National Park Service
U.S. Department of the Interior

CLIMATE*Friendly* PARKS

# Santa Monica Mountains National Recreation Area Action Plan

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# SANTA MONICA MOUNTAINS NRA BECOMES A CLIMATE FRIENDLY PARK

As a participant in the Climate Friendly Parks program, the Santa Monica Mountains National Recreation Area (SMMNRA) 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 and developing this Action Plan, SMMNRA is providing a model for climate friendly behavior within the park service. SMMNRA is committed to further educating the park staff, visitors, and community members about climate change.

This Action Plan identifies steps that SMMNRA plans to undertake to reduce greenhouse gas (GHG) emissions and mitigate the park's impact towards climate change. The plan presents emission reduction goals and associated reduction actions. Strategies and action plan items were developed by working groups at the Mojave Desert and Mediterranean Coast Climate Friendly Parks Workshop.[1] While the plan provides a framework needed to meet emission reductions, it is not intended to provide detailed instructions on how to implement each of the proposed measures. SMMNRA's Environmental Management System (EMS) committee sets goals, priorities, and recommended course of action.

Our EMS is responsive to the National Park Service's service-wide 2020 Sustainability Operations Strategic Plan and an ever-rising number of government sustainability mandates. SMMNRA aims to reduce its overall GHG emissions by 50% by the year 2020.

To meet this goal, 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

# THE CHALLENGE OF CLIMATE CHANGE

Climate change presents significant risks and challenges to the National Park Service and specifically to a recreation area located within a larger metropolitan area. 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 ($CO_2$), methane ($CH_4$) and nitrous oxide ($N_2O$) —which trap heat that otherwise would be released into space.

The continued addition of $CO_2$ 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

[1] Original notes from the December 1-2, 2009 workshop, including detailed action items not presented in the final plan, have been archived and are available upon request.

[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>

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.

Information obtained through high-resolution climate models, such as state-of-the art models prepared for the 2007 Intergovernmental Panel on Climate Change (IPCC)[3] identified areas most vulnerable to be affected by climate change. The Santa Monica Mountains is located in one of the strongest 'hot spot' areas mapped and categorized as the southwestern United States and northern Mexico region. Models depict this region as being in an area considered high-risk for climate responsiveness. It is the variability of precipitation patterns that exist in this region from year-to-year that play a crucial role in the overall magnitude or 'climate responsiveness factor'. This factor is arrived at by combining projected changes in temperature along with projected precipitation patterns.[4]

Fire regimes in the Santa Monica Mountains are further affected by these regional driven climate changes. Wildland fires are becoming more frequent and intense due to dry seasons that start earlier and end later.[5] Six climate models for this region show temperature increases of between 1.35 and 2.0 degrees Celsius by 2049. Although there is variability in magnitude, the consensus shows at least a doubling of summer heat wave days by 2049 in the greater Los Angeles area. This would amount to an average of 24 days from the present average of 12 days per year. Research also projects that by 2049, sea level rise for California varies between 9 and 13 centimeters. Due to increasing aridity and increased fire frequency, models predict a decrease in shrub land and an increase in grassland within California by 2035.[6]

# GREENHOUSE GAS EMISSION INVENTORY AT SANTA MONICA MOUNTAINS NRA

Naturally occurring GHGs include $CO_2$, $CH_4$, $N_2O$, and water vapor. Human activities (e.g., fuel combustion and waste generation) lead to increased concentrations of these gases 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 one of the world's largest urban national parks, most of SMMNRA's facilities run on the city grid, making the actual park emissions relatively low. However, the park is still dedicated to continuously educating staff and visitors on how to reduce their carbon foot print altogether.

In 2008, GHG emissions within Santa Monica totaled 347 metric tons of carbon dioxide equivalent ($MTCO_2E$). This includes emissions from park operations and visitor activities, including vehicle use within the park. For perspective, a typical single family home in the U.S. produces approximately 12 $MTCO_2$ per year.[7] Thus, the combined emissions from park operations, and visitor activities within the park are roughly equivalent to the emissions from the energy use of 30 households each year.

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[3] Kerr, R.A. (2008). Climate Change Hot Spots Mapped Across the United States. *SCIENCE*. Vol 321. p.909 15 August 2008. www.sciencemag.org.

[4] Diffenbaugh, N.S., F. Giorgi, and J.S. Pal (2008). Climate Change Hotspots in the United States. *Geophysical Research Letters*, Vol. 35, L16709. doi:10.1029/2008GL035075. American Geophysical Union.

