion of fossil fuels for transportation and energy (e.g., boilers, electricity generation), the decomposition of waste and other organic matter, and the volatilization or release of gases from various other sources (e.g., fertilizers and refrigerants).

Big Hole National Battlefield heats with propane exclusively. The park is in the process of installing a new cold roof system, which will be much more energy efficient. At this time, the park purchases green energy (not all of the park's needs, but as much as its co-op will allow). Big Hole National Battlefield has plans to put up solar panels to generate power and tie into the grid. The park is in the process of cutting down on waste in the Visitor Center as well in employee housing by recycling more products.

In 2008, GHG emissions within Big Hole National Battlefield totaled 126 metric tons of carbon dioxide equivalent (MTCO<sub>2</sub>E). This includes emissions from park and concessioner operations and visitor activities, including vehicle use within the park. For perspective, a typical single family home in the U.S. produces approximately 12 MTCO<sub>2</sub> per year.<sup>3</sup> Thus, the combined emissions from park and concessioner operations and visitor activities within the park are roughly equivalent to the emissions from the energy use of 11 households each year. The largest emission sector for Big Hole National Battlefield is energy, totaling 81 MTCO<sub>2</sub>E (see Figure 1 and Table 1).

<sup>3</sup> U.S. EPA, Greenhouse Gases Equivalencies Calculators – Calculations and References, Retrieved , Website: http://www.epa.gov/RDEE/energy-resources/calculator.html



## **FIGURE 1**

Big Hole National Battlefield 2008 Total Greenhouse Gas Emissions by Sector



## TABLE 1

Big Hole National Battlefield 2008 Total Greenhouse Gas Emissions by Sector and Source

	MTCO2E
Energy	80
Stationary Combustion	53
Purchased Electricity	27
Transportation	33
Mobile Combustion	33
Waste	9
Landfilled Waste	9
Wastewater	-
Other	5
Refrigeration and Air Conditioning	5
Total	126
Note - Totals may not sum due to rounding	

Not applicable data sources represented by "-"



## **FIGURE 2**

Big Hole National Battlefield 2008 Park Operations Emissions by Sector



## TABLE 2

Big Hole National Battlefield 2008 Park Operations Emissions by Sector

	MTCO2E
Energy	80
Stationary Combustion	53
Purchased Electricity	27
Transportation	24
Mobile Combustion	24
Waste	9
Landfilled Waste	9
Wastewater	-
Other	5
Refrigeration and Air Conditioning	5
Total	117

Note - Totals may not sum due to rounding

Not applicable data sources represented by "-"



# Big Hole National Battlefield Responds to Climate Change

*The following actions were developed during the North Coast & Cascade and Upper Columbia Basin Climate Friendly Parks Workshop on February 9<sup>th</sup> and 10<sup>th</sup>, 2010, in order to meet the Park's climate change mitigation goals.* 

## STRATEGY 1: REDUCE GHG EMISSIONS RESULTING FROM ACTIVITIES WITHIN AND BY THE PARK

Big Hole National Battlefield has developed a set of actions that the park is committed to taking in order to reduce emissions from activities within and by the park. These strategies have been prioritized based on a qualitative assessment of a set of criteria including: emission reduction potential, cost-effectiveness, feasibility, co-benefits, regional impact, and ability to implement rapidly. Actions that Big Hole National Battlefield intends to take have been presented below in order from highest to lowest priority within each sub-category.

## **Energy Use Management**

## *Emission Reduction Goal: Reduce park operations' energy use emissions to 40 percent below 2008 levels by 2016.*

Improving energy efficiency and implementing alternative energy sources reduces park-based fuel use, lowers GHG emissions, decreases electricity consumption, and offers monetary benefits for the park. Emissions inventory results indicate that 69 percent of the park's GHG emissions from Park Operations are from energy consumption. Consequently, Big Hole National Battlefield identified actions it will take to reduce energy-related emissions. Presented below are the actions that are currently under way and which comprise the park's progress to date, as well as those actions the park will pursue.

### Progress to Date

(Note: Some of these are on hold at the time of the writing of this plan, November 2010, as the park is in the middle of a major rehabilitation.)

**Behavior Changes** 

- Continuously encouraging energy conversation in all park activities by shutting off lights, using natural lighting, and turning off electronics to hibernate.
- Established an operations and maintenance schedule to ensure the reliability, safety and energy efficiency of park facilities and equipment.
- Adjusted thermostat settings in the park to no more than 68 degrees in the winter and no less than 78 degrees in the summer to reduce energy consumption.
- Adjusted cleaning schedules to reduce energy used to keep building open.

