



GreenLine

How Did We Do? 2007 & 2008 Environmental Audit Update

Each year the NPS Concession Program conducts a series of environmental audits of many concession operations throughout the NPS. The main focus of these audits is to identify:

- Areas of non-compliance with environmental regulations, Department of the Interior (DOI), NPS and park-specific policies, and concession contract requirements;
- Areas where Best Management Practices (BMPs) can be implemented; and
- BMPs and Exceptional Practices that concessioners already have in place.

During calendar year (CY) 2007, the NPS Concession Program conducted 27 baseline environmental audits and three routine audits in ten national parks.

Environmental Audit Terms to Know

Category I contracts allow a concessioner to operate on assigned land or in a government building and construct capital improvements on park land.

Category II contracts allow a concessioner to operate on assigned land or in a government building.

Category III contracts allow a concessioner to operate on park property but no land or government buildings are assigned.

Priority 1 Findings are instances where immediate actual or potential harm to human health or the environment is identified.

Priority 2 Findings are non-conformances with laws and regulations that do not pose an immediate threat to human health or the environment.

Priority 3 Findings are non-conformances with DOI, NPS, or park policy; or the concession contract. Priority 3 findings are not required to be closed.

Priority 2 and 3 Isolated Findings:

These findings have the same degree of severity; however, isolated findings are instances of non-conformance that are not pervasive throughout the concession operation and are not representative of a larger, programmatic issue.

BMPs are voluntary actions that can improve environmental management through pollution prevention and proactive planning, helping concessioners move towards sustainability.

Exceptional Practices are outstanding practices adopted by a concessioner.

There were nine Exceptional Practices at five concession operations identified during CY2007.

- DNC Park & Resorts, Yosemite National Park
- O.A.R.S., Inc., Grand Teton National Park
- Aviator Sports and Recreation LLC, Gateway National Recreation Area
- Guest Services, Inc., National Mall and Memorial Parks
- Belle Haven Marina, George Washington Memorial Parkway

Exceptional Practices. Of interest is the fact that Category I and II contracts had mostly findings (60%) and 40% BMPs, while Category III contracts had mostly BMPs (70%) and 30% findings. A relationship between the type of contract and number of findings and BMPs is understandable considering that Category I

and II contracts have the potential to have more impacts on the environment and thus are required to comply with more environmental regulations and/or contract requirements.

The breakdown of findings per contract type can be found in the table below.

Improvements for the 2008 Audit Season

In December 2007, the NPS Concession Program convened an audit working group to brainstorm innovations in procedures that would enhance the benefit of the audit experience for concessioners, parks, and NPS employees. Representatives were invited from several NPS regions and parks to provide feedback and discuss ideas for improving audits.

The working group proved to be a successful process and, as a result, several improvements have been adopted by the NPS Concession Program for the 2008 Environmental Audit season. These improvements include:

- Providing clearer distinctions in the audit process for Category I, II, and III contracts;
- (continued on page 6)*

Type of Contract	# of audits	# Priority 2 findings	# Priority 3 findings	# BMPs recommended
Category I	10	181	71	165
Category II	4	70	32	74
Category III	16	6	30	89

2007 Audit Season in Review

Audits taking place in CY 2007 identified zero Priority 1 findings, 257 Priority 2 findings, 133 Priority 3 findings, 328 BMPs, and nine



? *I work for a concession operation in a National Park and believe that making small lifestyle changes to reduce my environmental footprint leads to big impacts in the world. I notice that my coworkers do not often feel the same way as I or do not have the motivation to make change. How can I get my coworkers involved and demonstrate that they can make the world a better place?*

Dr. Ima Park: Carbonrally.com may be just the website for you and your coworkers, friends, and family. Through Carbonrally, you take a pledge to make small changes to reduce your environmental footprint by reducing your carbon emissions. Thousands of individuals around the country have already signed up. It is free and FUN! While you can individually join Carbonrally I would suggest

starting a Carbonrally Team and getting your coworkers involved. The team picks a logo, team name, and can post comments to one another on an electronic discussion board. Every few weeks Carbonrally.com posts a Featured Challenge that your team can accept or not. If the Featured Challenge does not suit your teams needs you can sign up for another challenge. The goal is to have as many team members accomplish the challenge to raise your team score and reduce your team's carbon dioxide (CO₂) emissions. Team scores and reductions in CO₂ emissions are reported on the website and a U.S. map shows where each team is located and how each team is making the environment a better place. For more information, visit www.carbonrally.com.