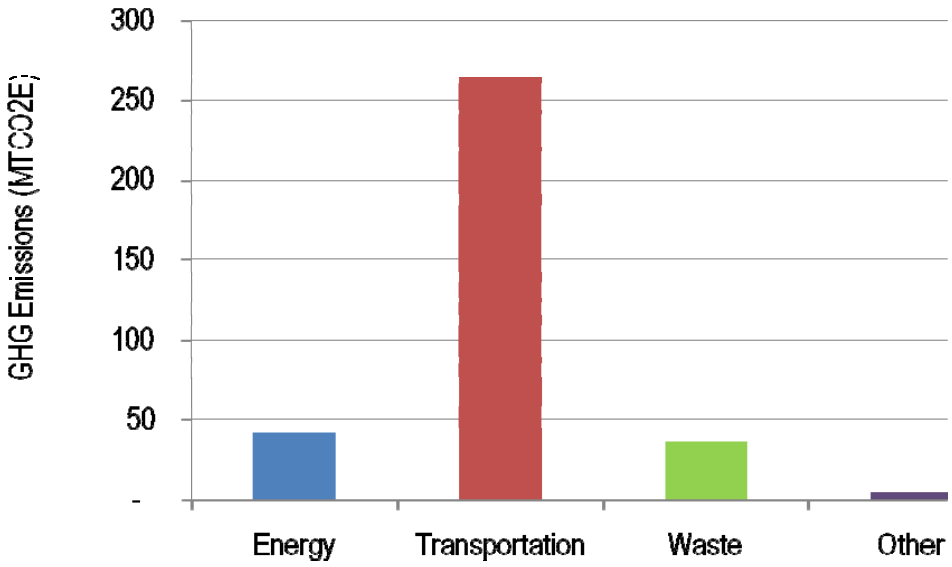
[5] Herberger, et al. (2009) Executive Summary 2009 California Climate Adaptation Strategy:A Report to the Governor of the State of California in Response to Executive Order S-13-2008. www.climatechange.ca.gov/adaptation

[6] Hayhoe, K. et. al (2004). Emissions Pathways, Climate Change, and Impacts on California. *PNAS*. Vol. 101. No. 34. August 24, 2004, www.pnas.org/cgi/doi/10.1073/pnas.040500101

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

# FIGURE 1

*Santa Monica Mountains 2008 Total Greenhouse Gas Emissions by Sector*




# TABLE 1

*Santa Monica Mountains 2008 Total Greenhouse Gas Emissions by Sector and Source*

| | MTCO2E |
|---|---|
| Energy | 42 |
| Stationary Combustion | - |
| Purchased Electricity | 42 |
| Transportation | 264 |
| Mobile Combustion | 264 |
| Waste | 37 |
| Landfilled Waste | 37 |
| Wastewater | 0 |
| Other | 5 |
| Refrigeration and Air Conditioning | 5 |
| Total | 347 |

Note - Totals may not sum due to rounding

Not applicable data sources represented by "-"

# Santa Monica Mountains NRA Responds to Climate Change

*The following actions were developed during the Mojave Desert and Mediterranean Coast Climate Friendly Parks Workshop on December 1-2, 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

SMMNRA 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 rapidly implement. Actions that SMMNRA 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 operation energy use emissions to 41 percent below 2008 levels.*

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. Emission inventory results indicate that 12 percent of the park's GHG emissions from Park Operations are from energy consumption. Consequently, SMMNRA 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

- Conducted energy efficiency studies and building audits
- Replaced many of the park's residential and office unit appliances and equipment with energy-efficient models
- Installed of several photovoltaic (PV) Grid-tied solar systems on park assets.

## Energy Use Management – Planned Actions

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

- Encourage energy conservation in all park activities.
  - Increase energy efficiency in all park buildings and housing by encouraging conservation and efficiency behaviors.
  - Identify "vampire energy users".
- Consider "smart-strip" installation for better accessibility and convenience for staff to completely power down systems when not in use.
- Encourage all computers' power management settings follow current ENERGY STAR recommendations.
  - Set computers to enter system standby or hibernation mode after 30 minutes of inactivity and monitors to enter sleep mode after 15 minutes of inactivity. (visit: www.energystar.gov/powermanagement)

### 2 Upgrade lighting options

- Upgrade all light fixtures and bulbs in park to energy-efficient bulbs.

- Use high intensity discharge (HID) lamps and/or fluorescent lights (T-8's or T5's with electronic ballasts) in all fixtures used for more than 3 hours a day.
- Replace incandescent lightbulbs with Compact Fluorescent Lightbulbs (CFLs) and Light Emitting Diode (LED) where appropriate.

