National Park Service
U.S. Department of the Interior

CLIMATE*Friendly* PARKS

Manzanar National Historic Site Action Plan

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MANZANAR NATIONAL HISTORIC SITE BECOMES A CLIMATE FRIENDLY PARK

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

Manzanar National Historic Site, 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 all of its park operations becoming carbon neutral and becoming members of the Climate Friendly Parks Program by 2010.

This Action Plan identifies steps that Manzanar National Historic Site can undertake to reduce GHG emissions and mitigate its impact on climate change. The plan presents the Park's emission reduction goals, and associated reduction actions to achieve the Park's goals. Strategies and action plan items were developed by working groups at the Mojave Desert and Mediterranean Coast Climate Friendly Parks Workshop.[1] While the plan provides a framework needed to meet the Park's emission reduction, it is not intended to provide detailed instructions on how to implement each of the proposed measures. The Park's Environmental Management System (EMS) will describe priorities and details to implement these actions. The EMS plan and the action plan developed in the Climate Friendly Parks Workshop will be incorporated into all future management decisions in order to meet all Park goals.

Manzanar National Historic Site aims to:

- Reduce GHG emissions from Park operations energy use to 35 percent below 2008 levels by 2016.

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

[1] Original notes from these workshops, including detailed action items not presented in the final plan have been archived by Manzanar National Historic Site 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 Manzanar National Historic Site. 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 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.

At Manzanar National Historic Site, increasing temperatures, and changing precipitation patterns may alter Park ecosystems, change vegetation communities, habitats available for species, and the experience visitors have at the Park. Manzanar is located in the Owens Valley in California, where water has been, and continues to be a critical resource. The Valley, and the city of Los Angeles, relies heavily on the spring runoff from the Sierra Nevada mountain range for drinking water, agriculture, and recreation. Climate change related impacts to Sierra snowpack and water resource availability have the potential to significantly impact Manzanar National Historic Site, as well as the rest of Owens Valley and Southern California.

[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>

GREENHOUSE GAS EMISSION INVENTORY AT MANZANAR NATIONAL HISTORIC SITE

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 (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). Manzanar is a small National Historic Site, with a historic auditorium that has been restored to house the Park's visitor center and staff offices. Electricity generation is the main contributor of GHG emissions at the site, with visitor transportation representing a smaller portion of the overall emissions.

In 2008, GHG emissions within Manzanar National Historic Site totaled 294 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.[3] Thus, the combined emissions from Park operations and visitor activities within the Park are roughly equivalent to the emissions from the energy use of 25 households each year.

The largest source of emissions at Manzanar National Historic Site is from energy use, totaling 194 $MTCO_2E$ (Fig 1 and Table 1). As the majority of Manzanar's emissions result from energy use, most of the Park's efforts will go towards reducing our electricity consumption. This can be accomplished mostly through new technologies, such as use of CFL's and solar energy production in our Interpretive Center. Transportation is the next largest source of emissions, which can be reduced slightly with employee changes in personal and government vehicle use and by leasing vehicles from GSA with improved vehicle emissions technology. However, visitor use emissions will take more study.