Everglades National Park, Florida

GreenLine

GreenLine is an official publication of the National Park Service Concession Program. The newsletter provides a forum in which the NPS can share information with NPS staff and concessioners about the NPS Concession Program, current environmental requirements, and best management practices; it also identifies resources available to improve concessioner environmental performance and highlights success stories.

Guest articles have been reviewed by the NPS Concession Program and, if required, edited in collaboration with the original author.

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Notice: This newsletter is intended as an educational tool for businesses providing visitor services in national parks. Every effort has been made to ensure the information presented is accurate. However, the content does not constitute a complete reference to Federal, state, or local laws nor does it constitute National Park Service rulemaking, policy, or guidance. Relying solely on the information in the newsletter will not guarantee compliance with applicable regulations. Strategies, procedures, and proposed solutions for compliance issues should be discussed with the appropriate Federal, state, and/or local regulatory agencies; it remains the sole responsibility of operators to determine compliance with regulations. Inclusion in the newsletter is not an endorsement of a particular operator, product, or strategy.



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Real Quantifiable Results

As concessioners operating in National Parks, many of you recognize the importance of good environmental management and have made changes to your operation, equipment, and improved the overall management of your business. But what exactly does all that change mean to the environment? What are the real benefits and results? To help you figure it out, the Environmental Protection Agency (EPA) and other organizations have web-based tools that turn your raw data into results that are easily understood by your guests and customers.

EPA Web-Based Tools

- **Recycled content (ReCON) Tool:** Estimates the life-cycle greenhouse gas (GHG) and energy impacts of purchasing certain materials and calculates the GHG and energy benefits of increasing the recycled content of specific materials.
- **GHG Equivalences Calculator:** Calculates quantities of GHG in metrics that include number of cars, gallons of gasoline, acres of forest, etc.
- **Waste Reduction Model (WARM):** Estimates the impacts of solid waste management practices and compares the GHG impact of landfilling, recycling, composting, and incinerating waste.
- **Durable Goods Calculator:** Measures GHG implications of disposing of 14 common consumer materials such as re-

frigerators, carpet, televisions, and personal computers.

- **National Recycling Coalition Environmental Benefits Calculator:** Provides metrics for recycling aluminum, paper, glass, and plastic.
- **Northeast Recycling Council's Environmental Benefits Calculator:** Provides recycling data in various metrics including savings in oil and gas consumed and prevention of water pollution.

How to Share Your Results

Once you have entered your data into one or more of the above websites and obtained results, communicate the results internally to company employees and externally to park guests and park employees. Display a sign or poster board in a well-trafficked area noting your results to-date. Incorporate the results into promotional materials and the company website. Be proud of the accomplishments, share them with stakeholders, and continue on the path towards sustainability.

Resources

EPA Climate Change Tools: www.epa.gov/climatechange/wycd/waste/tools.html.

Example: Cathy's Café located in Mountain National Park had 10 company-owned vehicles. Through carpools and other modes of transportation, Cathy's Café reduced its fleet to six vehicles. Cathy used EPA's Greenhouse Gas Equivalences Calculator and entered in a reduction of "4" vehicles.

Result: Cathy's Café saved 21.8 metric tons of Carbon Dioxide (CO₂) from being emitted into the air. 21.8 metric tons of CO₂ is equivalent to CO₂ emissions from using 51 barrels of oil, or CO₂ emissions from burning almost 2,500 gallons of gasoline!

By Order of the President

Presidential Executive Order (EO) 13423, *Strengthening Federal Environmental, Energy, and Transportation Management* was signed by President George W. Bush in January 2007. It replaces almost all previous EOs related to the environment. This EO is unique in that it specifies goals that the Department of the Interior (DOI), NPS, and other federal agencies have to meet.

