



National Park Service
U.S. Department of the Interior



CLIMATE *Friendly* PARKS

Apostle Islands National Lakeshore Action Plan

Apostle Islands National Lakeshore Becomes a Climate Friendly Member Park

In March on 2008, Apostle Islands National Lakeshore became a member in the National Park Service's (NPS) Climate Friendly Parks Program. Apostle Islands National Lakeshore (APIS) belongs to a network of parks that are putting climate friendly behavior at the forefront of park planning and operations in national parks. By conducting an emission inventory, setting an emission reduction target and developing this Action Plan, Apostle Islands National Lakeshore is serving as a model for climate friendly behavior within the National Park Service.



CLIMATE Friendly PARKS

A partnership between the Environmental Protection Agency and the National Park Service

www.nps.gov/climatefriendlyparks

APOSTLE ISLANDS NATIONAL LAKESHORE BECOMES A CLIMATE FRIENDLY PARK

As a participant in the Climate Friendly Parks program, Apostle Islands National Lakeshore belongs to a network of parks that are putting climate friendly behavior at the forefront of sustainability planning in national parks. By conducting an emission inventory, setting an emission reduction target, developing this Action Plan, and committing to educate park staff, visitors, and community members about climate change, Apostle Islands National Lakeshore is serving as a model for climate friendly behavior within the park service.

Apostle Islands National Lakeshore has committed to reducing greenhouse gas (GHG) emissions by 12.5% below 2006 levels by 2012. This Action Plan lays out the measures the park will take to meet this goal. In addition to implementing these measures, Apostle Islands National Lakeshore will:

- Perform subsequent emission inventories to monitor progress.
- Identify additional actions to reduce GHG emissions and inform the public on climate change, and
- Include additional actions, and strengthen existing actions, to reduce GHG emissions in future Action Plans.

THE CHALLENGE OF CLIMATE CHANGE

Climate change presents significant risks and challenges to the National Park Service. At Apostle Islands National Lakeshore, levels and temperatures of Lake Superior will likely vary significantly from historical averages—the consequences of which may include impaired species habitat and recreation opportunities.

Scientists cannot predict with certainty the severity of climate change nor its impacts. However, the current warming trend suggests that the problem is real and should be taken seriously. Average global temperatures on the Earth's surface have increased about 1.1°F since the late 19th century, and the 10 warmest years of the 20th 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 (CO₂), methane (CH₄) and nitrous oxide (N₂O)—which trap heat that otherwise would be released into space.

The continued addition of CO₂ 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 likely¹. Rising global temperatures will further raise sea levels and affect all aspects of the water cycle, including precipitation, snow cover, mountain glaciers, spring runoff, water temperature, and aquatic life. Climate change is also expected to affect human health, crop production, animal and plant habitats, and many other features of our natural and managed environments.

¹ IPCC 2007. Climate Change 2007: The Physical Science Basis. Intergovernmental Panel on Climate Change, Geneva Switzerland. Available online at < <http://ipcc-wg1.ucar.edu/wg1/wg1-report.html> >



GOALS AND OBJECTIVES

The objective of this Action Plan is to identify actions that Apostle Islands National Lakeshore can undertake to reduce GHG emissions and thus address climate change. This plan presents the park's emission reduction targets and associated reduction strategies designed to achieve the park's emission reduction goals.

While the plan does not provide detailed instructions on how to carry out each of the proposed measures, it provides the essential framework needed to meet Apostle Islands National Lakeshore's emission reduction targets. The plan presents an opportunity for the park to devote resources for climate action through a mandate from the park's superintendent. This mandate gives park staff the resources and authority to pursue the mitigation strategies contained in this plan.

Apostle Islands National Lakeshore aims to:

Reduce GHG emissions from Apostle Islands National Lakeshore operations to 12.5% below 2006 levels by the year 2012 by implementing emission mitigation actions identified by the park.

