



CLIMATE *Friendly* PARKS

Point Reyes National Seashore Action Plan

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POINT REYES NATIONAL SEASHORE BECOMES A CLIMATE FRIENDLY PARK

As a participant in the Climate Friendly Parks (CFP) program, Point Reyes National Seashore belongs to a network of parks 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, Point Reyes National Seashore provides a model for climate friendly behavior within the Park Service.

Point Reyes National Seashore, as a member of the Pacific West Region, is involved in the first regional effort in the National Park Service to become carbon neutral. The Region has developed a vision of having its park operations be carbon neutral and of having all of its parks be a member of the Climate Friendly Parks Program by 2010.

This Action Plan identifies steps that Point Reyes National Seashore has committed to undertake to reduce greenhouse gas (GHG) emissions and mitigate future impacts of climate change. The plan presents the Park's emission reduction goals, and associated reduction actions and adaptation strategies to achieve the Park's goals. Strategies and Action Plan items were developed by working groups at the San Francisco Bay Area Network Climate Friendly Parks Workshop.¹ 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 details of proposed actions are developed and kept in the Point Reyes National Seashore Environmental Management System Plan (EMP), which the Park reviews and updates annually. The manual is based on the goals of the 2004 Point Reyes National Seashore Environmental Innovation Greening Workshop. Since this workshop, the Park has made significant progress in implementing climate friendly actions. The successes of Point Reyes National Seashore are also documented in the EMP and are available to other parks facing similar environmental challenges.

Point Reyes National Seashore aims to reduce park operations:

- Energy use emissions to 45 percent below 2008 levels by 2016.
- Transportation emissions to 50 percent below 2008 levels by 2016.
- Waste emissions by 30 percent below 2008 levels by 2016 through waste diversion and reduction.
- Other emissions by 25 percent below 2008 levels by 2016 through animal waste management practices.

To meet these goals, an Environmental Management Internship program has been established at Point Reyes National Seashore. Interns will meet with division chiefs to review Point Reyes National Seashore's EMP progress on a bi-annual basis. Additionally, Point Reyes National Seashore's Energy Manager will act as a liaison between the EMP and the Park Management, seeing that goals are implemented and progress is documented so other parks facing similar environmental challenges will have a point of reference.

Point Reyes National Seashore 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

¹ Original notes from these workshops, including detailed action items not presented in the final plan have been archived by Point Reyes National Seashore 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 Point Reyes National Seashore. 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°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 likely.² 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 is also expected to affect human health, crop production, animal and plant habitats, and many other features of our natural and managed environments.

If global warming progresses at predicted rates, local sea level could change significantly by the end of the 21st century and Point Reyes National Seashore stands to suffer dramatic coastal erosion. If the Point Reyes National Seashore microclimate and sensitive habitats are altered by global climate change, its flora and fauna may be disturbed. Native plants and animals—including threatened and endangered species—may be unable to adapt and will disappear.

ENVIRONMENTAL LEADERSHIP – EXISTING POLICIES

The goals established in this Action Plan are a direct reflection of the National Park Service's mission to conserve the nation's resources "unimpaired" for the enjoyment of this and future generations, as established by The Organic Act of 1916, and are now couched within the context of numerous Federal and departmental orders. Presented below are specific goals that apply to National Parks that were set by Federal policies and Executive Orders. These goals are presented by the specific sector that they impact.

Energy

Energy Independence and Security Act (EISA) of 2007

- 3% annual building energy reduction from a 2003 baseline, or a 30% reduction by 2015
- New buildings meet a minimum of 30% of building hot water demand through solar hot water heating
- Reduce new building and major renovation building fossil fuel-generated energy consumption by 55% in 2010 and 100% by 2030.

