



# YELLOWSTONE PARK FOUNDATION

Protecting the wonders and wildlife of Yellowstone National Park

Spring 2009

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Bull Moose Rainbow ©Tom Murphy

## The Greening of Yellowstone

**T**HE NOTION OF NEEDING TO “GREEN” YELLOWSTONE MAY SEEM COUNTERINTUITIVE. To most visitors, the Park is the epitome of natural systems at their unadulterated best. The fact is, however, that Yellowstone uses an enormous quantity of fossil fuel and treated water, and generates a tremendous amount of solid waste in serving three million annual visitors.

In a time when we are confronted daily with a world of diminishing resources, a warming climate, and the need for alternative sources of energy, Yellowstone recognizes that it must make progress in managing its vast operation more sustainably.

Equally important, by updating its systems to be more resource efficient, Yellowstone will become a great deal more cost efficient. These savings, in turn, free up funds to devote to long-term protection and conservation efforts.

The Park asked the Yellowstone Park Foundation to help build upon its decade-long effort in “greening” its operations by establishing the **Yellowstone Environmental Stewardship (YES!) Initiative**. To establish baseline figures on resource consumption and develop realistic goals to reduce operational impacts on climate change and thus improve financial savings, the Foundation contracted with Ecos Consulting to perform an eco-audit of the Park’s operation. They presented recommendations for projects with significant

potential impact and return on investment.

The Park reviewed the recommendations and requested that the Foundation secure \$5 million in private support for 27 projects. These projects complement the dozens of federally funded projects that Yellowstone already has underway.

The 27 YES! projects relate to six key areas: Energy, Transportation, Water Conservation, Waste Reduction, Green Procurement, and Leadership & Education. A complete list of projects, with descriptions, can be found at [www.ypf.org/YES](http://www.ypf.org/YES).

With the help of YES! Initiative projects, the Park aims to achieve the following by the 100th anniversary of the National Park Service in 2016:

- Reduce greenhouse gas (GHG) emissions by 30%
- Reduce electricity consumption by 15%
- Reduce fossil fuel consumption by 18%
- Reduce water consumption by 15%
- Divert 100% of solid waste from landfills

*“The nation behaves well if it treats the natural resources as assets which it must turn over to the next generation increased, and not impaired, in value.”*

— THEODORE ROOSEVELT (1858–1919)

(CONTINUED ON PAGE 2)

The  
YELLOWSTONE  
PARK  
FOUNDATION

222 EAST MAIN STREET, STE. 301  
BOZEMAN, MONTANA 59715  
telephone: 406.586.6303  
email: info@ypf.org  
www.ypf.org

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*The Yellowstone Park Foundation works in cooperation with the National Park Service to fund projects and programs that protect, preserve, and enhance the natural and cultural resources and the visitor experience of Yellowstone National Park.*

**Y**ELLOWSTONE HAS ALWAYS  
CONFRONTED THE CHAL-  
LENGE OF FINDING WAYS  
FOR HUMAN ACTIVITIES

TO COEXIST WITH NATURAL SYSTEMS.  
This is not new to us, and I am proud that we have been a leader in the areas of conservation and environmental sustainability. But we now have the opportunity to take the Park to the next level of stewardship.

The Yellowstone Environmental Stewardship (YES!) Initiative is fundamental to the mission of the Park. In order to ensure that Yellowstone is still here for future generations to enjoy, we must not only preserve what makes this place so unique and special but also strive to do more—and do better—through making the Park more environmentally sustainable.

But what does it mean to make a Park sustainable? It means paying closer attention, and taking actions to change and improve how we run the Park, from making different choices in what we buy to changing how we operate on a day-to-day basis.

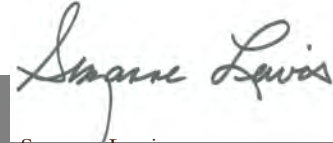
Two of the most important things we can do now are to improve our energy and water consumption. Being the world's first national park means that we have the oldest and largest infrastructure—buildings, systems, vehicle fleet—in the National Park Service. There is much work to be done to create a more green, as well as a more cost-efficient, park.

*What does it mean to  
make a national park  
sustainable?*

The projects introduced to you in this newsletter will not only make Yellowstone a better steward of our natural world, but will help us better steward the public and private financial support on which we rely.

We look forward to keeping you abreast of our progress in this most important endeavor.

Sincerely,



Suzanne Lewis  
Superintendent  
Yellowstone National Park



## COVER STORY

(GREENING: CONTINUED FROM PAGE 1)

The YES! Initiative is an ambitious public-private partnership that will require the commitment of dedicated supporters and corporations, in particular, to be successful.