- Install energy-efficient outdoor lighting.
  - Consider solar/LED products (e.g. Inovas thin-film solar pole with high-efficiency LED fixture) for upgrades within the park.
- New construction buildings oriented to maximize passive solar energy per LEEDs recommended techniques.
- Consider more efficient use of natural lighting to minimize need for electricity on building retrofit projects.
- Install dimmable ballasts and pair lighting with photosensors to reduce electricity use.
  - Use bi-level lighting and dimmable ballasts.
  - Use ambient light and take advantage of daylighting opportunities.
- Install lighting controls.
  - Use motion sensors where appropriate.

### 3 Switch to more efficient electronics and devices

- Encourage that all computers and copiers are set to print double-sided.
- Install Smart Strip power managers on shared office equipment to ease shut down during non-work hours.
- Purchase only energy-efficient electronics in accordance with federal procurement procedures.
- Utilize Federal Energy Management Program guidelines for purchasing energy-efficient appliances.
- Utilize energy meters to measure energy use and monitor suspected big consumers.

### 4 Improve building structures and envelopes

- Weatherize park buildings by adding R-values to improve insulation effectiveness.
- Develop and implement an HVAC inspection schedule for coils, filters, dampers, and fans and maintenance schedule that ensures timely replacement and cleaning.
- Replace old windows with new energy-efficient windows.

### 5 Utilize alternative energy sources

- Install photovoltaic panels on park buildings, parking lots, open areas etc.

- Investigate geothermal heating systems for all new construction.

### 6 Measure energy use throughout the park

- Conduct an energy audit for all park buildings. Partner with local utilities to conduct the audit.
  - As part of an independent energy audit, have recommendations made for appropriate lighting solutions for each space.
- Install building-level utility meters in new major construction and renovation projects to track and continuously optimize performance.
  - Transfer all metered building data directly in web-based system and drop data directly in ENERGY STAR Portfolio Manager.

## Transportation Management

*Emission Reduction Goal: Reduce overall Park transportation emissions to 36 percent below 2008 levels.*

Reducing vehicle miles traveled, improving vehicle efficiency, and using alternative fuels can significantly reduce SMMNRA's emissions. As the inventory results indicate, GHG emissions from transportation comprise 76 percent of park operations 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

- Conducted a vehicle/fuel use and future replacement schedule analysis to introduce and recommend more fuel efficient or AFV models.
- Conducted staff survey on present use, carpooling behaviors, and suggestions for modifying fleet.
- Increased participation in webinars and conference calls to reduce travel.
- Increased participation and scheduling of carpools for meetings.
- Replaced all two-stroke engines with more efficient four-stroke engines.

## Transportation Management – Planned Actions

### 1 Transportation-related Behavioral Changes

- Promote reduction of visitor vehicle idling.
  - Deliver interpretive message and information though park literature and bulletin boards.
  - Install traffic counters to validate visitor miles traveled.
  - Install "No Idling" decals on park vehicles.

- Reduce staff idling.
- Reduce meeting travel.
  - Use webinars/conference calls to avoid excessive travel, both within and outside of the park. Utilize teleconferencing and videoconferencing.

### 2 Reduce NPS vehicle and equipment fuel consumption

- "Right-size" fleet by the number and type of vehicles, and those that best serve operational needs with more fuel-efficient vehicles.
- Analyze fleet fuel-consumption patterns for efficiency improvements.
  - Use FAST to track fuel use and analyze fleet needs with efficiency improvements.

### 3 Replace NPS vehicles and equipment

- Analyze and recommend a vehicle replacement plan.
  - Evaluate AFV options: Hybrid electric vehicles (HEVs), electric vehicles, compressed natural gas (CNG), and biodiesel.
  - As older vehicles come up for replacement, order alternative fuel or more fuel-efficient vehicles.

## Waste Management

*Emission Reduction Goal: Reduce park operations waste emissions to 15 percent below 2008 levels.*

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.

SMMNRA's park operation activities emitted 37 $MTCO_2E$ 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

- Purchase of materials, office supplies, copier paper, toner cartridges, etc. with recycled-content where feasible.
- Staff actively engages in recycling waste paper, cans, plastic. Containers available in shared office areas and break rooms.
- Installed first "Big Belly" solar compactor to provide efficient recycling receptacles.

- Donation of old electronic office equipment, computers, monitors, etc. to schools.