Energy Policy Act of 2005

- Achieve 7.5% renewable electricity consumption by 2013
- All appropriate buildings metered by 2012

² 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> >

Executive Order 13423 of 2007: Strengthening Federal Environmental, Energy, and Transportation Management

- Reduce consumption of petroleum products by 2% annually through 2015

Executive Order 13514 of 2009: Federal Leadership in Environmental, Energy and Economic Performance

- Beginning in 2020, ensure that all new Federal buildings that enter the planning process are designed to achieve zero-net-energy by 2030.
- Increase use of renewable energy and implementing renewable energy generation projects on agency property

Transportation

Energy Independence and Security Act (EISA) of 2007

- 3% annual energy reduction (2008-2015) from a 2003 baseline, or a 30% reduction by 2015

Energy Policy Act of 2005

- 20% decrease in petroleum consumption by 2015

Executive Order 13423 of 2007: Strengthening Federal Environmental, Energy, and Transportation Management

- Reduce consumption of petroleum products by 2% annually through 2015

Executive Order 13514 of 2009: Federal Leadership in Environmental, Energy and Economic Performance

- Reduce consumption of petroleum products by 2% annually through 2020 (baseline 2005)
- Reduce the use of fossil fuels by using low GHG emitting vehicles, optimizing the number of vehicles in the fleet
- Implement strategies and accommodations for transit, travel, training, and conferencing that actively support lower-carbon commuting and travel by agency staff

Waste

Executive Order 13514 of 2009: Federal Leadership in Environmental, Energy and Economic Performance

- Divert at least 50% of non-hazardous solid waste, excluding construction and demolition debris, by the end of 2015
- Divert at least 50% of construction and demolition materials and debris by the end of 2015
- Improve water efficiency by 26% by 2020

It is within the context of the National Park Service's Mission and these policies that Point Reyes National Seashore has established the aforementioned goals regarding the reduction of GHG emissions.

GREENHOUSE GAS EMISSION INVENTORY AT PORE

Naturally occurring GHGs 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.

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).

As part of the Climate Friendly Parks program, Point Reyes National Seashore has been calculating its emissions using the Climate Leadership in Parks (CLIP) Tool since 2005. The resulting emissions inventories are divided into four major categories by source:

1. Energy - includes GHG emissions from purchased electricity and combustion of fuels for heating
2. Waste – includes GHG emissions from the decomposition of solid waste and processing of wastewater
3. Transportation - includes GHG emissions from vehicles, large maintenance equipment, and off-road recreational equipment
4. Other - includes GHG emissions from permitted agricultural activities within the Park, refrigeration units, and use of fertilizers

In 2008, GHG emissions within Point Reyes National Seashore totaled 20,239 metric tons of carbon dioxide equivalent (MTCO₂E). This includes emissions from park, concessioner operations, visitor activities, including vehicle use within the Park, and agricultural activities. For perspective, a typical single family home in the U.S. produces approximately 12 MTCO₂E per year.³ 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 1,723 households each year.

The largest emission sector for Point Reyes National Seashore is “other”, totaling 12,533 MTCO₂E (Fig 1 and Table 1). These emissions resulted from agricultural activities permitted to occur within the Park boundaries, including methane produced by cattle and the decomposition of animal waste in storage ponds. The second highest GHG emissions at Point Reyes National Seashore are due transportation. The Park does not have a year-round shuttle and with over 1.2 million annual visitors, individual visitor vehicle emissions add up. Additionally, the Park has a high vehicle to employee ratio, with only 15% of the fleet comprised of diesel or hybrid.

