



SCIENCE

ADAPTATION

MITIGATION

COMMUNICATION

Glacier Bay's Award Winning Recycling Program

If you live in a remote community, recycling, other than maybe aluminum cans, is impossible, right? Think again! Glacier Bay National Park and Preserve's recycling program is a shining example of how much recycling can be done in a remote site, if the desire and dedication is there.

Glacier Bay National Park and Preserve's facilities at Bartlett Cove consist of park administrative facilities, employee housing, a lodge/hotel, boats, docks, a fuel farm, water and sewage treatment plants, onsite power generation and paved roads. In other words, they have everything you would find in a small city. However, Glacier Bay and the nearby community of Gustavus (8 road miles from Bartlett Cove) do not have road access to the rest of the world. Access is only available by boat or air and shipping costs to the rest of the state are prohibitively expensive.

In the fall of 2009, the park received an EPA Federal Green Challenge award for an increase in their diversion rate (the percentage of waste that is diverted from a landfill by recycling or composting) of 8.3% over their 2008 rate. That would be impressive enough but the real story is that the diversion rate in 2009 was 59.4%. Diversion rates of this magnitude are a huge accomplishment and they have been achieving rates of over 40% since 2004. By comparison, the estimated average diversion rate in municipalities around the United States is around 32% and most of these cities are much closer to the recycling markets and shipping costs are many times less than in Glacier Bay. In

Anchorage the diversion rate is around 16%, due at least in part to the fact that the shipping cost can exceed the market value for many recyclables.



In addition to an increasing waste diversion rate, the park's overall waste stream volume has decreased over the years. This can be attributed to less wasteful procurement practices.

Glacier Bay recycles anything that can be recycled at their "Depot" facility and they constantly strive to recycle more types of waste. A complete list of what they currently recycle would be very long. In the administrative facilities and housing areas, recyclables are sorted by the park staff and residents and collected separately. Recycling bins are found throughout Bartlett Cove. Still, a certain percentage of waste from visitors and users of the park's boat docks is mixed. Dean Waguespack, the park's Recycling Coordinator, hand sorts through bags of this mixed waste and retrieves all recyclables possible.

Glass is crushed by the park and used as fill at the depot or anywhere else that fill is required. Aerosol and propane canisters are punctured, the hazardous contents are safely filtered out and the metal cans are recycled as scrap metal. The can puncturing is a real money saving operation, as the cost to dispose of one unpunctured can is around \$15!

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Above: Caution, icy conditions may not exist for this polar bear in the future due to the effects of climate change. Photo courtesy of Bruce Noble, private collection.

Monthly Climate Change Webinar Series

*Notice: This month's Webinar will be held on WEDNESDAY at 1:00 pm EST.

**Next Webinar: Feb 10th, 2010
From 1:00 pm - 3:00 pm EST**

February's presentation will feature Dr. Nathan Stephenson, Director of the USGS's Sierra Nevada Global Change Research Program, stationed at Sequoia Kings Canyon National Parks. This will be Dr. Stephenson's second time as a guest lecturer with the climate change webinar series. He will be presenting as a part of a three day TELnet event exploring climate change communication practices in the NPS. Anyone can register for a part of or the whole event on DOI Learn.

Nathan is particularly interested in effects of rapid climatic changes on forests, and how protected areas managers can adapt to an uncertain, but certainly unprecedented, future.

We will return to our regular THURSDAY schedule in March.

Find previous webinars available for viewing at:

<http://nrpcsharepoint/climate-change/communication/Web%20Seminars/Forms/AllItems.aspx>

NATIONAL PROGRAM UPDATES

Please Welcome the Newest Members of the CCRP Team; from Kenai Fjords NP Jeff Mow and from Olympic NP Cat Hawkins Hoffman



Jeff Mow

Understanding the policy implications of adaptation strategies and day to day management decisions of park managers will be essential in an era of climate change.

There are many potential conflicts between decisions to manage for climate change resiliency and decisions to manage for many of the heritage resources under our care. Jeff Mow, superintendent at Kenai Fjords National Park, has joined the CCRP team to develop a framework to address the policy issue implications of managing for climate change and to provide some basic guidance that will be useful for managers in the field. With the need to engage with partners at the landscape scale, there is a need for additional clarification on such topics as: our ability to maintain natural conditions, assisted migration, and bio sequestration of carbon. Jeff will be initiating a policy working group that will apply themselves to these issues and provide interim guidance. To that end Jeff is interested in learning about specific examples from parks in which current policy may not be providing adequate guidance.