In order to meet or surpass this goal, the park will implement strategies proposed in this plan that build from the park's current and future emission inventories. Specifically, the plan recommends two main strategies:

Strategy 1: Reduce GHG emissions resulting from activities within the park by increasing energy efficiency, reducing waste, increasing lake-travel efficiency, and promoting climate-friendly recreation.

Strategy 2: Increase climate change outreach and education efforts.

GREENHOUSE GAS EMISSION AND CRITERIA AIR POLLUTANT INVENTORY AT APOSTLE ISLANDS NATIONAL LAKSHORE

Naturally occurring greenhouse gases include CO₂, CH₄, N₂O, 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. Criteria air pollutants, which lead to numerous air quality and public health problems, include sulfur dioxide (SO₂), nitrogen oxides (NO_x), volatile organic compounds (VOCs), particulate matter (PM₁₀ and PM_{2.5}), and carbon monoxide (CO).² While GHGs contribute to climate change on a global scale, the impacts of criteria air pollutants are often local and regional in nature.

Greenhouse Gas Emissions

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

In 2006, Apostle Islands National Lakeshore's GHG emissions totaled 672 metric tons of carbon equivalents (MTCE). As Figure 1 and Table 1 demonstrate, the largest source of Apostle Islands National Lakeshore's emissions is Transportation - totaling 628 MTCE. The largest portion of this is from vessels, as one would expect from a water-based national park. This total for vessels can be further subdivided by looking at the different sectors of watercraft: NPS vessels (33 MTCE), concession vessels (85 MTCE), and visitor vessels (483 MTCE).

² Criteria air pollutants were calculated and are presented in the inventory section of this document due to their co-benefit relation with GHGs. However, it is important to realize that criteria air pollutants do not contribute directly to climate change.

FIGURE 1

Apostle Islands National Lakeshore's 2006 Greenhouse Gas Emissions by Sector

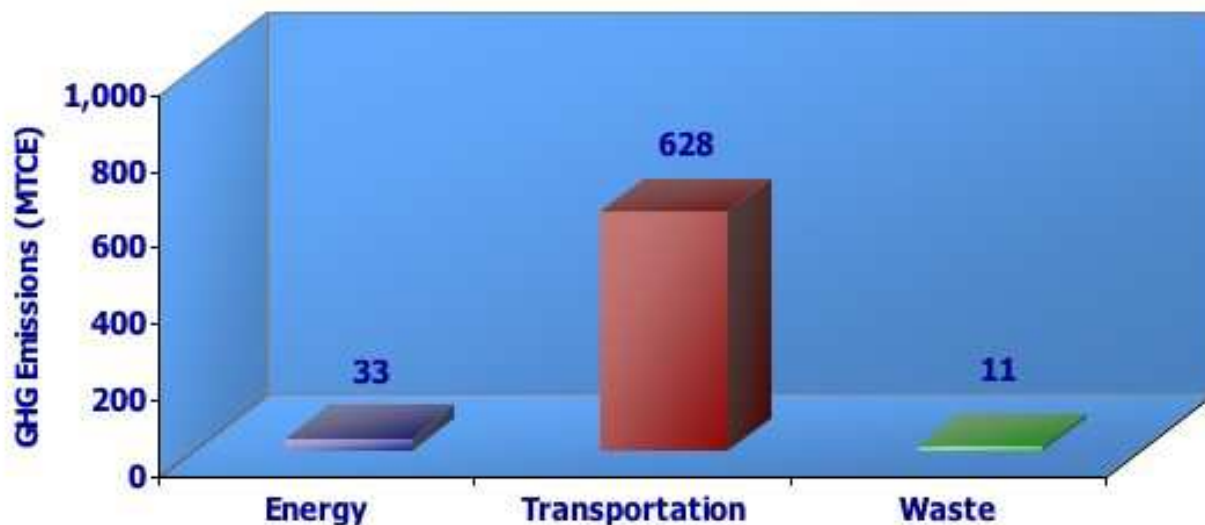


TABLE 1

Apostle Islands National Lakeshore's 2006 Greenhouse Gas Emissions by Sector and Source