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

FIGURE 1

Point Reyes National Seashore 2008 Total Greenhouse Gas Emissions by Sector

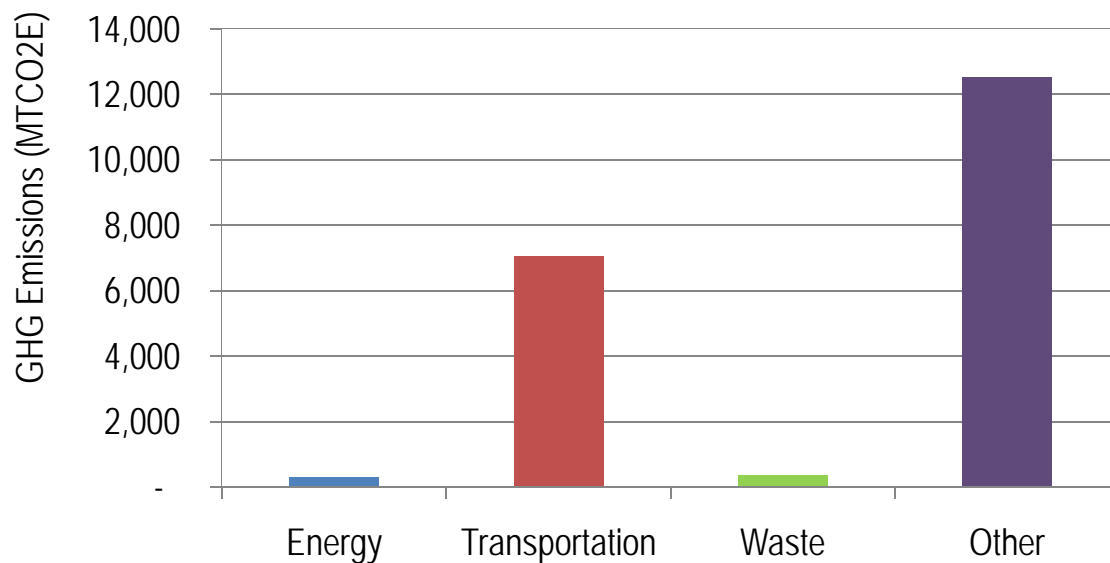


TABLE 1

Point Reyes National Seashore 2008 Total Greenhouse Gas Emissions by Sector and Source

	MTCO ₂ E
Energy	299
Stationary Combustion	144
Purchased Electricity	156
Transportation	7,050
Mobile Combustion	7,050
Waste	357
Landfilled Waste	193
Wastewater	164
Other	12,533
Refrigeration and Air Conditioning	9
Other	12,524
Total	20,239

Note - Totals may not sum due to rounding

Not applicable data sources represented by "-"