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

FIGURE 1

Manzanar National Historic Site 2008 Total Greenhouse Gas Emissions by Sector

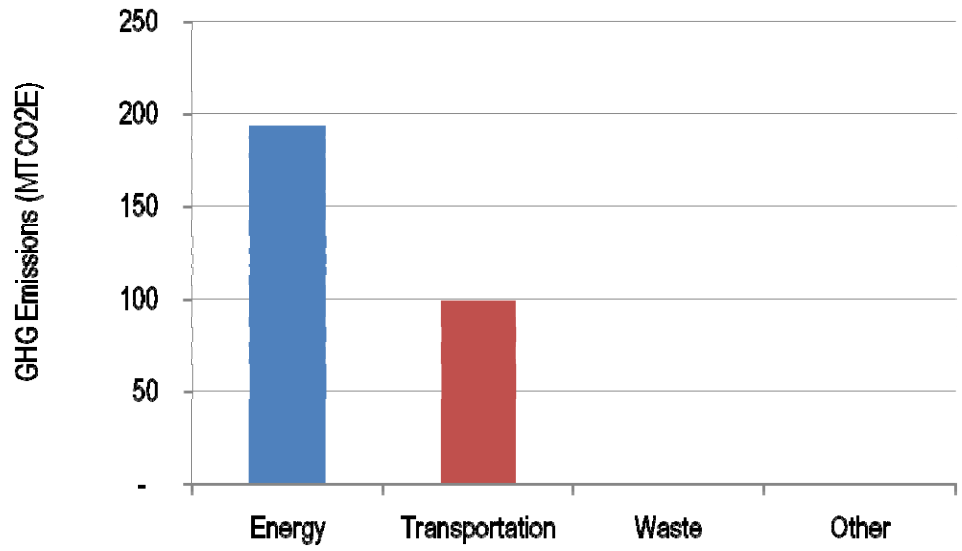

TABLE 1

Manzanar National Historic Site 2008 Total Greenhouse Gas Emissions by Sector and Source

	MTCO2E
Energy	**194**
Stationary Combustion	18
Purchased Electricity	176
Transportation	**99**
Mobile Combustion	99
Waste	**1**
Landfilled Waste	1
Wastewater	-
Other	**1**
Refrigeration and Air Conditioning	1
Total	**294**

Note - Totals may not sum due to rounding

Not applicable data sources represented by "-"

FIGURE 2

Manzanar National Historic Site 2008 Park Operations Emissions by Sector

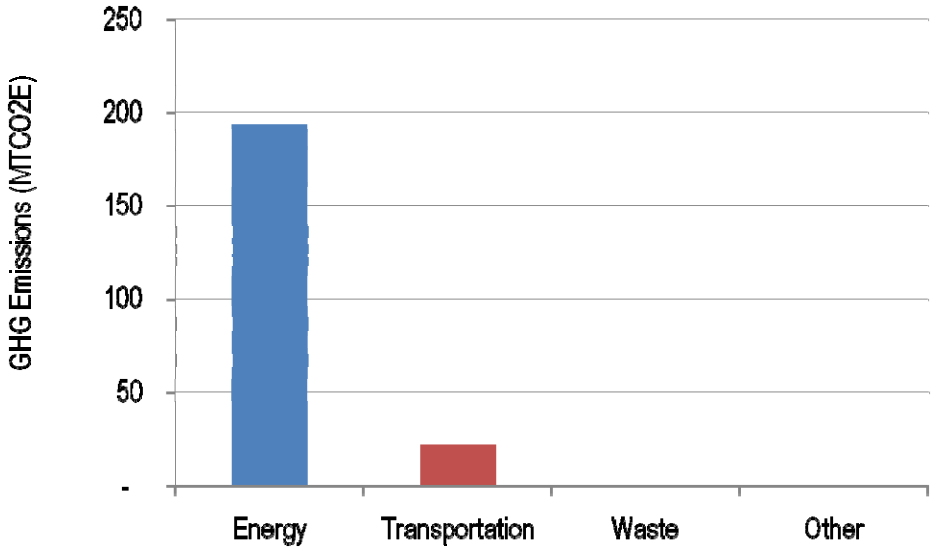

TABLE 2

Manzanar National Historic Site 2008 Park Operations Emissions by Sector

	MTCO2E
Energy	194
Stationary Combustion	18
Purchased Electricity	176
Transportation	22
Mobile Combustion	22
Waste	1
Landfilled Waste	1
Wastewater	-
Other	1
Refrigeration and Air Conditioning	1
Total	218

Note - Totals may not sum due to rounding

Not applicable data sources represented by "-"

Manzanar National Historic Site 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

Manzanar National Historic Site 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 Manzanar National Historic Site 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 35 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 90 percent of the Park's GHG emissions from Park operations are from energy consumption. Consequently, Manzanar National Historic Site 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

- Implementing preventive maintenance program and partnering with Death Valley NP when technical expertise is needed.
- Leveraging stimulus funding to improve insulation in attic of the Interpretive Center.
- Ensuring that all new electronic/office equipment is ENERGY STAR qualified when replacing equipment.
- Incorporating energy-efficiency criteria into contract with Denver Service Center.
- Purchasing only energy efficient electronics.
- Reprogramming dimmer panel.
- Verifying with network IT that all computers have updated power management settings to ensure energy efficient use.
- Leveraging American Recovery and Reinvestment Act funding to design and implement photovoltaic panels upon the roof of the non-historic south wing of the Interpretive Center.

