



Greenhouse Gas Mitigation

Background

The challenges of climate change are pushing Federal Land Managers to think and act on an ecosystem scale, creating unprecedented partnership opportunities with other land managers, policy makers and the public. At the same time the National Park Service is increasingly considered a role model and must demonstrate sustainability through leadership – in how we operate and manage our facilities, vehicles and lands, how we conserve energy and how we engage innovative leadership at all levels.

The NPS is committed to conserving forest carbon stocks, limiting concentrations of greenhouse gases by reducing our operational footprint, expanding our sustainable practices, and sharing information about the actions we are taking with the visiting public, partners and surrounding communities.

Approach

There are two general approaches to greenhouse gas mitigation:

- Natural carbon storage in vegetation as a side-benefit of natural resource management actions such as forest conservation, habitat restoration, and fire management; and,
- Reduction of emissions from oil, coal, and other fossil fuels used for vehicles and buildings.

In keeping with the NPS mission of preserving resources, the first priority is to protect existing natural systems that hold carbon – old-growth forests and wetlands. Although existing Federal guidelines do not require or recommend including ecosystem sequestration in greenhouse gas (GHG) inventories, national park forests contribute to removing CO₂ from the atmosphere and contain carbon at some of the highest densities in the world.

To formally address the greenhouse gas mitigation component of the Climate Change Response Strategy, the NPS developed the Green Parks Plan, an implementation road map for GHG mitigation efforts. This plan establishes goals for energy conservation and GHG emission



Parks are exploring innovative ways to mitigate their greenhouse gas emissions. Yellowstone National Park recently installed photovoltaic arrays at a remote park location while Glacier National Park provides visitor shuttle services along the Going to the Sun Road. NPS photos.

reductions, the significant areas where we can demonstrate environmental leadership and make our greatest contribution to a global effort to use resources more mindfully.

At the core of the Green Parks Plan is a comprehensive and vigorous Environmental Management System (EMS) framework to guide planning, monitoring and reporting on our goals and objectives. A key goal of the Green Parks Plan is for all parks to measure their GHG footprint and to enter into the Climate Friendly Parks program.

The NPS Climate Friendly Parks program has promoted sustainable operations and climate change education in parks since 2003. The sustainability portion of the program emphasizes conservation, energy improvements, and renewable energy.

Greenhouse gas emission inventories provide a mechanism to track progress as well as an example to encourage change beyond our borders. During the Climate Friendly Parks program, each park establishes inventory baselines and begins to set conservation targets with meaningful actions to achieve reductions. Results of these actions can be monitored, in combination with all the mitigation efforts outlined in the Green Parks Plan and the NPS *A Call to Action*.



More Information

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Status and Next Steps

Forest carbon: Management of forests in Redwood NP, Sequoia NP, and other parks with large old-growth trees naturally mitigates climate change by keeping intact existing carbon stocks and encouraging the vegetation growth that sequesters more carbon. Conserving existing sequestered carbon is as important as reducing new carbon emissions.

Emissions Inventories: As of January 2013, over 174 parks have completed their GHG inventories, and more are working to complete them. A growing number of parks are using the CLIP Tool to develop actions for their Environmental Management Systems.

Climate Action Plans: Parks participating in the Climate Friendly Parks (CFP) program now have the option of incorporating the actions items developed during the CFP process directly into their existing EMS, or into separate Climate Action Plans. Action items developed during the CFP process include: GHG emissions reductions across multiple areas of sustainability – including energy management, transportation, waste management, and education and outreach.

A Call to Action: The Call to Action which emphasizes reducing our carbon footprint, was released on August 25, 2011. Many parks have already accomplished or are in the process of changing light bulbs, caulking windows, changing their fleet, installing photovoltaic systems and incorporating sustainable choices into their daily operations to reduce waste, reduce dependency on petroleum, conserve energy and water, and increase use of renewable energy sources. The largest return on investment and often the most difficult element to change is NPS staff and visitor behavior. Daily changes in our lifestyle can make tremendous reductions in the amount of energy, materials, and water we consume. The My Green Parks Website focuses on engaging, inspiring, and educating NPS staff to increase efficiencies and maximize each dollar. The release of A Call to Action supports these mitigation efforts by calling on the National Park Service to reduce our carbon footprint and showcase the value of renewable energy to the public.

The Green Parks Plan: The Green Parks Plan, which is the NPS sustainability vision that further outlines mitigation targets, was released in 2012. Some of the key objectives in the Green Parks Plan are listed in the table below.

Goal Categories and Key Objectives		2016 Goal	2020 Goal
EC—Environmental Compliance			
	The NPS will implement EMSs Servicewide by 2012.	100% of appropriate organizations implement EMS	100% of appropriate organizations implement EMS
CC—Climate Change Mitigation & Facility Adaptation			
	The NPS will reduce Scope 1 & 2 GHG emissions from the 2008 baseline and strive for operational carbon neutrality.	30% GHG reduction	50% GHG reduction
EM—Energy Management			
	The NPS will conserve energy and reduce Servicewide energy intensity from the 2003 baseline.	35% energy intensity reduction	40% energy intensity reduction
WM—Water Management			
	The NPS will conserve potable water (non-irrigation) from the 2007 baseline.	20% reduction of potable water use intensity	30% reduction of potable water use intensity
FT—Fleet & Transportation Management			
	The NPS will right-size its fleet.	Right-sizing analysis complete and 100% of recommendations implemented	Right-sizing analysis complete and 100% of recommendations implemented
PW— Environmental Purchasing & Waste Reduction/ Management			
	The NPS will divert solid waste from landfills.	50% diversion of solid waste	60% diversion of solid waste
IE—Healthy Indoor Environments			
	The NPS will ensure healthy workspace environments for park employees and living quarters for employees living in NPS housing.	70% of employees report “satisfaction”	90% of employees report “satisfaction”
OE—Outdoor Environmental Quality & Sustainable Sites			
	The NPS will reduce light pollution from park facilities with the goal of dark night sky preservation.	70 Night Sky friendly lighting projects completed	100 Night Sky friendly lighting projects completed
BP—Best Practices in Sustainable Facilities Management			
	The NPS will fully integrate the GPP with EMSs and other sustainability planning initiatives.	100% GPP integration	100% GPP integration