FIGURE 2

Point Reyes National Seashore 2008 Park Operations Emissions by Sector

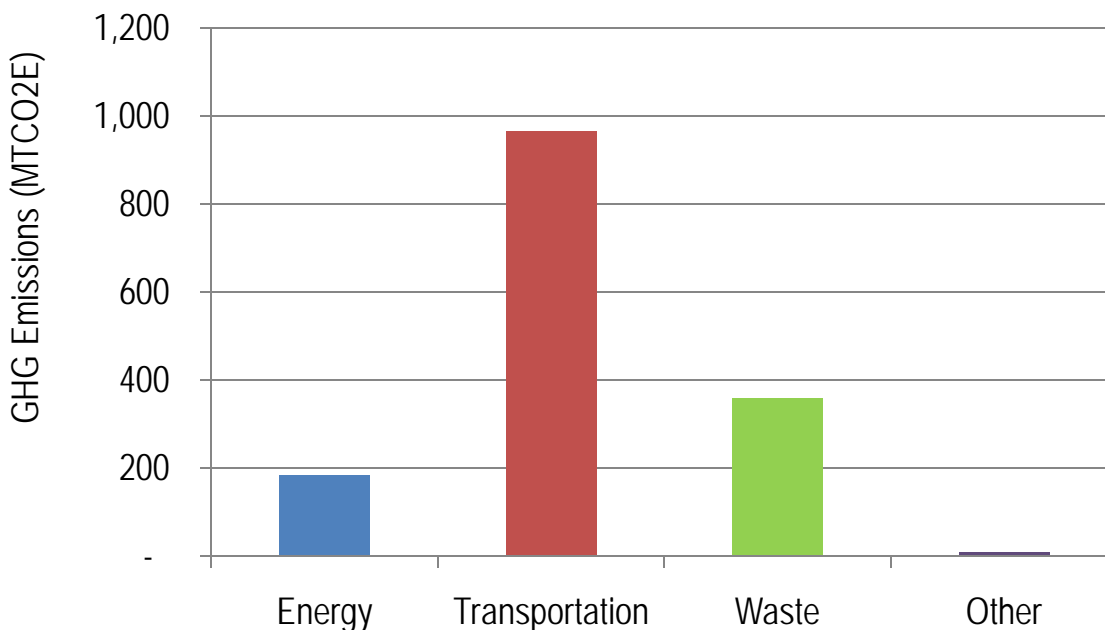


TABLE 2

Point Reyes National Seashore 2008 Park Operations Emissions by Sector

	MTCO2E
Energy	183
Stationary Combustion	84
Purchased Electricity	99
Transportation	964
Mobile Combustion	964
Waste	357
Landfilled Waste	193
Wastewater	164
Other	9
Refrigeration and Air Conditioning	9
Total	1,514

Note - Totals may not sum due to rounding

Not applicable data sources represented by "-"

Point Reyes National Seashore Responds to Climate Change

The following actions were developed during the CFP workshop hosted by San Francisco Maritime National Historical Park on October 27th and 28th, 2009, in order to meet the Park's climate change mitigation goals.

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

Point Reyes National Seashore has developed a set of actions 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 rapidly implement. Actions that Point Reyes National Seashore will 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 45 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 12 percent of the Park's GHG emissions from park operations are from energy consumption. Consequently, Point Reyes National Seashore 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

- Installed 39 kWh photovoltaic arrays to generate renewable energy within the Park.
- Partnered with local energy companies and universities to develop energy audits and analyze energy efficiency park wide.
 - Worked with PG&E to conduct an industrial grade audit of electrical use and energy efficiency.
 - Audited and redesigned the Bear Valley Visitor Center through a partnership with University of California-Davis.

Energy Use Management – Planned Actions

1 Promote energy efficiency and energy conservation in the Park through behavioral change

- Institute 4 day flex schedule and shut down buildings on 5th day of the week.

2 Upgrade lighting options

- Install energy efficient light fixtures.
 - Replace T-12 fixtures with higher efficiency T-8's.
 - Consider installing solar light tubes in offices and work spaces.
- Install dimmable ballasts when able to pair lighting with photosensors to reduce need for electricity use.

- Utilize natural lighting by bringing it into buildings via conventional glazing, light shelves, skylights, and clerestory windows.
- Evaluate outdoor lighting for energy efficiency and light dispersion.
 - Upon failure of lights, replace inefficient area lighting with efficient and low dispersion lighting options.

3 Switch to more efficient electronics and devices

- Establish and implement a procurement policy to reduce the number of electronics and devices needed and ensures the efficiency of all electronics and office equipment including office equipment, computers, printers, lighting and interpretive displays.
 - Convert desktop computers to thin clients. Full time employees requiring laptops will use the laptop as their primary computer.
- Set the default settings on all computers and copiers to double-sided printing.
- Develop and implement a policy that, in situations that space heaters are necessary, requires that only high efficiency heaters are used. High efficiency heaters include ceramic or oil convective heaters.

4 Improve building structures and envelopes

- Replace and/or add appropriate R-value insulation to roofs and ceilings in all park buildings. Establish R-32 as the minimum insulation level.
- Improve insulation surrounding piping to ensure conservation of heat.
- Ensure that doors and windows have been weatherized.
- Upgrade windows by replacing old windows with new ones that provide better insulation and solar selectivity.