Energy Use Management – Planned Actions

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

- Investigate separate lighting for late workers and smart strips for computers.
- Develop spreadsheet with baseline energy use information to use in a mandatory energy-saving training program implemented during staff meetings.

2 Upgrade lighting options

- Evaluate entire lighting system.
  - Contact Harper's Ferry for consultation in alternative lighting.
- Upgrade existing fluorescent lights to more efficient newest generation.
- Adjust timers on motion sensors in the Interpretive Center, the restrooms, and in the hallway of the office.
- Install glow in the dark sidewalk lighting and ensure that lighting closer to the parking lot is night sky friendly.
- Install solar tubes in non-historic north and south wings of Historic Auditorium.

3 Switch to more efficient electronics and devices

- Purchase double sided copier (network with color) and printer (color) and train staff on its use.
- Purchase and install smart power strips to reduce use of idle energy current.
- Install energy efficient on-demand water heaters.

4 Improve building structures and envelopes

- Rebalance and update the entire HVAC system and develop and implement a maintenance schedule. Rebalancing the HVAC system may include: upgrading air distribution systems, recalibrating thermostats, and ensuring efficient setting and use of the Building Automation System.
- Explore cellular window shades with comfort track to reduce the solar heating load imposed by windows.
- Investigate energy efficient windows to install in historic building.
- Investigate using window films as an alternate to window replacement.

5 Utilize alternative energy sources

- Install photovoltaic array upon roof of non-historic south wing of Interpretive Center during 2010.
- Install photovoltaic array on the Mess Hall and on the irrigation pump.
- Consider the development of geothermal heating systems.

6 Measure energy use throughout the Park

- Work with regional staff to complete an energy audit of all structures in the Park.
- Meter all future block 14 buildings separately and meter each wall receptacle in existing buildings to develop a baseline of energy use.

- Establish a new lease for office and storage space that incorporates energy efficiency requirements.

Transportation Management

Emission Reduction Goal: Reduce Park operations transportation emissions to 35 percent below 2008 levels by 2016.

Reducing vehicle miles traveled, improving vehicle efficiency, and using alternative fuels can significantly reduce Manzanar National Historic Site's emissions. As the inventory results indicate, GHG emissions from transportation comprise 10 percent of Park operations emissions and 34 percent of the Park's overall emissions (including visitors). Accordingly, in addition to the Park operations emissions reduction goal, Manzanar National Historic Site set a goal to reduce overall transportation emissions by 10 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

- Maintaining a fleet maintenance schedule with GSA maintenance.
- Evaluating fleet transportation practices in order to exceed the requirements set by the Federal Energy Management Program (FEMP).
- Prohibiting staff vehicle idling.
- Providing equipment to enable more frequent biking to work by staff including reflective vests, other equipment, electric bike, and solar charged-shower.
- Implementing Park policy for traveling the posted speed limit and educating employees of this policy during orientation.
- Ordering hybrid from GSA.
    - Replace vehicles with hybrid vehicles as necessary.
- Analyzing fleet fuel consumption patterns identified in FAST reports.
- Using webinars and conference calls to reduce meeting travel.

Transportation Management – Planned Actions

1 Transportation-related behavioral changes

- Develop and post signs to reduce visitor idling with energy efficiency message.
    - Investigate pet storage options other than inside idling vehicle.
- Investigate van transportation to enable van-pooling for staff.

- Purchase teleconferencing systems to reduce meeting travel.