Glacier Bay Recycles Cont'd

In addition to the collection of recyclables at the park, a key component of Glacier Bay's success is the recycling facility in the community of Gustavus. Several years ago, the park worked with the community to acquire key equipment, such as a bailer, to compact and bundle recyclables into a form that is considered a commodity in the



Cat Hawkins Hoffman

Providing guidance to parks on adapting to actual or expected climate change is one of the Climate Change Response Program's four components of the draft response strategy. To accelerate this effort, Cat Hawkins Hoffman of Olympic National Park has begun a 90-day detail with the CCRP in Fort Collins, Colorado. Developing adaptation strategies and scenario planning will be critical for parks to navigate through the changing landscapes and new vulnerabilities that they will be presented with. Examples of actions may include revising stream flow averages and determining what species may be threatened by such a shift, or changing park visitor services should snowmelt occur earlier. Cat will be helping to build the framework for climate change adaptation—linking with ongoing monitoring, involving scientists, natural and cultural resource managers, facility managers and engaging agency partners.



recycling market. Bundling also reduces volume to reduce shipping costs. The community also composts all food waste for a fee and provides free compost to residents for their gardens. All recyclables and compostables from the park are hauled to this facility and they are charged a fee for the service. Working with a local community is key to ensuring that a recycling program is as efficient and economically viable as possible.

While challenges to recycling are numerous in remote locations, these challenges can be overcome. Glacier Bay has certainly raised the bar in regards to what a remote facility can accomplish.

Contact: Dean_Waguespack@nps.gov

Glacier Bay's Recycling Coordinator, Dean Waguespack, hand-sorts mixed waste and retrieves all recyclables possible, NPS photo.

REGIONAL UPDATES

Climate Change Collaboration in the Pacific Northwest



The NPS has joined forces with 13 other Federal Agencies in the Pacific Northwest to form a grass-roots climate change group known as C³ (Climate Change Collaboration).

C³ integrates, organizes and focuses the federal family's effort when it comes to climate change in the region. C³'s efforts are focused in Idaho, Oregon and Washington.

Key to the success of C³ is the pursuit of activities that are coordinated and avoid duplication of similar national or regional efforts; remain relevant into the future; are sustainable and manageable; and assist federal entities in meeting their current and future needs and responsibilities regarding climate change.

Recently, C³ members reached consensus on four interagency projects to pursue: 1) Comparison of Existing Policy/Guidance (e.g., NEPA, section 7); 2) Defining Time and Scale for Climate Change Analysis of Investments and Projects; 3) Inventory of Research, Tools, Assessments, Downscaled Global Climate Models, etc., related to the Pacific Northwest; and 4) Education/Outreach, develop-

NCSE Workshop Summary

The National Council for Science and the Environment (NCSE) held their 10th national conference on Science, Policy, and the Environment: The New Green Economy, on Jan 20th-22nd, 2010. Julie Thomas McNamee from Air Resources Division represented the NPS and hosted a session at the conference. Julie reports that a highlight of the conference was a panel discussion held the first day in which the speaker gave an example of "changing the defaults" to get people's behavior to be more green. The example was new employees in a company who were not signing up for the retirement program. Personnel decided to change the default question on the form, so that an employee would have to check the box to NOT sign up for the retirement program. Participation went

from 20 percent to about 80 percent. The point of this example was if we want people to change, we need to change their default.

National Capital Region and Northeast Region

NCR and NER participated in conference calls during January in an ongoing process of setting up the organizational structure and governance of the North Atlantic Landscape Conservation Cooperative. Current plans for this interagency cooperative are that US Fish and Wildlife will hire a NA LCC Coordinator GS-13/14 located in Hadley, MA; 30 days after that hire, a Science Coordinator GS-13/14 will be advertised. These two positions will get the NA LCC off to a good start for developing administrative processes and prioritizing projects to address climate change impacts and issues of the parks and refuges.

To read the development and operations plan (38 pages) go to <http://www.fws.gov/northeast/climatechange/pdf/NorthAtlanticLCCfinal.pdf>

A brief fact sheet is also found at [http://www.fws.gov/northeast/climatechange/pdf/NA-LCCfactsheet\[1\].pdf](http://www.fws.gov/northeast/climatechange/pdf/NA-LCCfactsheet[1].pdf)

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Examples like this can be a powerful catalyst when developing practical sustainable action plans within national parks. If we can make sustainable actions the path of least resistance, it can become automatic for people to do the sustainable thing. As an agency we can define the existing defaults, examine where they are not sustainable, and begin to redefine sustainable defaults. People still have freedom to choose, but choosing actions other than sustainable, 'green economical' ones will better reflect their true costs.

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Upcoming Workshops & Meetings

Earth to Sky hosts the fourth annual workshop on Communicating Climate Change, at Mather Training Center in WV on February 1-5, 2010.

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EPA's Office of Water, Office of Air and Radiation, and Region 4 office are co-hosting the Southeast Adaptation Workshop in Atlanta, GA on February 2-3, 2010.

http://epa.gov/region4/clean_energy/conferences.html

Mid-Atlantic Climate Change Workshop NER, in Cambridge, MD on March 23-25, 2010.