5 Utilize alternative energy sources

- Work towards the goal of producing 50% of the Park's energy needs through solar power.
 - Convert all applicable wells to run on solar panels.
 - Continue to install photovoltaic panels on park buildings, parking lots, and in open areas.
 - Work with the Park's energy provider to develop a grid-tied system.
- Utilize biogas from in park agriculture.
 - Initiate conversations with park ranchers to build partnerships to move toward more sustainable agriculture through better dairy waste management and use of technology. Coordinate with Natural Resource Conservation Service (NRCS) and other grantors to plan implementation of biogas projects including methane digesters.

6 Measure energy use throughout the Park



- Continue to partner with local universities on energy efficiency studies and building audits.
- Purchase photovoltaic data monitoring systems to justify additional purchases.
- Install building level utility meters including new major construction and renovation projects to track and continuously optimize performance.

7 Other

- Institute a "No Net Gain" policy for electrical appliances and computers when staff numbers expand – breaking the current cycle of passing older, less energy efficient computers to new, junior staff when senior staff receive updated models.
- Develop and implement a plan to utilize landscaping to reduce the energy demands of park building HVAC systems. This plan would account for strong winter winds and summer western sun exposure.
- Investigate the use of waste heat generated by servers through passive convection to heat buildings.

Transportation Management

Emission Reduction Goal: Reduce park operations transportation emissions to 50 percent below 2008 levels by 2016.

Reducing vehicle miles traveled, improving vehicle efficiency, and using alternative fuels can significantly reduce Point Reyes National Seashore's emissions. As the inventory results indicate, GHG emissions from transportation comprise 64 percent of park operations emissions and 35 percent of the Park's overall emissions (including visitors, and concessioners). Accordingly, in addition to a park operations emissions reduction goal, Point Reyes National Seashore set a goal to reduce overall transportation emissions by 20 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

- Currently driving an electric and a hybrid electric vehicle for work related employee transportation.
- Upgraded infrastructure to support alternative fuel vehicles.
 - Installed a biodiesel mixing station to supply biodiesel to park vehicles.

Transportation Management – Planned Actions

1 Reduce fuel consumed by encouraging behavior changes

- Encourage staff carpooling for commuting to work. Develop carpooling information and support services for staff.
 - Investigate providing employees with tiered work schedule to give structure to various groups of employees' travel schedule and facilitate ridesharing.

- Provide opportunities for employee leased van to facilitate vanpooling that may qualify for federal transit subsidies.
- Provide subsidies for public transit passes to park staff.
- Create telecommuting options for employees.
- Prohibit visitor vehicle idling. Post signs and information with the Park's idling rules.
- Investigate flexiplace work opportunities including: for all non-field staff, compressing some workgroups to four 10 hour days to eliminate 20% of commute trips per work week.
 - Incorporate management of flexiplace employees into training for all supervisors by 2012.
 - Add technology that provides easy access using cell phones, pager, and Lotus Notes "chat" environment, to improve effective communication and productivity between remotely based and in-park employees.
- Prohibit staff vehicle idling unless required for vehicle maintenance. Create dashboard idling guidelines and post in vehicles.
- Establish an employee bike-to-work program.
 - Provide secure parking and other services for bicycles.
- Reduce staff meeting travel through use webinars/conference calls, both within and outside of the Park.
 - Purchase necessary equipment for teleconferencing and videoconferencing.

2 Reduce vehicle and equipment fuel consumption

- Implement a system of alternative fuel shuttle buses.
- Incentivize visitor use of high efficiency and alternative fuel vehicles.
 - Recognize those who are driving high efficiency (>40 mpg) or alternative fuel vehicles with "climate-friendly visitor" bumper stickers. Give incentives or discounts to those traveling by bike or on foot into the Park.
- Encourage visitors to carpool and provide carpool parking areas.
 - Give discounts and incentives for high occupancy vehicles.
- Encourage ranchers to convert to biodiesel.

3 Vehicle and Equipment Replacement

- Increase the Park's fleet miles per gallon (MPG) average.
 - Begin by benchmarking the existing fleet-wide MPG average, and then raise the average through rightsizing the vehicle fleet to exceed California's fuel economy standards.
 - Use a Vehicle Allocation Methodology (VAM) to right size the fleet.