2 Reduce visitor vehicle fuel consumption

- Investigate shuttle system transportation to and from visitation and destination areas tied to Manzanar as a stop along the way.
- Investigate purchasing and running an alternative fuel vehicle for the tour route and/or look into local entity to do it as concession.
    - Investigate alternative vehicle for Pilgrimage use between Interpretative Center and cemetery.
- Work with staff at Cabrillo National Monument— they have already completed the installation of an electric charging station—to investigate potential types and standards for charging stations.
    - Implement policy of charging and storing electric vehicles at Mess Hall (utilizing solar power).
- Conduct a visitor transportation study that investigates visitors' point of origin and destination.

3 Reduce NPS vehicle and equipment fuel consumption

- Investigate possibility of requiring all carriers used by vendors (including FedEx and UPS) and Park facilities to be certified under EPA's Smartway Transport Partnership.
- Enforce Park speed limits for visitors and delivery trucks.

4 Replace NPS vehicles and equipment

- Develop a miles per gallon calculation for trips and run a competition that incentivizes increasing miles per gallon.
- Research how right-sizing the Park's fleet could benefit the Park.
- Utilize at least five electric GEM & Think vehicles, and investigate availability of even more efficient vehicles.
- Partner with car companies to encourage the development and donation of alternative fuel vehicles.
    - Work in partnership with other local agencies to research feasibility of alternate fuel vehicles and shared fueling stations.
- Develop signage for all electric cars that conveys messaging that each car is electric and that visitors who would like to charge their electric vehicles may do so at the Park.
    - Display signage on the Think and GEM cars that show the GHG emissions saved by electric cars.

Waste Management

Emission Reduction Goal: Reduce Park operations waste emissions to 40 percent below 2008 levels by 2016 through waste diversion and reduction.

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

Manzanar National Historic Site's Park operation activities emitted 1 $MTCO_2E$ 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 its 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 waste reduction practices in the office.
- Continually increasing the amount of waste material that can be recycled or reused.
- Investigating other locations to take an increased amount of recyclables.
  - (China Lake Naval Air Station and Edwards Air Force Base).
- Investigating with the Washington office (WASO) and Region how a Park is able to recycle or donate old computers and electronics.
- Requesting that employees use their own cups and mugs for water and coffee.
- Including the carbon footprint of shipping into "cost" effectiveness of purchases to ensure that locally produced materials are prioritized.
- Maintaining effective communication for trips to make purchases.
- Investigating installation of easy-to-use recycling containers at the cemetery vault toilet.
- Investigating alternatives to products currently used that have higher recycled materials content.
  - Use post-consumer recycled paper in 100% of paper purchased.
- Installing low-flow faucets throughout the Park.
- Developing and delivering periodic trainings on green procurement practices for interested staff.
  - Utilizing bio-based products when available and buy items in bulk when possible.
- Implementing and enforcing a Construction Waste Management Plan and Job Site Recycling Policy with the Denver Service Center.

- Continuing to investigate ways to conserve water.
    - Research automated drip system for those orchard trees that are being watered by water buffalo.
- Informing contractors of policies regarding the re-use of all materials when possible.
- Sending used fluorescent light bulbs to the recycling center and documenting the number recycled.
- Researching local recycling options to reduce carbon footprint created by driving recycling materials long distances.
    - Instituting alkaline and lithium battery recycling locations.
- Inventorying and substituting all cleaning supplies with non-toxic products.
    - Ensuring that all cleaning products are bio-based and that new staff is oriented in the use of these products.
- Measuring and documenting in the Sustainable Practices Report the baseline solid waste generation at the Park.
- Using low/no-VOC insulation materials, carpets, paints, adhesives, etc., when possible.
- Establishing purchasing requirements for computers, fax machines, printers, scanners, and other office equipment.
- Reducing the use of plastic water bottles at Pilgrimage by using filling stations.