Under the EO, the NPS has the authority to decide whether any of the goals will apply to concessioners. These goals may be required in applicable concession contracts.

Meeting EO Goals

In March 2007, instructions were issued for implementing the goals of EO 13423. The table below summarizes the goals and what actions agencies (e.g., DOI, NPS) will take to meet the goals.

Concessioners should review their NPS contracts and talk with their Park Concession Specialist to determine whether they are required to comply with EO 13423 and its implementing instructions.

Resources

- EO 13423: www.whitehouse.gov/news/releases/2007/01/20070124-2.html
- Instructions for Implementing EO 13423: www.fedcenter.gov/Documents/index.cfm?id=6825

Category	EO 13423 Goal	DOI and NPS Required Actions
Energy	<ul style="list-style-type: none"> • Improve energy efficiency and reduce greenhouse gas emissions 30 percent by the end of fiscal year (FY) 2015 • Obtain at least half the renewable energy currently purchased from new¹ renewable sources • Implement renewable energy generation projects • Enable the ENERGY STAR® feature on computers and monitors 	<ul style="list-style-type: none"> • Provide funding for projects related to efficient energy use • Install solar and geothermal systems • Meter federal buildings for energy use • Conduct energy audits of federal property • Meet ENERGY STAR® Building criteria and use the ENERGY STAR® Portfolio Manager • Follow Labs21 program for laboratories • Purchase energy from high-efficiency, low-carbon-emitting sources
Water	Reduce water consumption intensity ² two percent annually through FY 2015 or 16 percent by the end of FY 2015	Purchase WaterSense® labeled products and work with contractors who are certified under the WaterSense program
Environmental Purchasing	<ul style="list-style-type: none"> • Acquire biobased, environmentally preferable, energy-efficient, water-efficient, and recycled-content products; • Use paper with at least 30 percent post-consumer recycled content 	<ul style="list-style-type: none"> • Follow the Environmental Protection Agency's (EPA's) Guidance on the Acquisition of Environmentally Preferable Products and Services • Purchase energy-using equipment that does not use more than one watt of standby power.
Pollution Prevention and Toxic Reduction	Reduce the quantity of toxic and hazardous chemicals and materials acquired, used, and disposed	<ul style="list-style-type: none"> • Develop goals to reduce the release and use of toxic and hazardous chemicals • Use alternative to ozone-depleting substances that are approved by EPA's Significant New Alternatives Policy (SNAP) program
Electronic Stewardship	<ul style="list-style-type: none"> • Acquire, where feasible, electronic products that are Electronic Product Environmental Assessment Tool (EPEAT) registered • Implement policies to extend the useful life of electronic equipment and use environmentally sound practices to dispose of equipment 	<ul style="list-style-type: none"> • Become members in the Federal Electronics Challenge • Develop an Electronics Stewardship Plan • Purchase longer life cycle electronics • Implement life-cycle management practices to reduce energy and prolong useful life
Waste and Recycling	Increase solid waste diversion and maintain cost-effective waste prevention and recycling programs	<ul style="list-style-type: none"> • Establish an Agency-level waste diversion goal to be achieved by December 31, 2010 • Establish and maintain waste prevention and recycling programs at all federal facilities • Meet a 35 percent recycling goal
Sustainable Building and Construction	<ul style="list-style-type: none"> • Ensure new construction and major building renovations comply with the Guiding Principles for Federal Leadership in High Performance and Sustainable Buildings (Guiding Principles) (see <i>The NPS is LEEDing the Way in Sustainable Building Design</i>, <i>GreenLine</i> Newsletter Vol. 6 Issue 2); • Ensure 15 percent of existing buildings incorporate sustainable practices in the Guiding Principles by FY 2015 	<ul style="list-style-type: none"> • Meet or exceed goals in Guiding Principles for new construction and renovation projects • Submit an annual plan on how the Agency will meet the Sustainable Building and Construction goals
Vehicle Fleet Management	<ul style="list-style-type: none"> • Reduce fleet consumption of petroleum products two percent annually through the end of FY 2015 • Increase non-petroleum fuel consumption 10 percent annually • Use plug-in hybrid (PIH) vehicles when commercially available and feasible 	<ul style="list-style-type: none"> • Reduce miles traveled by using videoconferencing, trip consolidation, and mass transit • Purchase higher fuel economy vehicles • "Right-size" the fleet by selling off unneeded and low-fuel-economy vehicles • Use synthetic tires, rolling resistant tires, and other energy efficiency strategies