Already, several major corporations such as Toyota, Unilever, Michelin, DuPont, and Canon have stepped forward to assist Yellowstone during tough economic times, while doing the right thing for the environment. They are supporting YES! projects by donating goods, services, expertise, and cash.

For instance, volunteer consultants from Canon, U.S.A. recently analyzed the Park's existing office systems and document workflow. The Canon team recommended reductions in energy consumption and waste, sug-

gesting steps for lowering cost-per-copy, and improving workplace efficiency. Then, they donated the upgraded office equipment needed for implementation of the improvements.

In addition to greening its operations, Yellowstone has a unique opportunity to educate millions of visitors about those efforts. The Park is planning projects to demonstrate how it is reducing natural resource consumption while achieving cost savings. This outreach will help visitors learn how they can integrate sustainable practices at home and in their communities.

A broad education effort requires significant support to be successful. Please use the attached envelope to designate your gift to the innovative YES! Initiative.

# A More Sustainable Fleet



NPS photo

Hybrids like this Toyota Prius help Yellowstone rangers use less fuel.

to improve the fuel efficiency of its fleet. The Park is undertaking efforts that will result in an 18% reduction in fuel consumption by 2016.

## Alternative Vehicle Technologies

Yellowstone is already a leader in the use of alternative fuels (see A Greening Timeline, page 4) and has now converted all its fleet

## Fuel-Efficient Tires

The tread on tires enables cars to grip the road, and until recently, this was the primary consideration when purchasing tires. Today, there are other technological advances in tire design; low-rolling resistance tires can improve gas mileage and translate to fuel savings of 10%. Pilot testing of these new high-tech tires donated by Michelin North America, on rims donated by Alcoa Wheel Products, has begun on the Park's heavy trucks.

For more information on these, and other fuel-saving efforts, visit [www.ypf.org/YES/Transportation](http://www.ypf.org/YES/Transportation)

**M**AINAINING YELLOWSTONE NATIONAL PARK AND SERVING ITS THREE MILLION ANNUAL VISITORS REQUIRES HUNDREDS OF EMPLOYEES, many of whom must travel vast distances to perform their duties. Yellowstone has addressed these transportation challenges by experimenting with a variety of fuels in its fleet and by encouraging cultural changes such as carpooling.

Yet Yellowstone still needs to reduce the total number of miles driven per person and

fueling stations to alternative fuel blends. It is also experiencing fuel savings with the use of eight hybrid vehicles donated by **Toyota Motor Sales, U.S.A.** through the Yellowstone Park Foundation.

These successful fleet enhancements have led Yellowstone to set ambitious goals for replacing older vehicles with more hybrid vehicles and those that can use alternative fuels. This will require significant investments, but it has great potential for promoting better fuel economy and informing the public about greenhouse gas emissions.

## Yellowstone Transportation Challenges

- Yellowstone encompasses 3,472 square miles—more than the states of Rhode Island and Delaware combined.
- Yellowstone maintains 466 miles of primary roads, and a fleet of 566 cars and trucks.
- Approximately 800 employees work for Yellowstone at peak summer levels; about 400 year-round.
- Last year, the Park used 31,000 gallons of diesel fuel just to plow roads in the spring.

# Conserving Precious Water Resources

**Y**ELLOWSTONE USES 285 MILLION GALLONS OF DRINKING WATER ANNUALLY, but measures are now being taken to reduce the Park's thirst for clean water. With private support, Yellowstone will implement two important programs that will enable the Park to reduce water consumption by 16 million gallons and save roughly \$125,000 annually.

## Mammoth Irrigation

When Yellowstone's headquarters were developed in Mammoth Hot Springs by the U.S. Army more than a century ago, Kentucky bluegrass lawns were planted to reduce dust during horse maneuvers. Today, these 15 acres of lawn are part of the area's historical fabric, and Yellowstone is obligated to preserve them as part of this National Historic District.

Many advances have been made to irrigation methods since the existing system was installed in 1982, and the Foundation is working with a potential corporate partner to replace it. The use of moisture sensors, coupled with timing devices, will allow the most efficient placement of irrigation, thus saving water.

## Water Awareness and Conservation

Yellowstone's streams, rivers and lakes are precious, and worthy of thoughtful conservation. Yet it is difficult to determine how Yellowstone can conserve water, because the Park lacks data on its current water use patterns. The Park plans to assess where and how water is used throughout Yellowstone to determine conservation strategies. Then, with the help of a real-time water metering model, outreach programs will educate Park

employees and visitors about water-saving measures and provide a means to track their progress on a daily basis.