Waste Management – Planned Actions

1 Decrease waste through behavior change

- Develop Integrated Solid Waste Alternatives Plan (ISWAP) and incorporate messaging about waste policies into an orientation packet that is created for staff.
    - Communicate waste policies and practices during all staff meetings.
- Work with Denver Service Center to ensure that contracts include stipulations for staff to reduce waste, recycle, and compost, and that contractor staff are aware of these policies.
- Research vendors that carry recycled content products and promote the use of these vendors to any staff making purchases on behalf of the Park.
- Investigate the effectiveness of using electronic communication and/or printing to educate employees about green office practices including double sided printing and copying, office supply reuse, electronic correspondence procedures, electronic file storage, and elimination of colored paper.
    - Train employees how to program default printing to double-sided, with optional printing of 2 pages per side.
    - Purchase a small printer for Maintenance office.

2 Establish new plans and policies that promote waste reduction.

- Investigate use of forced air hand dryers in all restrooms instead of paper towels.
- Supply employees and training participants with water bottles to reduce number of plastic bottles, cups, and mugs used.
- Work with concessioners to ensure that they purchase products that minimize packaging and draft letters to companies who "over-package" to recommend they reduce the waste.
- Utilize GSA Xcess.
- Use the government-wide "E-Bay" to get rid of excess equipment, and take steps to make inter-park trades to reduce waste.
- Integrate documentation of the baseline and subsequent tracking and reporting of solid waste data into the Environmental Management System report.
- Purchase equipment to reduce volume of waste and recyclables.
- Encourage visitors not to take bags or receipts after purchases.
  - Encourage the Manzanar History Association to purchase medium-sized bags.
  - Encourage the Manzanar History Association to sell cheap canvas bags.
- Create signage for dumpsters that include illustrations of what is appropriate to recycle in each container.
- Publicize the fact that visitors should bring their own water bottles.

3 Implement recycling and composting practices

- Investigate possibility of utilizing staff "home" materials to assist with composting (low nitrogen content in soil). Utilize the historic idea of gardens to interpret this practice.
- Encourage NPS to alter the policy regarding recycling and donating electronics as it stands for parks.
- Ensure that the vehicle service shops that the Park uses utilize recycled oils.
  - Publicize the fact that the Park will only use auto shops that use recycled oil and coolant, etc.
- Assign at least one full time person to act as a Park recycling leader/manager.

4 Reduce waste through green procurement

- Ensure that Denver Service Center contractors are following green procurement practices as appropriate.
- Develop a list of pre-purchase questions for the Park based upon input from staff and partnering with other parks and regional representatives.
- Develop a catalogue of sustainable products for purchasing department based upon input from staff, and partnering with other parks and regional representatives.

- Research toner cartridge alternatives.

5 Reduce and reuse wastewater

- Investigate implementing water-less urinals.
- Investigate parking lot drainage and relationship to "leakage" from vehicles to reduce contamination of drainage stream.

STRATEGY 2: INCREASE CLIMATE CHANGE EDUCATION AND OUTREACH

Climate change is a complex and easily misunderstood issue. Manzanar National Historic Site 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. Manzanar National Historic Site 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 Manzanar National Historic Site 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

- Distributing previously produced information on climate change and its effects on national parks in general and on the Park in particular.
- Considering the local economy in procurement and other areas.
  - PV project for Interpretive Center would utilize local installer.
- Holding internal Climate Friendly Parks discussions and workshops.
- Continue to brainstorm ways of integrating the science and impacts of climate change into park education tools that relate to enabling legislation and the Long Range Interpretive Plan and Cultural Landscape Report.
- Partnering with non-governmental organizations and local governmental agencies to discuss and develop climate change mitigation and education initiatives.

Park Staff

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

Developing a climate change education program for Park staff is vital to increasing awareness about climate change among Park visitors and fostering a sense of collective responsibility among staff to help reduce Park emissions. By incorporating climate change education into staff development programs, Manzanar National Historic Site 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 Park climate change policy memorandum that establishes and promotes the Park's position on climate change and empowers staff to take action on the topic.
    - Park Green Team should draft the policy for Superintendent's approval.
- Encourage staff to use "Do Your Part!" and "My Green Office" online activity.
    - Include the Manzanar History Association in the challenge.
- Create visual reminders for Park employees regarding climate change and how employees can help reduce emissions.
    - Develop and install interpretive signs in restrooms describing how much "we" are saving with the changes "we" are making. How "you" can do more.
- Increase communications about climate friendly management of the Park and outreach with interpretive staff.
- Establish a Green Team.
- Start a climate change employee brown bag series and develop an inventory of archived seminars.
    - Incorporate as a mandatory topic in addition to health, wellness, and safety during Maintenance staff meetings.
- Develop an employee handbook incorporating both climate change information and the current safety orientation information into it.
- Incorporate sessions on climate change into seasonal and new staff training.
- Develop intranet pages to inform staff about climate friendly actions and incorporate into newly developed intranet site.