Heating, Ventilation, and Air Conditioning (HVAC)

- Upgraded air distribution systems from Constant Volume (CV) systems to Variable Air Volume (VAV) systems.
- Developed and implemented an HVAC maintenance schedule to ensure that equipment is maintained properly and runs efficiently.
- Programmed the Building Automation System (BAS) to adjust the cooling temperatures indoors based on the outdoor temperature.
- Disabled the reheat systems in summer months to reduce energy use.



Energy Efficient Electronics and Devices

- Established and implemented a procurement policy that meets and exceeds the Federal Energy Management Program guidelines, ensuring that all new electronic/office equipment is energy efficient.
- Replaced boilers and furnaces with energy efficient models.
- Develop an energy efficient hot water heating and delivery system.

Improving Building Envelope

• Implemented window shading to reduce the solar heating load imposed by windows.

Alternative Energy

- Switched fuels for existing devices to biofuel instead of conventional fuel.
- Purchased electricity from a renewable energy provider.

Other Energy Management Actions

• Audited energy use of all structures in the park.

## **Energy Use Management - Planned Actions**

**1** Promote energy efficiency and energy conservation in the park through behavioral change

- Develop a mandatory energy-saving training program.
  - Develop a mandatory energy-saving training program to train employees on best practices such as turning off equipment and lighting when not in use, and enabling energy saving settings for computers and monitors.
- Ensure all computers' power management settings follow current ENERGY STAR recommendations.
  - Investigate whether all computer power management settings currently follow ENERGY STAR recommendations to ensure energy efficiency.

#### **2** Upgrade lighting options

- Upgrade all light fixtures and bulbs in park to energy efficient bulbs.
  - O Install energy efficient light fixtures during remodeling of the park's Visitor Center.
- Utilize day lighting.



- O Implement daylighting in the newly remodeled park Visitor Center.
- Establish guidelines that would require new and retrofitted buildings to utilize more effectively natural lighting by bring it into buildings via conventional glazing, light shelves, skylights and clerestory windows.
- Install dimmable ballasts and pair lighting with photosensors to reduce electricity use.
  - Install dimmable lighting systems in the newly remodeled park Visitor Center to reduce the need for electricity use during the day.
- Install lighting controls.
  - Install lighting controls in the newly remodeled park Visitor Center to ensure appropriate use of lighting and reduce electricity use.

#### **3** Heating, Ventilation, and Air Conditioning (HVAC)

- Recalibrate thermostats.
  - Continuously ensure that space temperature is regulated more accurately by periodically recalibrating thermostats, particularly those with pneumatic controls.

#### **4** Switch to more efficient electronics and devices

- Default all computers to print double-sided.
  - O Default all possible computers to print double-sided.
- Install Smart Strip power strips.
  - Install smart power strips to reduce the "Vampire Energy" use when the current American Power Conversion (APC) strips are cycled out.

#### **5** Improve building structures and envelopes

- Weatherize park buildings by adding R-values to improve insulation effectiveness.
  - O Improve insulation in the new Visitor Center.
- Replace/ upgrade old windows with new windows.
  - Replace old windows with new windows (e.g. spectrally selective glass, double-glazed, low-e systems, gas filled windows and electrochromic windows) that provide better insulation and solar selectivity in the new Visitor Center.
- Install a cool roof.
  - O Install a cool roof to reduce heating needs during remodel of the park's Visitor Center.

#### **6** Utilize alternative energy sources



- Install photovoltaic panels on park buildings, parking lots, open areas, etc.
  - O Investigate and implement installation of photovoltaic panels on park buildings.

#### 7 Measure energy use throughout the park

- Partner with local universities on energy efficiency studies audits and building audits.
- Incorporate energy efficiency criteria into new contracts for park and concessioner construction.
  - Incorporate energy efficiency criteria into new contracts for park and concessioner construction during the remodel of the Visitor Center.
- Review and implement the DOI Sustainable Buildings Implementation Plan.
  - Review and implement the DOI Sustainable Buildings Implementation Plan during the remodel of the Visitor Center.
- Install building-level utility meters in existing buildings and in new major construction and renovation projects to track and continuously optimize performance.
  - O Investigate potential cost associated with installing building level utility "smart" meters.