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I&M will host two workshops this spring that will focus on monitoring ecological response to climate change. Arid Lands Parks in Tucson, AZ on April 6-8, 2010 and High Elevation Parks in Bozeman, MT on May 4-6, 2010.

http://www.greateryellowstonescience.org/CC_workshops

Great Basin / Mojave Desert Climate Change Workshop at University of Nevada, in Las Vegas, NV on April 20-22, 2010.

<http://www.wr.usgs.gov/workshops/>

Greater Yellowstone Climate Change Workshop at Mammoth Hot Springs Hotel, Yellowstone NP on October 11-13, 2010.

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More Information

This newsletter is a monthly forum to share the latest news relating to NPS efforts to manage our parks in a changing climate.

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Request for Photos

In addition to summaries of work, the CCRP is looking for your best photos that demonstrate some aspect of climate change adaptation, mitigation, or communication. A different photo will be highlighted on the front page of this newsletter each month.

Comments, Submissions:
Angie_Richman@nps.gov

Department of Defense Resource Newsletter

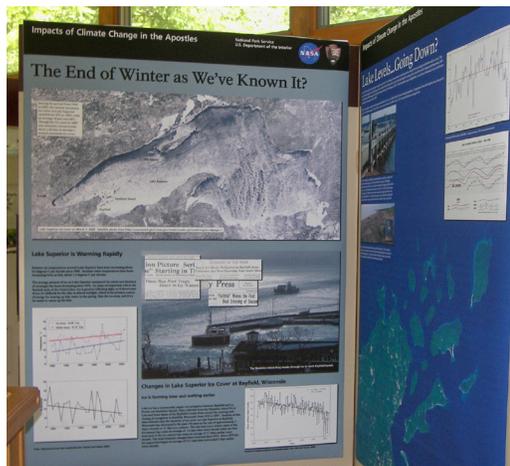
The January 2010 issue of the Legacy Resource Management Program newsletter looks at how the Defense Department will address climate change.

Check it out at:
<https://www.dodlegacy.org/Legacy/News/Newsletters.aspx>

PARK UPDATES

Climate Change Exhibit at Apostle Islands National Lakeshore

A new temporary exhibit about climate change was installed at Apostle Islands National Lakeshore's Stockton Island visitor center in June 2009. The exhibit is composed of a series of four panels describing the evidence of global change, the impacts of climate change in the Apostle Islands, and actions the public can take to limit impacts of climate change. It was designed by Neil Howk, the park's Assistant Chief of Interpretation and Education, and is a partnership between the National Park Service and NASA's "Earth to Sky" project (<http://www.earthtosky.org>) Or Contact: Neil_Howk@nps.gov



Climate Change exhibit at Apostle Islands NL, NPS photo.

Gateway National Recreation Area Climate Change Report Released

In coordination with park staff, Columbia University released the Gateway National Recreation Area, Long-term Resource Management Under a Changing Climate report. At Gateway, climate change adaptation means increasing ecosystem resilience and protecting cultural and recreational resources from damage or loss. "The park's new General Management Plan is the ideal opportunity to incorporate climate change considerations into planning and decision-making," said Gateway NRA Superintendent Barry T. Sullivan. "The options for an adaptation strategy outlined in the report are an initial framework from which we can build." Implementing an adaptation strategy can help Gateway fulfill its mandate to continue to preserve and protect the park's natural and cultural resources for future generations. This, of course, is an ongoing effort that will span the efforts of both current and future generations, but hopefully the groundwork that is now being established will help prepare the park for the changes that many believe are inevitable.

Park website where document is located:
<http://www.nps.gov/gate/naturescience/index.htm>
Direct link to pdf:
http://www.nps.gov/gate/parknews/upload/2009_GATE_StateofthePark_FINAL.pdf
Contact: Jane_Ahem@nps.gov

Working Group Highlight - Communication

Permanent Communication Specialist Position with CCRP

The CCRP is seeking qualified individuals to apply for the recently opened permanent GS-11/12 Communication Specialist position. This is a key position for CCRP – this specialist will ideally have a background in both interpretation and science, will participate in and support the service-wide effort regarding climate change, and provide guidance and leadership on all aspects of internal and external communications relating to climate change and its impacts to NPS resource, facilities, and visitor experience. This position will be stationed in Fort Collins, CO. The full job announcement can be found on the USAJOBS website, the closing date is Monday, February 8th 2010. Contact: Leigh_Welling@nps.gov

Climate Change Communication Guide

The Center for Research on Environmental Decisions has recently released a useful guide on developing effective climate change messages. The book titled, "*The Psychology of Climate Change Communication*," is full of old and new tips on how to best share your climate change message. The guide can be downloaded in its entirety at: <http://cred.columbia.edu/guide>