- Develop a vehicle replacement plan to replace all conventional fuel vehicles and equipment with electrical, hybrid, or biodiesel versions by 2016.
 - Showcase new technologies once alternative vehicles are purchased and implemented.
 - Use a B20 biodiesel blend in all park owned diesel fuel vehicles.

4 Other

- Participate in a fleet management study to analyze fleet sizing.
- Increase communication with the General Services Administration (GSA) to enable increased purchases of efficient vehicles.
- Streamline services provided to park to reduce service travel.
 - Create an inventory of all supplies and services delivered to parks and determine if the Park can garner funding to create a more sustainable, lower footprint option (e.g. bottled water delivery).
- Operate all fleet vehicles using re-refined engine oil.
- Ensure that new offices are located strategically to minimize staff and visitor travel, or enable staff and visitor use of public transportation.

Waste Management

Emission Reduction Goal: Reduce park operations waste emissions to 30 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 CH₄ emissions in the United States. Waste from Point Reyes National Seashore facilities routinely travels hundreds of miles to the landfill. Reducing the amount of waste sent to landfills reduces CH₄ 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.

Point Reyes National Seashore's park operation activities emitted 357 MTCO₂E 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

- Encouraging visitors to reduce waste by bringing reusable water bottles and recycling whenever possible.

Waste Management – Planned Actions



1 Waste reduction

- Establish guidelines for waste minimization: use durable, reusable utensils and mugs, buy in bulk, use items with reduced packaging, and provide recycling receptacles.
- Transition Park parties and events, such as the yearly Sunrise Breakfast and VIP picnic from disposable paper and plastic plates and flatware to reusable and recyclable alternatives by 2011.

2 Reduce wastewater generated

- Convert all toilets within administrative and visitor facilities, and in park residences, to WaterSense® approved high efficiency models.
- Replace all flush urinals within the Park to waterless models.
- Install low-flow faucets and shower heads.
- Include routine check and repair of faucets to prevent water loss through leakage.

Other Management

Emission Reduction Goal: Reduce other park emissions to 25 percent below 2008 levels by 2016 through animal waste management practices.

Cattle ranching is part of the history of Point Reyes National Seashore and is still permitted within the Park's boundaries. These cattle produce emissions through the decomposition of manure and through enteric fermentation. Cattle management related emission sources are the largest contributor, with 62 percent of Point Reyes National Seashore's 2008 Total GHG emissions. Point Reyes National Seashore has identified the following actions to reduce emissions:

1 Reduce emissions associated with agricultural waste

- Work with the Park ranchers to implement methane digesters.
 - Build partnerships with ranchers to move toward more sustainable agriculture through improved waste management.
 - Coordinate with NRCS and other grantors to plan implementation of biogas projects on Park dairies.
 - Provide ranchers with support for planning, compliance, and grant applications.
 - Assist with funding for professional technical planning and design assistance to develop aesthetically suitable and energy efficient biogas projects.

STRATEGY 2: INCREASE CLIMATE CHANGE EDUCATION AND OUTREACH

Climate change is a complex and easily misunderstood issue. Point Reyes National Seashore 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. Point Reyes National Seashore 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 Point Reyes National Seashore takes to address climate change serve as opportunities for increasing the public's awareness of climate change. Presented below are 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

- Currently using recycled papers (at least 30% post consumer, if not more) for all publications printed by and for Point Reyes National Seashore.
- Created signage and demonstration projects to convey park sustainability message to visitors.
- Connecting with community and park partners on Climate Friendly Park efforts.
 - Building relationships with Friends Groups, local environmental groups, representatives from the state environment/energy departments, teachers, and local university partners.
 - Held Brown Bag Lunch forum to discuss current energy issues in the community.