## **Transportation Management**

## *Emission Reduction Goal: Reduce park operations' transportation emissions to 15 percent below 2008 levels by 2016.*

Reducing vehicle miles traveled, improving vehicle efficiency, and using alternative fuels can significantly reduce Big Hole National Battlefield's emissions. As the inventory results indicate, GHG emissions from transportation comprise 21 percent of park operations emissions and 26 percent of the park's overall emissions (including visitors, and concessioners). Accordingly, in addition to the park operations emissions reduction goal, Big Hole National Battlefield set a goal to reduce overall transportation emissions by 25 percent below 2008 levels by 2016. Presented below are the actions that are currently under way and which comprise the park's progress to date, as well as those actions that the park will pursue.

#### Progress to Date

**Behavioral Changes** 

- Established an employee bike-to-work program.
- Prohibited staff vehicles idling unless required for vehicle maintenance.

Vehicle and Equipment Fuel Consumption

- Ordered and received hybrid for the next park vehicle to reduce fuel use.
- Analyzed fleet fuel consumption patterns to identify efficiency improvements.



- Promoted efficient staff driving through encouraging staff to limit speed.
- Right sized the park's vehicles fleet to improve efficiency. Currently have three vehicles for two units.
- Incorporated alternative fuel guidelines into vehicle fleet specifications.

Vehicle Maintenance Procedures

• Develop and implemented a maintenance schedule to ensure that vehicles are kept in top mechanical condition.

Transportation Infrastructure

• Improved parking lot designs to include local vegetation.

## **Transportation Management - Planned Actions**

- **1** Transportation-related behavioral changes
  - Encourage staff carpooling.
    - O Continue to encourage staff carpooling to work.
    - O Continue to encourage staff to carpool or use alternative modes of travel in the park.

#### **2** Reduce visitor vehicle fuel consumption

- Encourage visitor carpooling.
  - Encourage visitor carpooling through education about the benefits of carpooling.

## **3** Reduce NPS vehicle and equipment fuel consumption

- Exceed federal fleet performance requirements set by Energy Policy Act (EPAct), Executive Order 13423, and the Energy Independence and Security Act (EISA).
  - O Evaluate fleet transportation practices in order to exceed the requirements set up by the Federal Energy Management Program.
- Identify areas to reduce or eliminate mowing.
  - O Identify areas to reduce or eliminate mowing to reduce fuel use.
- Replace 2-stroke engines.
  - O Replace 2-stroke snowmobile engine with a more efficient 4-stroke engine.



### 4 Replace NPS vehicles and equipment

- Increase fleet fuel efficiency through replacement.
  - O Increase fleet fuel efficiency through replacement of vehicles.
- Develop a vehicle replacement plan.
  - O Evaluate alternative fuel vehicle options and develop a park vehicle replacement plan.

#### **5** Improve vehicle maintenance procedures

- Use biobased lubricants and greases.
  - O Use biobased lubricants and greases and recycle used oil. Use biobased products without added petroleum synthetics.

#### 6 Improve transportation infrastructure

- Use reclaimed materials for new roads and paving.
  - O Use reclaimed materials for new roads and paving.

## Waste Management

## *Emission Reduction Goal: Reduce park operations' waste emissions to 15 percent below 2008 levels by 2016 through waste diversion and reduction.*

The connection between waste and GHG emissions may not be obvious. However, waste management—in the form of source and solid waste reduction—can dramatically reduce GHG emissions. Landfills are the largest human-generated source of  $CH_4$  emissions in the United States. Reducing the amount of waste sent to landfills reduces  $CH_4$  emissions caused by decomposition as well as the GHGs emitted from the transportation of waste. The less the park and its visitors consume in terms of products and packaging, the less energy is used and fewer GHGs are emitted.

Big Hole National Battlefield's park operation activities emitted 7 MTCO<sub>2</sub>E from waste management in 2008. Diverting or reducing the park's waste stream through increased recycling efforts and waste management will reduce the amount of waste sent to landfills and resulting emissions. Presented below are the actions that are currently under way and which comprise the park's progress to date as well as those actions that the park will pursue.

#### Progress to Date

**Behavioral Changes** 

- Trained staff on green procurement policies.
- All new and existing employees are trained to recycle.



Waste Prevention

- Established a policy of requesting that visitors pack out what they bring in to reduce waste generated and impacts on natural areas.
- Established a policy of green procurement and restricted purchase authority.
- Reduced waste generated at meetings and employee functions through the establishment of guidelines for waste minimization.
- Eliminated non-recyclables including Styrofoam and food serviceware.