	Emissions (MTCE)	% of Total
Energy	33	5%
Stationary Combustion	9	1%
Purchased Electricity	24	4%
Transportation	628	93%
Highway Vehicles	18	3%
NPS vehicles	11	2%
Visitor vehicles	7	1%
Non-road Equipment	9	1%
Watercraft	601	89%
NPS vessels	33	5%
Concession vessels	85	12%
Visitor vessels	483	72%
Waste	11	2%
Solid Waste Disposal	11	2%
Total Emissions	672	

1 – Emission totals include park operations, visitors, and Apostle Islands Cruise Service.



Criteria Air Pollutants (CAPs)

CAP sources include stationary sources (e.g., boilers), mobile sources, and area sources (e.g., campfires, solvent use). In 2006, Apostle Islands National Lakeshore produced 386,805 lbs of CO, 214 lbs of SO₂, 14,324 lbs of NO_x, 66,162 lbs of VOCs, and 3,794 lbs of PM (Figure 2). As Table 2 demonstrates, at 386,805 lbs, CO is the most emitted CAP, largely from Mobile Sources (386,796 lbs).

The same activities that generate GHGs often also generate CAPs. Therefore, addressing activities that generate GHGs also often has the added benefit, or co-benefit, of reducing CAPs.



FIGURE 2

Apostle Islands National Lakeshore's 2006 CAPs by Sector

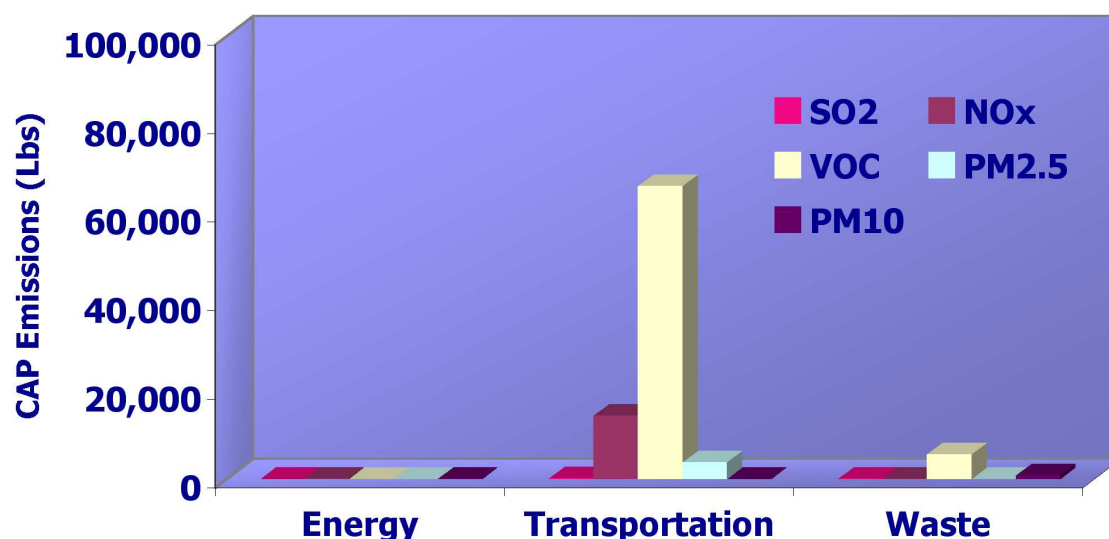


TABLE 2

Apostle Islands National Lakeshore's 2006 CAPs by Sector and Source

	CO (lbs)	SO ₂ (lbs)	NO _x (lbs)	VOC (lbs)	PM _{2.5} (lbs)	PM ₁₀ (lbs)
Energy	9	0	68	0	0	2
Boilers, Heaters, and Generators	9	0	68	0	0	2
Transportation	386,796	214	14,255	66,162	3,792	0
Highway Vehicles	6,037	0	345	401	4	0
NPS vehicles	4,601	0	204	220	3	0
Visitor vehicles	1,436	0	141	181	1	0
Non-road Equipment	16	0	24	8	7	0
Watercraft	380,743	214	13,887	65,753	3,781	0
NPS vessels	27,827	0	838	1,254	19	0
Visitor vessels	350,397	0	5,923	64,051	3,569	0
Concessioner vessels	2,519	214	7,126	448	193	0
Other Emission Sources	6,229	10	63	5,567	0	841
Campfires	6,229	10	63	5,567	0	841
Total Emissions	393,034	224	14,387	71,730	3,792	843



CLIMATE Friendly PARKS

A partnership between the Environmental Protection Agency and the National Park Service

www.nps.gov/climatefriendlyparks

How Apostle Islands National Lakeshore is Responding to Climate Change

The following actions were developed during the CFP workshop hosted by Apostle Islands National Lakeshore on July 17th, 2007 in order to meet the park's climate change mitigation goals.



CLIMATE Friendly PARKS

A partnership between the Environmental Protection Agency and the National Park Service

www.nps.gov/climatefriendlyparks

STRATEGY 1:

Reduce GHG Emissions Resulting From Activities Within And By The Park By Increasing Energy Efficiency, Reducing Waste, Increasing Lake-Travel Efficiency, And Promoting Climate-Friendly Recreation.