Park Staff

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

Developing an education program about climate change, its impacts, and mitigation strategies 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, Point Reyes National Seashore 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:

- Create reminders for park employee regarding climate change and how employees can help reduce emissions.
 - Include suggestions about how employees can reduce GHG emissions in the bi-annual all employee meeting.
 - Develop signage for offices to remind employees to turn off lights, computers, monitors, and to recycle.
- Incorporate sessions on climate change into staff training.
 - Include climate change information in employee communications including: All Employee email messages, the Sustainability and Global Climate Change information on the Park's intranet, posters displayed in

common areas, published minutes of appropriate committees such as the Safety and Environmental Management Team, and messages and reminders.

- Incorporate climate change impacts and mitigation issues into the employee handbook.
- Include the science and impacts of climate change into park education tools.
 - Develop a PowerPoint training instrument on energy efficient and low GHG emitting park operations, and behavioral changes that lead to energy conservation.
- Develop intranet pages to inform staff about climate friendly actions.

Visitor Outreach

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

Point Reyes National Seashore staff recognize the many different audiences that visit the Park, including recreational and non-recreational 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:

- Educate visitors about public transit options to and from the Park.
- Engage visitors and staff on how the Park can reduce energy use and waste production through suggestion boxes.
- Expand and enhance the Climate Friendly Parks and Global Climate Change sections on the web site.
 - Place a greater emphasis on what visitors can do to reduce their carbon footprint while visiting the Park.
 - Place 1-2 sentence "teasers" on the effects of climate change on park resources and suggestions to visitors for mitigation on many park web pages.
- Develop a video about climate change, its impacts on the Park, and what the Park is doing to mitigate these impacts, with the help of a Pacific Coast Learning Center intern.
- Incorporate climate friendly messaging and information into interpretation programs, talks, and public informational publications including: park newsletters, park maps and brochures, the Park's public web page.
 - Emphasize the Park's membership in the Climate Friendly Parks Program.
 - Increase the use of web-based communication strategies such as podcasts, interactive web curricula, etc.
- Educate visitors about their recycling options at the Park and at home.

- Create interpretive programs at the Park.
 - Develop an interpretive program on climate change and its effects on Point Reyes National Seashore as a PowerPoint presentation or an outdoor program.
 - Add to the Kule Loklo and Lighthouse Junior Ranger activities a Junior Ranger program focused on climate change.
- Develop a Do Your Part! program for online visitors.
 - Set up a Do Your Part! table at local events.
 - Develop and distribute Do Your Part! materials including business cards, posters, stickers, bumper stickers, post cards etc.

Local Community Outreach

The gateway communities, agencies, vendors, and volunteers surrounding Point Reyes National Seashore 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.

Potential actions include:

- Communicate with local communities, park visitors, and local media about actions they can take to reduce GHG emissions.

STRATEGY 3: EVALUATE PROGRESS AND IDENTIFY AREAS FOR IMPROVEMENT

By taking the actions established in strategies 1 and 2 above, PORE plans to reduce its emissions to the specified goal and begin adapting to the impacts of climate change. Achieving these goals will require an ongoing commitment by the Park, which may include subsequent emission inventories, additional mitigation actions, and reevaluation of goals. As part of this strategy, Point Reyes National Seashore will:

- Monitor progress with respect to reducing emissions. This will include subsequent emission inventories to evaluate progress toward goals stated in this plan.
- Develop additional emission mitigation actions beyond those listed in this plan.
- Biannually review and update this plan.
- The Park will track climate friendly actions through the Environmental Management System.

CONCLUSION

Point Reyes National Seashore has a unique opportunity to serve as a model for over two million recreational visitors.⁴ 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, Point Reyes National Seashore 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, Point Reyes National Seashore 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 Point Reyes National Seashore to the forefront of Climate Friendly Parks.

⁴ Point Reyes National Seashore: Park Statistics. Available online at: <http://www.nature.nps.gov/stats/viewReport.cfm>