Waste Diversion (Recycling and Composting)

- Inserted language regarding the stipulation that all deconstruction must be done in an environmentally responsible manner into all contracts.
- The park recycles or donates old computers and electronics.
- Established and implemented a policy of sending used florescent bulbs to the recycling service center.
- Instituted a program to recycle alkaline and lithium batteries.
- Co-located trash and recycling cans at the recycle trailer to transport the recycle location 92 miles away. Visitors are required to pack out what they pack in.
- Implemented a system to track the amount of waste generated on a yearly basis.

**Green Procurement** 

- Developed a green procurement plan.
- Continually increase the recycled content of purchased materials.
- Established a policy to review all potential products to purchase based on their eco-friendly attributes.
- Trained procurement staff on green procurement policies.
- Implemented a policy to purchase locally produced materials whenever possible.
- Ensured that the park uses post consumer recycled paper in all publications.
- Established purchasing requirements for computer, fax machines, printers, scanners, and other office electronics to ensure that they are energy efficient.
- Installed carpet with high-recycled content in the housing and the Visitor Center.
- Inventoried and ensured that all cleaning supplies were non-toxic.



**Reduce Wastewater** 

- Installed low-flow faucets in the Visitor Center.
- Conserved water used in ground maintenance by planting drought-tolerant grass and native plantings.
- Created an inventory for wastewater sources, and discharge routes.
- Implemented a policy to manage non-point wastewater.

Other Waste Management Actions

- Implemented a system for tracking and reporting landfill data to monitor reductions and success in diverting waste from the landfill.
- Develop an Integrated Solid Waste Alternatives Plan (ISWAP) to enable better management of solid waste and recycling practices.
- Implemented and enforced a construction waste management policy of reusing materials whenever feasible during construction projects.
- Purchased and utilize equipment to shred paper to reduce volume of recyclables.

## Waste Management - Planned Actions

1 Establish new plans and policies that promote waste reduction

- Choose hand dryers over paper towels.
  - O Install energy-efficient hand dryers throughout park facilities instead of using hand towels.
- Develop a schedule for replacing existing materials.
  - O Develop a schedule for replacing existing materials with recycled equipment or new equipment that will enhance reuse and recycling.
- Create a materials exchange program.
  - Create a materials and equipment exchange program within the park so different departments can source surplus materials internally.

#### 2 Implement recycling and compositing practices

- Continually increase the amount of waste material at the park that can be recycled.
  - O Continually increase the amount of waste material at the park that can be recycled and/or reused.



- Use recycled oil and recycled coolant and other fluids in the auto shop.
  - O Use recycled oil and recycled coolant in the auto shop.
- Recycle old asphalt pavement for use in ongoing road projects.
  - O Recycle old asphalt pavement for use in ongoing road projects.

### **3** Reduce waste through green procurement

- Use low/no-VOC insulation, carpets, paints, and adhesives.
  - O Establish purchasing requirements for low/no-VOC insulation materials, carpets, paints, adhesives, etc.

## 4 Reduce and reuse wastewater

- Install low-flow faucets.
  - O Install low-flow faucets in housing when the units are remodeled.
- Replace toilets with low-flow models.
  - O Replace toilets with low-flow models to reduce water use in the park.

### **5** Other waste-related actions

- Purchase equipment to reduce volume of waste and recyclables.
  - O Investigate space for crushing aluminum to reduce volume of recyclables.



# STRATEGY 2: INCREASE CLIMATE CHANGE EDUCATION AND OUTREACH

Climate change is a complex and easily misunderstood issue. Big Hole National Battlefield can play an integral role in communicating about climate change to a vast audience. A better understanding of the challenges and benefits of reducing GHG emissions can motivate staff, visitors, and community members to incorporate climate-friendly actions into their own lives. Big Hole National Battlefield recognizes that the greatest potential impact the park can have on mitigating climate change is through public education. Thus, the park sees public education as an end goal of any climate initiative. From increasing the efficiency of public transportation to developing a green purchasing program, the actions Big Hole National Battlefield takes to address climate change serve as opportunities for increasing the public's awareness of climate change. Presented the actions that are currently under way and which comprise the park's progress to date, and those actions that the park will pursue.

#### Progress to Date

Climate Friendly Parks Team

- Educated park staff about the park's policy regarding addressing climate change.
- Promoted recycling by only having recycling cans around much of the park, and including signage explaining the reasoning behind this.