¹ New renewable sources means sources of renewable energy placed into service after January 1, 1999

² Water intensity is a measure of water use and economic output



Reducing Carbon Emissions One Oar at a Time

Outdoor Adventure River Specialists, better known as O.A.R.S., has been a leader in environmentally and culturally responsible adventure travel since it launched into the Colorado River in 1969 as the first exclusively oar-powered rafting company in the Grand Canyon. Recently, O.A.R.S. has been leading the way towards carbon neutral travel, a goal the company has been pursuing since 2005.

O.A.R.S.'s commitment to the environment is illustrated in the company's mission statement, which "encourage(s) and actively support(s) awareness, deeper appreciation, and preservation of our rivers and natural ecosystems. [Our] trips are great adventures that emphasize heightened attentiveness to human impact on the environment." Beginning in 2005, O.A.R.S. founder, George Wendt, decided that being a leader in sustainable travel required a commitment to reducing the company's greenhouse gas emissions.

One way that O.A.R.S. is working to offset greenhouse gas emissions is by partnering with NativeEnergy™ to offset company and guest travel through

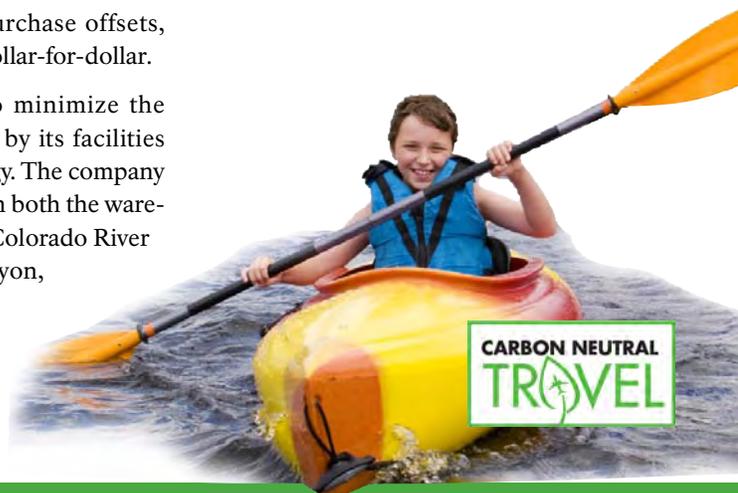
wind development projects. The company voluntarily offsets 100% of the carbon emissions resulting from all trip-related activities. Each year the company purchases in excess of 1,200,000 pounds, or 600 tons, of offsets, which equates to keeping 100 cars off the road for an entire year.

In addition to offsetting the company's carbon emissions, O.A.R.S. asks guests to consider offsetting the carbon emissions from their travel to O.A.R.S. NativeEnergy™ has developed a unique online calculator for O.A.R.S. so guests can purchase offsets at the click of a button. For guests who purchase offsets, O.A.R.S. will match the cost dollar-for-dollar.

O.A.R.S. is also working to minimize the greenhouse gases produced by its facilities through the use of solar energy. The company has elected to go 100% solar in both the warehouse and office used for its Colorado River operations in the Grand Canyon, as well as for its headquarters located in Angels Camp, California. Together, these systems are expected to

generate over 123,000 kilowatt hours of electricity (enough to supply eight medium-sized houses with electricity for a year) and reduce greenhouse gas emissions by over 90 tons annually. The company is looking to double its electrical generating capabilities in 2008 by adding solar energy installations to its operations in Lewiston, ID, Jackson, WY and Vernal, UT.

To learn more about O.A.R.S. and its environmental achievements, visit www.oars.com.



Leading By Example at Yosemite National Park

When Delaware North Companies Parks & Resorts, Inc. (DNCPR) became Yosemite National Park's largest concessioner in 1993, it embraced its role as a park steward and developed an Environmental Management System (EMS) entitled GreenPath®. In 2001, DNCPR at Yosemite became the first hospitality business in the U.S. to have its EMS certified under the International Organization for Standardization (ISO) 14001 program for environmental management.