Transportation Management

Emission Reduction Goal: Reduce transportation emissions to 12.5% below 2006 levels by 2012.

Reducing vehicle and watercraft miles and hours traveled, upgrading the fleet to the latest “green” technology that will result in improved efficiency, and using alternative fuels can significantly reduce Apostle Islands National Lakeshore's emissions. As the inventory results indicate, 93 percent of the park's GHG emissions are a result of transportation. The following strategies were developed to meet the park's transportation emission reduction goal:

1 Reduce fuel consumption by NPS and concession vehicles and vessels

- Stabilize or reduce the size of the park's vehicle fleet. Replace at least 3 older vehicles with the most energy efficient vehicles that will accomplish the mission by 2012. Continually re-evaluate deployment of vehicles to assure we are using the right vehicle for the right job in the right place.
- Acquire at least one super high efficiency vehicle for employee use between work sites or for local business. Investigate “smart cars” as an option.
- Use appropriate-sized vehicles to match the job. For example: not using a ¾ ton truck to drive to a vendor 35 miles away to pick up a part that would easily fit in the trunk of a car.
- Replace selected existing 4-wheel drive vehicles with smaller, more fuel-efficient vehicles, where this can be done without compromising safety or mission accomplishment.
- Encourage biodiesel use and slower travel speed by park vehicles.
- Use video or audio conferencing instead of driving to meetings where face-to-face contact is not essential.
- Improve coordination of travel to airports and off-site meetings to maximize efficiency of official vehicle use by employees.
- Promote bicycling as a means of visiting the mainland unit of the park. Install bicycle racks at Little Sand Bay and Meyers Beach.
- Work closely with the concessioner to improve efficiency of cruise boat engines and to reduce fuel consumption.
- Encourage, in park planning documents and when negotiating concessions contracts, expanded private-sector transportation services to additional islands with docks (provided it does not require significant additional investment in infrastructure or maintenance). This would reduce use of NPS vessels, the number of private boats, congestion at docks, and overall fuel consumption.

2 Changes to watercraft

- Reduce the size of park fleet. Replace oldest boats with most fuel efficient designs and engines.
- Replace remaining two 2-stroke outboards with 4-stroke outboards.