Climate Change Education

- Incorporated sessions on climate change into seasonal and new staff training.
- Incorporated climate friendly information into interpreter programs and talks to as great an extent possible and included climate change signs in exhibits.
- Developed programs and signage to educate visitors about their recycling options in the park and at home.
- Created demonstration projects and exhibits to convey park sustainability message to visitors.

**Climate Friendly Partnership** 

• Implemented a partnership with partners from over 4 states to discuss climate change initiatives.

Other Education and Outreach

• Created visual reminders for park employees regarding climate change, including how employees can help reduce emissions.



## Park Staff

#### Incorporate climate change into park staff training, events, and performance plans

Developing a climate change education program for park staff is vital to increasing awareness about climate change among park visitors and fostering a sense of collective responsibility among staff to help reduce park emissions. By incorporating climate change education into staff development programs, Big Hole National Battlefield will enable its staff to demonstrate their commitment through leading by example, and providing visitors with the tools and resources they need to reduce GHG emissions in the park and in their own communities.

Potential actions include:

• Include the science and impacts of climate change into park education tools.

## **Visitor Outreach**

Understanding climate change and its consequences is essential to initiating individual behavioral change. Big Hole National Battlefield realizes that it has a unique opportunity to educate the public in a setting free from many of the distractions of daily life. By using existing materials, developing park-specific materials, highlighting what the park is currently doing about climate change, and encouraging visitors to reduce emissions, Big Hole National Battlefield can play an important role in educating the public about climate change.

Big Hole National Battlefield staff recognize the many different audiences that visit the park, including recreational and nonrecreational park visitors, "virtual visitors" who visit the park online, school-aged visitors, local and out of town visitors, local tribes, and external audiences. Reaching these various audiences with climate change information and engaging them in the park's efforts requires appropriately focused messaging. The park has developed a number of strategies to reach these various audiences effectively. These strategies include:

- Create and distribute previously produced information on climate change and its effects on national parks in general and on Big Hole National Battlefield in particular.
  - O Distribute currently available information about climate change and its impacts on the parks.
- Create signs promoting the park's efforts to curb emissions.
  - O Develop messaging for idling and overall emission reduction.
- Incorporate climate friendly information into interpreter programs and talks.
  - Utilize climate change signs for educational programs once new Visitor Center is complete and investigate expanding the Junior Ranger program.
- Develop and distribute Do Your Part! materials.
  - O Develop a Do Your Part! Program for the online visitors.

## Local Community Outreach

The gateway communities, agencies, vendors, and volunteers surrounding Big Hole National Battlefield can play a significant role in supporting the park's climate change mitigation goals. As such, when appropriate, park staff will assist local communities with incorporating climate change messages into community events and find partners to promote climate change education at those events, and engage with surrounding agencies to coordinate effective outreach and education efforts.



## STRATEGY 3: EVALUATE PROGRESS AND IDENTIFY AREAS FOR IMPROVEMENT

By taking the actions established in strategies 1 and 2 above, Big Hole National Battlefield plans to reduce its emissions to the specified goals. Achieving these goals will require an ongoing commitment by the park, which may include subsequent emission inventories, additional mitigation actions, and revaluation of goals. As part of this strategy, Big Hole National Battlefield will:

- Monitor progress with respect to reducing emissions. This will include subsequent emission inventories to evaluate
  progress toward goals stated in this action plan.
- Develop additional emission mitigation actions beyond those listed in this plan.
- Periodically review and update this plan.
- Big Hole National Battlefield will track climate friendly actions through the environmental management system.

## CONCLUSION

Big Hole National Battlefield has a unique opportunity to serve as a model for over 50,000 recreational visitors annually.<sup>4</sup> This report summarizes the operational actions the park commits to undertake to address climate change. Specifically, the park realizes its ability to educate the public and serve as a valuable model for citizens. By seriously addressing GHG emissions within the park and sharing its successes with visitors, Big Hole National Battlefield will help mitigate climate change far beyond the park's boundaries.

The National Park Service faces an uncertain future due to the possible effects of climate change. However, by seriously addressing climate change impacts and reducing emissions, Big Hole National Battlefield will reduce its contribution to the problem while setting an example for its visitors. The strategies presented in this Action Plan present an aggressive first step toward moving Big Hole National Battlefield to the forefront of Climate Friendly Parks.

<sup>&</sup>lt;sup>4</sup> Big Hole National Battlefield: Park Statistics. Available online at: http://www.nature.nps.gov/stats/viewReport.cfm