Long-time Foundation partner **Unilever** has generously committed to fund the mapping of water use and subsequent metering that will help guide conservation strategies.

Learn more at [www.ypf.org/YES/Water](http://www.ypf.org/YES/Water)



NPS photo

Officers' Row, Mammoth Hot Springs.

# Visitor Center Will Be Environmentally Friendly

**O**LD FAITHFUL GEYSER IS A WONDER OF NATURE, so it's only fitting that the new Visitor Education Center

under construction in the geyser's shadow will be sensitive to its natural surroundings.

In keeping with Yellowstone's other greening efforts, the Old Faithful Visitor Education Center (OFVEC) is targeted to be one of the first visitor centers in the National Park system to earn the U.S. Green Building Council's Gold LEED—Leadership in Energy and Environmental Design—Certification.

Some of the "green" features of the new Center will include a design that allows for a reduced heated space during winter months, low-flow sinks and toilets, low-energy lighting, certified sustainable wood, and locally obtained materials.

The Yellowstone Park Foundation conducted a successful capital campaign to raise \$15 million in private contributions for the much-needed facility. Construction on the OFVEC began in the spring of 2008, and the building is expected to open to the public in the summer of 2010. During the peak summer season, it will welcome nearly 25,000 visitors each day with interactive, educational exhibits.

In 2004, a \$1 million donation from Toyota to the Yellowstone Park Foundation, combined with guidance from Toyota building engineers, made it possible for Yellowstone to set a high standard for sustainability. Toyota

developed expertise in this area when building its own Gold LEED Certified building in 2003. At the time, it was the largest environmentally friendly commercial building in the country.

*540 tons of construction waste have already been salvaged or recycled.*

Additional in-kind corporate support is helping to elevate the building's green quotient while saving the Park precious dollars. DuPont Building Innovations has committed to donating 20,000 square feet of DuPont Tyvek CommercialWrap® that will save energy by providing a weather barrier that helps protect against the area's harsh winter climate.

The construction process is demonstrating the project's high green standards. The demolition of the small visitor facility that used to stand on the building site has produced 541 tons of waste, yet more than 99% of it has been either salvaged or recycled. For instance, all concrete removed during demolition will be crushed, cleaned of debris, and reused as fill material in the new construction project.

The primary goal of the OFVEC will be to help visitors understand and appreciate the complexity of the hydrothermal features and the volcanic activity that defines the Park. In addition, the OFVEC will showcase the Park's commitment to environmental practices, and help visitors learn how they can make a difference.

*To follow along with the OFVEC construction process, visit [www.ypf.org/OFVEC](http://www.ypf.org/OFVEC)*

## A Greening Timeline

While there is much work ahead in making Yellowstone a truly sustainable operation, we would be remiss if we gave the impression that the Park has not already made significant progress. Yellowstone is, in fact, a leader in demonstrating and promoting sound environmental stewardship. Together with regional and national partners—as well as Park lodging, retail, and fuel concessioners, Xanterra Parks & Resorts, Delaware North Companies, and Yellowstone Park Service Stations—Yellowstone is well on its way to being truly "green."

**1995** Yellowstone is the first national park to operate a vehicle—which is still in use today—that uses 100% petroleum-free fuel derived from seed-extracted oil.



**1998** Yellowstone installs its first solar array, at Lamar Buffalo Ranch; Yellowstone initiates a Ride-Share program which transports up to 40 employees daily from Livingston, MT.

**1999** Yellowstone is the first national park to offer ethanol-blended fuel to visitors at public service stations.

**2002** Yellowstone's diesel fleet converts to a blend of diesel and petroleum-free fuel derived from canola oil.

**2003** Yellowstone and its regional partners open the regional compost facility.

**2004** Yellowstone starts integrating hybrid vehicles into its fleet.



**2005** Yellowstone is the first national park to recycle small propane cylinders used for camp lanterns and stoves; More than 22,000 light bulbs are replaced with energy-efficient bulbs in Park hotel rooms.

**2006** 70% of garbage in the Park is diverted away from landfills through recycling and composting.

**2007** Yellowstone completes a comprehensive greenhouse gas inventory.

**2008** Yellowstone National Park and the Yellowstone Park Foundation launch the YES! Initiative.

Learn more at [www.ypf.org/YES](http://www.ypf.org/YES)



The Old Faithful Visitor Education Center will open in summer 2010.

NPS photo

Photo courtesy of Toyota

NPS photo