- Investigate installing engine synchronizers on twin-engine boats.
- Convert LCM (Landing Craft-Marine) to at least 20% biodiesel fuel once warranty ends.
- Raise biodiesel percentage on all diesel equipment, once warranties end, to as high percentage as will work well for each engine.
- Investigate hull designs for better fuel efficiency and longer vessel life.

3 New policies for watercraft use

- Wherever possible, dock or beach NPS boats and turn engines off rather than bow-off staff and idle boats off shore. When it is essential to bow-off, consider anchoring with engines turned off.
- When replacing NPS boats, acquire boats more suited for beaching, anchoring, and low water as docks become less accessible.
- Promote the climate-friendly advantages of sailing and kayaking, and the use of the concession transportation services in the park.
- Improve visitor boat counts to better understand current boating activity.
- Complete the NPS vessel scheduling database to create more efficient island runs, more frequent ride-shares by park staff.
- Install fuel consumption meters that will allow the operator to use the engines at their optimal fuel consumption throttle setting.
- Use the proper-sized vessel to carry the load. One trip with the LCM is more efficient than numerous trips with a smaller vessel to accomplish the same work.
- Use the concession boat to transport staff to and from islands when feasible.
- Limit the number of trips to outer islands and increase the minimum length of stay of employees and volunteers on those islands.
- Draw vessel travel map to show carbon footprint associated with distinct vessel types traveling to popular destinations. Share this widely amongst employees and visitors.

4 Reduce fuel consumption among non-road equipment

- Replace the park's two remaining 2-stroke snowmobiles and ATVs with 4-stroke track ATVs.
- Replace gasoline powered equipment, where feasible, with high efficiency diesel equipment and run them on biodiesel.
- Experiment at 1-2 island sites with non-powered push mowers, especially where mowing is done by volunteers.

5 Other

- Seek non-soy biodiesel sources, where feasible, to minimize energy and land use impacts and carbon footprint of the creation of the fuel itself. Purchase, when possible, from sources as close as possible to the park to minimize transportation impacts and costs.
- Work with local marinas on implementing voluntary clean marina programs and to educate marina patrons about climate change and how boating practices contribute to greenhouse gas emissions.

Energy Use Management

Emission Reduction Goal: Reduce energy use emissions to 12.5% below 2006 levels by 2012.

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. As the inventory results indicate, 5% of the park's GHG emissions result from energy consumption. One challenge to energy efficiency is that the park's two largest and intensively-used mainland facilities, the Bayfield Headquarters/Visitor Center in the Old Bayfield County Courthouse and the Roys Point operations center, are GSA leased facilities. Further compounding the challenge is that the Bayfield building is on the National Register of Historic Places, constraining some of the options that can be considered for retrofitting it. The following strategies were developed to meet the park's energy use emission reduction goal:

1 Install energy efficient light fixtures and light-controlling devices

- Replace 40 400-Watt light fixtures with 40 250-Watt light fixtures at Roy's Point. Assume each runs 600 hours annually. (Requires GSA/landlord cooperation)
- Replace 60 2-lamp, 45 Watt fixtures with 2-lamp T-8's at Little Sand Bay. Assume current lamps run 8 hours/day (Total Annual Hours=2,920). 40 future lamps will run 2 hrs/day, and the remaining 20 will run 8 hrs/day (Total Annual Hours=1,693).
- Reduce electricity consumption by installing controlled-lighting devices where possible (e.g., motion sensors, smart-power strips). Assume 5% reduction in future electricity consumption, which accounts for replaced light fixtures and is approximated to be about 93,800 kWh annually.
- Replace incandescent lighting at Little Sand Bay with compact fluorescents.
- Research LED lighting for use on islands where principal energy source is solar power.
- Install motion sensors for interior and exterior lighting, especially in low-use areas such as hallways and restrooms, as well as for night lighting.
- Install small reminder signs at light switches to "Turn off Lights - Reduce Carbon Footprint" when room/area is not in use.