## Waste Management – Planned Actions

### 1 Decrease waste through behavior change

- Require that construction contractors reuse or recycle materials used during building renovations and new site construction/remodeling projects.
- Engage staff to reduce and manage waste at work.
  - Encourage park staff to be responsible at work by making it easy to recycle waste; making sure containers fit the environment (e.g., animal-proof, rust-proof/salt air -resistant/moisture resistant, and proper size).
  - Ask park staff to use ceramic plates, bowls, mugs, and silverware in lieu of disposable products.
  - Encourage double-sided printing and copying, office supply reuse, electronic correspondence, electronic file storage, elimination of colored paper, etc.
  - Take into account the amount of packaging when making purchases.
- Train park staff and contractors on waste reduction responsibilities.
  - Ensure that staff and contractors are aware of their roles and responsibilities to reduce waste.
  - Encourage staff and contractors to use reusable and recyclable materials where feasible .
  - Reduce purchases where possible and avoid duplicate purchases.
  - Purchase office supplies with maximum recycled content.
  - Purchase durable, reusable supplies, reuse office supplies when possible.
- Update the Integrated Solid Waste Assessment Plan (ISWAP) and communicate park waste policy or ISWAP to staff and contractors.
  - Provide information on policies and practices for recycling, green procurement, and other aspects of the park's waste management policy.
  - Include information on park sustainability, green procurement, and recycling policy in new employee orientations.
- Reduce waste generated at meetings and employee functions, e.g. suggest participants bring their own refillable water bottle, coffee mug)
- Measure, track, and report waste stream data (include landfill waste and recycled waste) to monitor reductions and success in diverting waste from the landfill.
  - Develop a system to better record solid waste generation and recycling metrics in a tracking report.
- Encourage alternatives such as reusable water bottle filling stations to lower plastic water bottle use.

- Install energy efficient hand driers throughout park to minimize paper towel waste.

## 2 Continue to encourage recycling practices

- Continually increase the amount of waste material at the park that can be recycled.
  - Recycle cardboard, aluminum, scrap metal, glass, white paper, and no. 1 PET and 2 HDPE plastics.
  - Find additional reuse opportunities to donate unwanted items.
- Communicate recycling messages to park visitors.
  - Include waste prevention/recycling messages in park talks.
  - Provide recycling messages in brochures, trail guides, maps, and posters.
  - Use recycling messaging at waysides, campground display boards, and kiosks.
- Install easy-to-use recycling containers throughout park facilities.
  - Purchase containers with recycled content or high-efficiency (e.g. Big Belly).
  - Place trash and recycling containers next to each other for convenience.
  - Evaluate signage for effectiveness.
- Recycle or donate old computers and electronics.
  - Recycle unusable computers and electronics.
- Implement a Construction Waste Management/Plan and Job Site Recycling Policy.
  - Require a Construction Waste Management or Recycling Plan; track quantities of recyclables.
  - Make sure contract language addresses waste plan/recycling. Check on “take-back” policies (e.g., ceiling tiles, cardboard, carpet, and drywall).
  - Reuse construction waste on-site, reuse elsewhere, or sell for recycling materials of value including lumber/wood, drywall, metal, rubble, cardboard, fixtures, hardware, and wiring.
  - Require drywall contractors to recycle waste.
  - Work with haulers to prevent contamination of waste sorting.
- Practice Environmentally Responsible Deconstruction.
  - Old building materials will be reduced, reused, and salvaged, in that order.
  - Inefficient materials or components will not be salvaged; ensure that the reuse of vintage items represents an environmental gain.
- Send used florescent bulbs to reclaim/recycle service center.
- Institute alkaline, lithium battery recycling locations.

## 3 Reduce waste through green procurement

- Reduce amount of packaging used in the park.
- Use post-consumer recycled paper in park publications.
- Look for 100% post-consumer (PC) content, processed chlorine-free (PCF) copy paper. Consider alternative fibers (i.e., non-wood) and water-based or vegetable-based ink. Target paper reduction.
- Promote the use of recycled content products and materials procurement within the NPS.
- Advise staff on green procurement practices.
  - Encourage procurement staff to take OFEE's online green purchasing training.
- Continually increase the recycled content of purchased materials.
- Adhere to Federal, NPS, and PWR guidance for procurement.
  - Consider environmental impacts across each product's entire life cycle.
- Inventory and Substitute all cleaning supplies with non-toxic products.
  - Look for Green Seal Certified products and other green attributes when procuring cleaning and maintenance equipment (phase out use of Simple Green).
- Purchase locally produced materials whenever possible.
- Use low/no-VOC insulation, carpets, paints, and adhesives.
- Use carpet with high recycled content for any building projects.
- Manage waste associated with Computers and FAX/Printers.
  - Purchase remanufactured toner cartridges.
  - Purchase LCD monitors, which use less toxic substances, instead of CRT monitors.
  - Reduce the printer-to-employee ratio by maximizing shared network printers.