Although the GreenPath® program can be found at all DNCPR facilities, each property is encouraged to mold the program to best fit the area's unique operations and features. In line with the vision of John Muir and Ansel Adams, the DNCPR facilities at Yosemite seek to go above and beyond to protect this iconic Park.

Waste Reduction Efforts

DNCPR's waste diversion program incorporates recycling, reuse, organic waste diversion, educa-

tional programs, and green purchasing practices. The on-site recycling program collects and recycles 34 different products, equating to 37 percent of operations-produced materials. The company's reuse program uses scrap office paper for in-house faxing and printing, restores old bikes for staff commuting around the facilities, and returns pallets and packing materials to vendors. Waste is also reduced by using bulk dispensers in guest rooms and dining facilities and converting kitchen grease to biodiesel. Combined, these efforts result in a 37 percent annual diversion of waste from the landfill and an annual savings of \$100,000.

Energy and Water Conservation

In an effort to reduce the amount of energy used in its operations, DNCPR obtained a Lodging Savers grant from Pacific Gas and Electric Co. to retrofit all hotel, employee housing, and retail units' incandescent light bulbs to compact fluorescent bulbs. This project cost DNCPR \$30,000



Going Above and Beyond to Keep Our Marinas Clean

Clean Marina programs have developed across the country to encourage boaters and marina managers to employ environmentally preferable boating practices. These programs are voluntary and certified marinas receive information, guidance, and technical assistance on Best Management Practices (BMPs) that can be used to prevent or reduce pollution. While Clean Marina Programs vary state to state, certification generally requires that the marina commit to the program and implement numerous BMPs.

As part of their commitment to the Virginia Clean Marina Program, Belle Haven Marina and Washington Sailing Marina, both located in the National Capital Region of the NPS, have not only met the certification requirements of the program, but they have gone above and beyond by adopting a number of exceptional practices.

Belle Haven Marina

Located along George Washington Memorial Parkway in Alexandria, Virginia, Belle Haven Marina has been purchasing bioremediation spill equipment for over 20 years, including socks (BioSok™), and Petroleum Remediation Product (PRP) powder (OILBuster™). This spill equipment provides a non-toxic, environmentally-sound method of capturing and biodegrading fuel and oil leaks that occur in boat bilges and on hard surfaces.

and has an expected payback of six months. The company also installed low-flow showerheads and toilets, light sensors and timers, and actively promotes a guest linen reuse option.

Environmentally Preferable Purchasing

DNCPR at Yosemite has an aggressive environmental purchasing program, with preference given to products that have reduced packaging, contain post-consumer recycled content or biodegradable ingredients, and are readily recyclable. Examples of environmentally preferable products used in the company's operations include:

- Canola-based lubricants and hydraulic fluids;
- Water-based paints;
- Biodegradable and non-caustic cleaning products;

PRP is a natural, non-hazardous, non-toxic and biodegradable form of beeswax. The BioSok™ has a floatation device that allows it to contain the spill, while the wax spheres that make up the PRP powder encapsulate the hydrocarbons by 'binding' to them. Nutrients contained within the wax spheres then help microorganisms from the immediate environment flourish until they eat every droplet of oil. Since these products remove all hydrocarbons from the area, the leftover materials can be disposed of as regular garbage rather than as hazardous waste.

In an effort to promote environmental stewardship throughout the marina, Belle Haven offers a BioSok™ to members free of charge. In addition, the marina offers free Bay Safe™, a biodegradable cleaning agent, to any member. To learn more about Belle Haven Marina, visit www.saildc.com.

Washington Sailing Marina

Located within National Capital and Memorial Parks in Virginia and run by Guest Services Inc., Washington Sailing Marina is home to many one-design fleets and small sailboats. In an effort to minimize its impacts on the Potomac River, Washington Sailing Marina decided to install a wastewater recycling system to capture the wastewater generated at the boat wash, filter out the particulates (e.g., paint chips) and oils, and reuse the water for future boat washings.