2 Purchase electricity from a renewable energy provider

- Work with local utilities, WASO, state, and local government officials to provide a green power option for purchase.
- Investigate options for buying green power from Xcel Energy, our local power company. Consider replacing 100% of kWh with green-sourced power when it becomes available.

3 Work with GSA and Landlords to promote energy efficiency and conservation in leased facilities

- When renegotiating building leases, work with GSA to significantly increase energy efficiencies in concert with the park.
- Convert park headquarters' natural gas boiler to a high efficiency natural gas boiler.
- Change headquarters' lease language to establish programmed thermostat set points that accurately reflect actual park needs.
- Investigate the possibility of converting to passive ventilation.
- Investigate window coverings for buildings in the summer at Headquarters and Roy's Point. Use sun control film to reduce heating/cooling costs.
- Improve heating efficiency from 80% to 95% efficiency by retrofitting insulation, using energy-efficient technique for next roof replacement, and installing a device that allows for two different door opening heights for boats and trucks on maintenance building. Assume 5% increase in heating efficiency/reduction in propane consumption.
- Downsize water heater at Roys Point from 30 to 10 gallons; assume 2% reduction in propane consumption.
- Consider point of source water heaters at Headquarters.
- Improve windows and weather-stripping at Headquarters.
- Bring Green Teams from The City of Bayfield and the park together to develop a plan for making the Courthouse a model of energy efficiency and sustainability in a historic building, fulfilling a commitment the Mayor and the Superintendent made. Consider certification for the Leadership in Energy and Environmental Design (LEED) for Existing Buildings program. Work together (with GSA as needed) to find funding to implement improvements. Showcase the improvements and the cooperation in the Visitor Center.

4 Promote energy efficiency and energy conservation in NPS-owned facilities

- Integrate LEED Gold certification into new building construction planning.
- Investigate the possibility of converting to passive ventilation.
- In the short term, investigate weatherizing 6 heated buildings at Little Sand Bay—including windows and doors, insulation.
- In the longer term, and consistent with the park's General Management Plan, accelerate replacement of older, non historically-significant buildings at Little Sand Bay, which are very energy-inefficient, with LEED facilities.
- Use solar energy for path lighting around the walk at the Little Sand Bay comfort station. Use high efficiency LED lights and fixtures.
- Eliminate diesel generators and convert to solar and propane on islands. Propane is cleaner and safer to transport across Lake Superior waters.
- Experiment with completely eliminating all fossil-fuel generators and appliances on one or more islands.
- Update the on-demand propane water heaters at island locations.



- Research solar powered refrigerators. Experiment with one unit in 2008 at remote island housing site.
- Research small wind opportunities at Little Sand Bay, and possibly one or more modern island housing site such as at Oak Island or Stockton-Presque Isle where it would not intrude on cultural landscapes or scenery.
- Investigate window coverings for buildings in the summer at Little Sand Bay Visitor Center and other facilities. Use sun control film to reduce heating/cooling costs.
- Upgrade all appliances to Energy Star.
- Install lower tank volume Hot Water Heater at Little Sand Bay Comfort Station.
- Investigate and experiment with solar hot water heat collectors for modern island housing at Oak, Sand, and Rocky Islands and Stockton-Presque Isle.
- Design and install geothermal heat at Little Sand Bay provided the design can be adapted to replacement buildings.

Waste Management

Emission Reduction Goal: Reduce waste emissions to 35% below 2006 levels by 2012 through waste diversion.

The connection between waste and GHG emissions may not be obvious. However, waste management—in the form of source reduction and solid waste reduction—can dramatically reduce GHG emissions. The less we consume in terms of products and packaging, the less energy is used and fewer GHGs are emitted. Additionally, reducing the amount of waste sent to landfills reduces CH₄ emissions caused by decomposition.