Visitor Outreach

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

Manzanar National Historic Site staff recognize the many different audiences that visit the Park, including recreational and non-recreational Park visitors, school-aged visitors, local and out of town visitors, local tribes, external audiences, and "virtual visitors" who visit the Park's website. 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 actions to reach these various audiences effectively. These actions include:

- Design a panel in block 14 and/or design for the Park's website a 1942 barrack's use vs. 1945 barrack's use vs. today's usage in a home.
- Incorporate climate friendly information into interpretive programs and informal interpretive contacts.

- Messaging can include the following topics: WWII conservation message; water conservation efforts in our orchards and guayule patch; solar demonstration at mess hall; exhibits at areas where solar power is produced and/or charging stations are used.

- Develop signage with illustrations for recycling.
- Investigate ways to incorporate recycling messaging into programs.
- Incorporate Climate Friendly Parks message into the 1610 AM Radio Traveler Information System and develop a podcast message regarding recycling and options at the Park and at home.
- Develop a solar demonstration at Mess Hall and Interpretive Center. Distance learning via webinars for not only Climate Change but our “Japanese internment camp sustainability stories" message.
- Develop a “Do Your Part!” program for online visitors, visiting school groups, and local schools.
- Create a sign and/or wayside about what the Park is doing to reduce GHG emissions, such as installing solar panels.
- Investigate the incorporation of climate change information into the next update of Park brochures.
- Design and produce signs for "no idling,” charging electric vehicles, recycling with illustrations and promoting solar on Interpretive Center.

Local Community Outreach

The gateway communities, agencies, vendors, and volunteers surrounding Manzanar National Historic Site 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:

- Partner with Santa Monica Mountains NRA (the other NPS Los Angeles Department of Water and Power [LADWP] customer) on solar power production in Owens Valley.
- Partner with other land management agencies and private organizations to engage surrounding near and distant communities about the issue of climate change and how to address it.
    - Evaluate current staff loads and work with staff on how to incorporate the "Japanese internment camp sustainability story" into climate change.
- Host community presentations to engage the local communities about ways to reduce GHG emissions. Partner with local agencies on these community programs.
- Include community members in climate change discussions. Bring up what the Park is doing at meetings of the Inyo Associates.
    - Partner with other agencies and approach the county supervisors with information.
    - Work with the local community to host an event in which the Park gives a special presentation on the science of solar energy.

- Encourage Manzanar History Association to use recycled paper.
- Set up booth at Bishop's Earth Day event and invite other NPS units in the area to join us.
- Research partnering with other agencies to "take the lead" on recycling.
    - Change the Owens Valley attitude toward community recycling.

STRATEGY 3: EVALUATE PROGRESS AND IDENTIFY AREAS FOR IMPROVEMENT

By taking the actions established in strategies 1 and 2 above, Manzanar National Historic Site 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, Manzanar National Historic Site 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

Manzanar National Historic Site has a unique opportunity to serve as a model for over 78,000 recreational visitors annually.[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, Manzanar National Historic Site 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, Manzanar National Historic Site 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 Manzanar National Historic Site to the forefront of Climate Friendly Parks.

[4] Manzanar National Historic Site: Park Statistics. Available online at: http://www.nature.nps.gov/stats/viewReport.cfm

APPENDIX A: LIST OF WORK GROUP PARTICIPANTS

Les Inafuku	Park Superintendent
Troy Strawn	Acting Facility Manager
Nancy Hadlock	Park Ranger
Mark Hachtmann	Park Ranger