- Recycled-content carpeting and deck furniture; and
- Re-refined oils and antifreeze.

Additionally, many of the company's food service operations use as many organic, sustainable, and locally-grown products as possible.

Waste Reduction, Energy and Water Conservation, and Environmental Purchasing efforts are just a few of the ways DNCPR at Yosemite is striving to protect our national treasures through its GreenPath® program. To learn more, visit www.yosemitepark.com/greenpath.aspx.

WaterMaze, the wastewater recycling system, is certified to Underwriters Laboratories (UL) standards and utilizes BioPuck HC, a slow-release tablet that contains enzymes that digest oils and hydrocarbons. In conjunction with the filtration tank, WaterMaze enables wastewater generated from boat washing activities to be reused, reducing the overall water demand by the marina facility. To learn more about Washington Sailing Marina, visit www.washingtonsailingmarina.com.

To learn more about Clean Marina Programs and other environmental boating initiatives in your area, visit <http://coastalmanagement.noaa.gov/initiatives/links.html> or contact us.



ISO 14001 is the international standard for an environmental management system (EMS), also referred to as an environmental management program (EMP) in NPS concession contracts. The purpose of the standard is to help organizations meet their environmental obligations while reducing their impact on the environment. To learn more about ISO 14001, please visit www.epa.gov/owm/iso14001/isofaq.htm

Space-Age Gadgets



You are about to conduct an energy audit of your concession operation. You have a general understanding of what equipment and operations consume energy and generate energy (e.g., give-off energy in the form of heat), and are familiar with the facility and its operations (or at least you are inquisitive to find out!) There is one last thing you need: easy-to-use gadgets including a laser thermometer and a foot-candle meter.

Checklist for Conducting an Energy Audit

- ✓ Be familiar with the facility and operations
- ✓ Know what equipment consumes energy and gives off energy
- ✓ Have access to a laser thermometer and foot-candle meter

The Basics of Laser Thermometers and Foot-Candle Meters

While energy audits can be conducted without the use of these two gadgets, an energy audit will likely result in more found opportunities for energy savings if these gadgets are used.

Laser Thermometer: A laser thermometer accurately measures the surface temperature of an object. The object being measured for its temperature can be close or some distance away, depending on how far the laser beam can reach. Write down the item and its temperature. Table 1 provides a few examples of ways to save energy.

Table 1: Laser Thermometer Usage and Ways to Save Energy

What to Measure	Easy Ways to Save Energy
Pipes carrying hot water	Insulate pipes to prevent heat loss
Office computer or equipment	Use Sleep functions to turn power down or off when equipment is not in use
Lighting	Switch to another type of light that generates less heat. Install motion, time, or daylight sensors to better manage when and how long the lights are on.

Table 2: Federal Energy Administration Recommended Foot-Candle Levels

Task or Area	Foot-candle Levels	How Measured
Hallways or corridors	10	Measured average
Work and circulation areas	30	Measured average
Normal office work	50 (40-60)	Measured at work station
Prolonged office work	75 (55-90)	Measured at work station
Office work visually difficult	100 (80-210)	Measured at work station

Foot-Candle Meter: A foot-candle meter is a funny name for a piece of equipment that measures the amount of light in a given area. Light is measured in “foot-candles” and different work tasks require different levels of light. Depending on the work tasks performed in the area, a foot-candle meter will help determine whether there is too much or too little light. Use a foot-candle meter in any area where work is conducted. Write down the area, work task, and foot-candle meter reading. Table 2 provides government recommended foot-candle levels for a variety of work tasks.

Where Can I Find These Gadgets?

Laser thermometers and foot-candle meters are available for purchase through websites, but you can save a few hundred dollars by borrowing or renting them. The best place to ask is the local utility company serving your concession operation. Oftentimes the utility company has this equipment available to “borrow” or to rent for a small fee. Even better, utilities may offer a free energy audit of your facility(ies) and will bring their own tools and gadgets – saving you time, money, *and* energy!

Resources

- Federal Energy Administration: www.eia.doe.gov
- Green Your [Business]: www.greenyour.com/office/office-operations/company-values/tips/conduct-a-business-energy-audit

GreenLine Goes Electronic!