Diverting or reducing the park's waste stream through increased recycling efforts and waste management procedures will reduce the amount of waste sent to landfills, which are the largest human-generated source of CH₄ emissions in the United States. Apostle Islands National Lakeshore activities emitted 11 MTCE from waste management in 2006. The following strategies were developed to meet the park's waste emission reduction goal:

1 Manage waste through source reduction, composting, recycling, and combustion

- Establish a set of guidelines to formalize waste prevention strategies into standard park practices (e.g., reducing consumption, printing double-sided, reusing garbage bags, separating food waste).
- Investigate different environmentally friendly ways of disposing materials that are usable or recyclable but are no longer needed. Establish a park-wide process of getting rid of excess materials.
- Develop a program to provide recyclable or biodegradable bags to visitors with interpretive messaging for island recycling.
- Work with partners to incorporate recycling at launch sites outside the park.
- Keep dumpsters locked at Roy's Point to prevent mixing of wastes and non-NPS wastes.
- Reduce, Reuse, Recycle messaging--connect to climate change message.
- Incorporate more comprehensive recycling program in leases when they are renegotiated.

- Investigate (bear-proof) composting at Little Sand Bay and other housing locations.
- Consider composting toilets in locations far away from the shoreline.
- Request that donor who currently provides the park with toilet paper through the Friends group consider providing “green” toilet paper; change signs at each toilet to highlight the recycled content.
- Investigate a recycling trailer at the maintenance shop to collect and haul ferrous metals and aluminum waste scraps to a recycling company.
- Consider banning all glass containers by visitors from the islands.
- Consider a full-scale “Pack it in – Pack it Out” policy on the islands, or for the entire park.

2 Green Purchasing

- Evaluate the necessity of a purchase prior to completing it, considering eventual need for disposal.
- Purchase repeat need items (i.e., paper) in a manner that reduces packaging (larger, fewer orders).
- Purchase “green” products whenever possible within federal purchasing guidelines.
- Purchase what is needed considering the usable shelf life of an item.

3 Reduce the amount of wastewater sent to wastewater treatment plants and septic systems

- Investigate short season, low season, cold air compost, and incinerating wastewater. Experiment with one incinerator toilet at Sand Island-East Bay.
- Investigate opportunities to reduce wastewater generation, considering changes in visitation.
- Install motion sensors on faucets where drop-type faucets are inappropriate.
- Consider replacing urinals with waterless or very low water flush units, recognizing the likely level of maintenance and service we can provide may influence the choice.
- Install water meters at each building to determine usage and leakage and to properly determine future correct size and type of waste water systems to design.

STRATEGY 2:

Increase Climate Change Education and Outreach

Emission Reduction Goal: Motivate 10% of APIS visitors to reduce their household emissions by 10% annually by 2012

Climate change is a complex issue that the park can help communicate to the public. A better understanding of the problem and the benefits of reducing GHG emissions can motivate staff, visitors, and community members to incorporate climate friendly actions into their own lives. Apostle Islands National Lakeshore 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 Apostle Islands National Lakeshore takes to address climate change serve as opportunities for increasing the public's awareness of climate change.

Park Staff

Developing a climate change education program for park staff is vital to increasing awareness about climate change among park visitors. By incorporating climate change education into staff-development programs and creating new opportunities for staff to learn about climate change, Apostle Islands National Lakeshore will reduce park emissions and provide visitors with the tools and resources they need to reduce GHG emissions at home and in their own communities. We will raise expectations of ourselves and of each other. The park should become a leader by promoting and encouraging alternative transportation use.

- Encourage park staff to apply sustainability principles in their everyday lives.
- Encourage park staff to carpool to work and elsewhere in their lives.

Incorporate climate change into park staff training and performance plans

In an effort to provide Apostle Islands National Lakeshore staff with the knowledge and tools to educate visitors, the park will:

- Develop annual climate change/sustainability training for all staff.
- Assure all employees have a sustainability performance expectation in their annual performance plans.