## 4 Reduce and reuse wastewater

- Install low-flow faucets.
- Replace toilets with low-flow models.
  - Install water efficient technology, e.g. dual-flush and waterless urinals.

Conserve water by planting native or drought tolerant plants where appropriate.

# STRATEGY 2: INCREASE CLIMATE CHANGE EDUCATION AND OUTREACH

Climate change is a complex and easily misunderstood issue. SMMNRA 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. SMMNRA recognizes the potential impact the park can have on mitigating climate change through public education. Thus, the park sees public education as a formative goal in any climate initiative. The actions the park 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 those actions that the park intends to pursue.

### Progress to Date

- Connecting with community and park partners on climate change issues.
- Building relationships with local environmental groups, representatives from the local tourism/community business board, representatives from the state environment/energy departments, teachers, and local university partners.
  - Developing "citizen science" programs (e.g. Project Budburst phenology workshops with U.S. Fish & Wildlife Service and UC Santa Barbara).
  - Hosting guest lecture series (e.g. Planting with Native Plants and Drought Tolerant Species, Penguins in our Watershed).
  - Hosting the NASA/NPS traveling Climate Change Exhibit and distributing Climate Change information in visitor center.
- Training of park staff on climate change education.

## Park Staff

### Incorporate climate change education 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, SMMNRA 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:

- Develop a Climate Friendly Park's page on the park's website to share information on what the park is doing and what the visitor can do at home to reduce GHG emissions.
- Develop an interpretive display in the visitor centers to communicate real-time data from the park's photovoltaic systems and demonstrate what the park is doing to reduce energy consumption and mitigate emissions.
- Hold internal Climate Friendly Park discussions and workshops.
  - Devise new strategies to continually reduce greenhouse gas (GHG) emissions.
  - Distribute resources and tools to staff, and acknowledge success of current strategies, including giving awards to climate leaders.

- Keep staff members that are part of the Green Team/Environmental Management Team informed about climate-related issues.
    - Use materials, publications, and tools available from the U.S. Environmental Protection Agency (EPA) and other agencies and organizations to mentor fellow staff about climate change.
- Incorporate climate change issues and introduction to the park's Environmental Management System (EMS) into the employee's orientation.
- Include energy and water conservation, recycling and other climate materials into housing orientation packets.
- Create visual reminders for park employees with climate change information and tips on how employees can help reduce emissions.
- Develop an intranet site to inform staff about climate friendly actions.
- Disseminate information about climate friendly actions the park is taking at conferences, meetings, and regional workshops.

## Visitor Outreach

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

SMMNRA's staff recognizes the many different audiences that visit the park, including recreational and non-recreational park visitors. External audiences include "virtual visitors" who visit the park online, school-aged visitors, local and out-of-town visitors. 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 climate change.
- Create and distribute previously produced information on climate change and its effects on National Parks in general and on this park in particular.
- Integrate climate change themes into interpretive programs.
    - Integrate Climate Friendly Parks program with school programs using educational kits, wayside exhibits, posters, etc.
- Incorporate climate change information into existing park brochures.
- Incorporate climate friendly information into interpretive programs and talks.
- Educate visitors about their recycling options at the park and at home.
- Create demonstration projects and exhibits to convey park sustainability message to visitors.

## Local Community Outreach

The gateway communities, agencies, vendors, and volunteers surrounding SMMNRA 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:

- Work with the surrounding community to address climate change.
- Host climate change education workshops and lecture series.
  - Focus presentations on climate change priorities and talk about success stories.
- Educate local community about what this park is doing relative to mitigate its actions and adapt to climate change.

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

By taking the actions established in strategies 1 and 2 above, SMMNRA 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, SMMNRA 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.
- The park will track climate friendly actions through the environmental management system.

## CONCLUSION

SMMNRA has a unique opportunity to serve as a model for over 400,000 recreational visitors annually.[8] 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, SMMNRA 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, SMMNRA can reduce its contribution to the problem while setting an example for its visitors. The strategies presented in this Action Plan present a first step towards moving the Santa Monica Mountains National Recreation Area to the network of Climate Friendly Parks.

[8] [Santa Monica Mountains NRA: Park Statistics. Available online at: hptp://www.nature.nps.gov/stats/viewReport.cfm

# APPENDIX A: LIST OF WORK GROUP PARTICIPANTS

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