Recently, the NPS Concession Program calculated the amount of carbon dioxide (CO₂) released into the environment from printing and mailing over 800 copies of the *GreenLine* Newsletter to individuals around the country. The amount came to over 350 pounds per issue! Although *GreenLine* is printed on 100 percent post-consumer recycled paper with vegetable-based inks, we want to do more to reduce our impact on the environment.

As a result, we are encouraging recipients of *GreenLine* to receive upcoming issues electronically. Participants in e-distribution will be informed via email when the latest issue is available on the NPS Concession Program website. Copies will still be available to those who prefer hard copy distribution.



To sign up for e-distribution, please contact Gabrielle_McDonald@contractor.nps.gov or at 303.987.6909.

How Did We Do?—2007 & 2008 Environmental Audit Update

(continued from page 1)

- Personalizing the pre-audit questionnaire for each operation to minimize the amount of time it takes to complete the questionnaire and to make it a more useful resource for auditors;
- Simplifying and reformatting the Preliminary and Final Environmental Audit Reports to provide important information in a clear and easy-to-read manner; and
- Increasing effective communication during the Preliminary Environmental Audit Report comment period through the use of teleconferences with the audit team, concessioner, and park concession specialist.

As always, the NPS Concession Program appreciates comments or suggestions you may have on the audit process and encourages feedback at any time during the environmental audit process.





Escape to a Better Landscape

What is “Beneficial” Landscaping?

Beneficial landscaping is a set of practices that lead to environmental, economic, and aesthetic benefits. A beneficial landscaper will:

- Use plants native to the area because they require less care;
- Leave land and natural habitat unaltered;
- Use water-saving practices and plants that require minimal water;
- Utilize trees to provide shade, habitat, and to slow wind;
- Not use fuel-powered equipment that emits air pollution; and
- Not use chemicals pesticides or fertilizers that pollute storm water.

Where Can Beneficial Landscaping be Used?

Beneficial landscaping can be used at almost any concession operation including golf courses, lodging, restaurants, and many others.

Concessioners are encouraged to work with park staff to use beneficial landscaping at their operations, provide information on beneficial landscaping to guests, identify natural areas that need to be preserved or restored, sponsor demonstration projects, and award creative efforts.

Why Practice Beneficial Landscaping?

Contemporary landscape practices require large amounts of chemicals, money, and resources. By using beneficial landscaping practices your concession operation can save money, time, fuel, natural habitat and resources. For example, using native plants that do not require much water can save 750 to 1,500 gallons of water a month!

What You Can Do

There are a few basic “rules of thumb” that you can follow to become a beneficial landscaper:

- **Protect Existing Natural Areas or Create New Areas** to the greatest extent possible. Areas to protect include woodlands, wetlands, meadows, stream corridors, and shorelines. Creating new natural areas is especially important along streams where the vegetation can filter runoff, aid in flood control, and provide wildlife corridors.
- **Use Plants Native to the Area** to form the base of the landscape. Ask a local garden center or research the internet for plants and trees that are native in the area. These plants are naturally adapted to the area’s environment and typically require less water, chemicals, and maintenance to grow. They also attract native wildlife that may rely on the plants to survive.
- **Limit the Use of Grass.** Instead, install woodland, meadow, or other natural plantings.
- **Reduce or Eliminate the Use of Pesticides.** Practice organic gardening or integrated pest management. Cooperative extension agents can help with natural alternatives to pesticides.

Did You Know That...

- Gasoline-powered landscape equipment (mowers, trimmers, blowers, chainsaws) emit over 5% of our urban air pollution?
- The rate per acre of residential application of pesticides is typically 20 times that of agriculture?
- Green wastes (mostly grass clippings) comprise 20% of municipal solid waste collected and most is still sent to landfills?
- A lawn has less than 10% of the water absorption capacity of a natural woodland thus encouraging flooding?

Water Conservation. Stabilize slopes with natural plantings, mulch around plants, and install drought-tolerant species. If irrigation is used, use drip irrigation or other water conserving techniques, and water in the early morning or evening hours.