Visitors

Understanding climate change and its consequences is essential to initiating individual behavioral change. Apostle Islands National Lakeshore 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, Apostle Islands National Lakeshore can play an important role in educating the public about climate change.

Incorporate climate change awareness into visitor education

Park interpretive staff have the opportunity to introduce the issue of climate change to many visitors. Apostle Islands National Lakeshore encourages staff to include messages about climate change in their visitor talks. The park will:

Introduce climate change/sustainability messages into interpretive talks.

Develop park-specific interpretive materials for visitors

Educating visitors about the tangible effects of climate change is a powerful way to encourage visitors to reduce GHG emissions. The park will use existing climate change interpretive resources, and promote the development of climate change materials specific to impacts in Apostle Islands National Lakeshore. The park will:

- Develop a page on the APIS website dedicated to climate change that will be linked to the Do Your Part! program.
- Partner with local, state, and national partners to develop park-specific and relevant interpretation materials.
- Include information about climate friendly activities on appropriate park signage.
- Work with regional concessions staff to make sure the next Request for Proposals for the concessions contract requires the operator to be even more environmentally friendly and to educate visitors about those actions (e.g., display signage, etc.).
- Provide information on sustainability on concession cruise boats.
- Work with Commercial Use Authorization permittees to improve their sustainability performance and interpretation.

Highlight what the park is doing to address climate change

Apostle Islands National Lakeshore has already taken many climate friendly actions. In an effort to lead by example and demonstrate climate friendly behavior for the public, the park will increase education and outreach efforts related to sharing the successes it has already achieved. The park will:

Develop signage and messaging that highlights emission reduction activities so that visitors are aware of the climate-friendly actions the park has taken.

Encourage visitors to reduce greenhouse gas emissions

Perhaps the greatest potential for Apostle Islands National Lakeshore to help reduce GHGs is to increase visitors' awareness of how they can reduce their personal GHG emissions. The park will:

Incorporate Do Your Part! materials including kiosk, poster and brochures into park materia program provides easy actions people can take every month to reduce emissions in their ev

Investigate local partnerships to secure the needed funding and support for the Do Your Part! program.

Local Community

The communities that surround Apostle Islands National Lakeshore play a significant role in supporting the parks GHG reduction goals. As such, when appropriate, Apostle Islands National Lakeshore staff will assist local communities with incorporating climate change messages into community events and find partners to promote climate change education at those events. Park staff will use their knowledge of climate change resources to help local communities engage in climate friendly actions.

Encourage climate change awareness in the community and region

Apostle Islands National Lakeshore realizes that climate change does not adhere to geographic or political boundaries. The park will:

- Continue efforts to reach out to key stakeholder groups such as the Alliance for Sustainability and Sustainable Bayfield.
- Work with the Wisconsin DNR and the US Forest Service and the partners at the Northern Great Lakes Visitor Center as they develop their sustainability programs, to learn from each others' experiences.
- Lead the NPS Midwest Regional efforts to highlight climate change and create an NPS culture of sustainability.



CONCLUSION

Apostle Islands National Lakeshore has a unique opportunity to serve as a model for nearly 200,000 visitors annually. This report summarizes the operational actions the park commits to undertake to affect 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, Apostle Islands National Lakeshore will help mitigate climate change far beyond the park's boundaries.

This Action Plan also serves as an important enhancement mechanism for the park's established Environmental Management System (EMS). Realistic environmental commitments created by Apostle Islands National Lakeshore staff and approved by the park's superintendent will significantly reduce the park's GHG emissions and CAPs in the coming years. The mitigation actions included in this plan have been developed in order to be directly transferable to the park's EMS. Apostle Islands National Lakeshore's Action Plan thus provides an effective way to meet EMS goals.

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, Apostle Islands National Lakeshore 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 towards moving Apostle Islands National Lakeshore to the forefront of Climate Friendly Parks.