- **Reduce the Use of Powered Landscape Equipment.** Minimizing grassy areas and using native plants in less formal arrangements reduces the need for power equipment.
- **Use Plantings to Reduce Heating and Cooling Needs.** Deciduous trees planted along the south sides of buildings can reduce air conditioning costs by up to 20%; in winter they allow the sun’s rays to warm buildings. Coniferous trees planted to block prevailing winter winds can reduce heating costs. Planted trees also provide shade and look welcoming.
- **Avoid the Use of Invasive Species** that out-compete native plants. For example, do not plant Norway maples, kudzu, purple loosestrife, Japanese honeysuckle, or multi-flora rose. Check with park staff for species of local concern.

Before implementing one or more beneficial landscaping techniques, be sure to talk with your park concession specialist and natural resource staff. The park may have an overall landscape plan which you may need to follow or may be participating in a native plant conservation project through the NPS’s partnership with the Plant Conservation Alliance. Also, be sure to review your concession contract for requirements related to landscape management. Some concession contracts include requirements to use native vegetation, preserve the historical landscape, and/or employ methods that conserve water.

Resources

- The Environmental Protection Agency’s GreenScapes program: www.epa.gov/greenscapes/
- The Department of the Interior Environmentally Beneficial Landscaping: www.doi.gov/greening/sustain/land.html
- Plant Conservation Alliance: www.nps.gov/plants/index.htm
- NPS Integrated Pest Management: www.nature.nps.gov/biology/ipm/manual/iprmanual.cfm

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NPS Concession Program Corner

THE TECH ISSUE

In this issue of the *GreenLine* Newsletter we offer different types of technology-based tools that can help better manage and reduce your businesses' impact on the environment.

In *Ask Dr. Ima Park* we encourage the use of a little friendly competition managed through an on-line program to get employees involved in reducing their environmental impact. In *Space-Age Gadgets* we show that electronic devices can help concessioners find more opportunities to save energy. Then, in *Real Quantifiable Results* we provide links to a number of internet based tools to help turn data into meaningful results.

As a reminder, I ask each of you to sign up for *GreenLine* Newsletter e-distribution. Transitioning to an electronically distributed newslet-

ter will save hundreds of pounds of resources and will help the NPS Concession Program do its part to reduce its environmental impact.

This issue marks the first 2008 issue of the *GreenLine* Newsletter. Each year we like to take the opportunity to write an article or two about the NPS Concession Program and inform each of our reader's on the accomplishments of the program to-date and the plans for the future. We also know concessioners appreciate learning more about the environmental audit component of the NPS Concession Program and so we take the time to discuss the audits in more detail.

Wendy M. Berhman
Contract Management Team Lead,
NPS Concession Program

GreenLine ASSISTANCE

If you require technical assistance on environmental issues or want to learn more about the NPS Concession Program, contact us:

GreenLine Number:
303/987-6913



Email:
NPS_GreenLine@nps.gov



Website:
concessions.nps.gov,
click "CoEMP"



Opting Out and Cleaning Up

Every year 19 billion catalogs are mailed to American consumers. If you have a mailbox, chances are it gets filled with unwanted store catalogs, many from which you have never ordered a product.

What is the impact from these 19 billion catalogs? According to Catalog Choice:

- Number of trees used – 53 million trees
- Pounds of paper used – 3.6 million tons of paper
- Energy used to produce volume of paper – 38 trillion British Thermal Units (BTUs) (enough to power 1.2 million homes per year)
- Contribution to global warming – 5.2 million tons of carbon dioxide emissions (equal to the annual emissions of two million cars)

- Wastewater discharges from paper manufacturer – 53 billion gallons of water (enough to fill 81,000 Olympic-sized swimming pools)

How to Use Catalog Choice:

1. Sign up for free;
2. Use the database of catalogs to find the unwanted catalogs your business receives; and
3. Indicate that your business no longer wants to receive the catalogs.

Catalog Choice will contact each unwanted catalog company and have your business's name and contact information removed from the company's mailing list. In case you were wondering, Catalog Choice does not sell your contact information to any other organization! To sign up, visit www.catalogchoice.org.

