

A Few Green Points

POINT REYES NATIONAL SEASHORE

One Park.
One Mission.



FY 2011 2nd Quarter

A LEED Design at Point Reyes National Seashore



Construction Inspector Allan Lavery checking on the daily progress of the new hostel project.

This year the Point Reyes Hostel is expanding its facility with the anticipated completion of a new LEED-certified hostel building, which will provide additional guest rooms and staff housing. The new hostel building began construction in July 2010 and will include a number of sustainable features and designs complying with LEED green building standards. **LEED (“Leadership in Energy and Environmental Design”)**, developed by the U.S. Green Building Council, is an internationally-recognized green building certification system that measures and scores a building’s environmental performance in areas that include energy savings, water efficiency, greenhouse gas emissions reductions, sustainable materials and resources, improved indoor environmental quality, and sensitivity to other environmental impacts. The hostel is aiming to earn points in those areas to become LEED certified. The design of the hostel features FSC (Forest Stewardship Council) certified lumber and plywood for framing and structural sheathing, recycled cotton insulation, recycled glass countertops, cork and linoleum flooring, fiberglass windows and a number of other durable and sustainable building features. The building will also feature native, drought

resistant plants in the surrounding landscape that will not require an irrigation system. The roof is designed to have a higher solar reflective index (SRI) to reduce heat island effects. The roof will also feature photovoltaic solar panels.

Hostelling International USA, the Point Reyes National Seashore concessioner and manager of the Point Reyes Hostel, is a certified Bay Area Green Business and is **thrilled about the new building’s upcoming completion and LEED features.** “Myself, and the rest of the Golden Gate Council are very excited that HI Point Reyes, the first hostel in the council, is going to have the first **LEED certified hostel building in the U.S.,**” said Hanna Morris, general manager of the Point Reyes Hostel. “**We have tried to go further** by doing as much as we can, with the resources we have, to tread as light as possible in this magnificent place we occupy in the **Point Reyes National Seashore.**” The Point Reyes Hostel, located two miles from Limantour Beach, currently operates in two buildings and is the only non-camping lodging facility within the Seashore.

The new hostel project, expected to be completed in the Spring, is largely funded by the American Recovery and Reinvestment Act with additional funding by the California State Coastal Conservancy. This project **exemplifies Point Reyes National Seashore’s and Hostelling International USA’s commitment to sustainable design and environmental stewardship.**

For more information on LEED Certification, visit: www.usgbc.org/LEED/



A current look at the new hostel building under construction.

Increased Insulation Benefits

- **Improved comfort** reduces conductive heat losses and gains resulting in warmer interior surfaces in the winter and cooler interior surfaces in the summer thus maintaining a more consistent level of comfort throughout a building.
- **Improved indoor air quality** is due to minimizing gaps and voids through which unconditioned air can leak into a building.
- **Increased construction quality** results when builders install insulation material with a higher R-value (see below) or increase the thickness of the building envelope component.
- **Reduced obsolescence** are expected to become industry practice with increasing insulation based on recent trends for improved efficiency.
- **Lower utility bills.** More than 40 percent of the energy consumed in a typical building goes to heating and cooling. Increased insulation reduces this energy consumption which lowers energy bills.

Source: U.S. EPA

What is an R-value?

An "R-value" refers to a thermal resistance rating used in the building and construction industry. Insulation materials are rated according to their ability to resist heat flow. The higher the R-value, the better its ability to resist heat flow.

R-Values (per inch of thickness for various insulation materials:

Batt-type: 3.1 to 3.5

Loose fill: 2.9 to 3.7

Board stock: 3.5 to 6.2

Spray-type: 3.5 to 6.0

Source: U.S. EPA



Thermal Imaging Study to Target Building Envelope Deficiencies



From L-R: Allison Cryns (GOGA), Pookie Mansker (YOSE), Sara Hammond (PORE)



Insulation deficiency in fire building.

Point Reyes National Seashore, Golden Gate National Recreational Area, and Yosemite National Park have teamed up to begin a collaborative thermal imaging study to investigate building envelope deficiencies in park buildings at PORE and GOGA. Using a FLIR® infrared camera, the team can register areas of heat loss in a building where insulation or tight construction is lacking. The camera uses sensors to pick up infrared waves in the form of radiant heat and formulates images based upon those waves showing differences in temperature for a particular area (see photo on left). Thermal imaging can help provide an outline of the necessary actions to reduce the heat loss and energy consumption in a building. A report of the results will be made in upcoming months. Questions? Please contact: Sara_Hammond@nps.gov or at ext. 5165.

Lighting Retrofit to Reduce CO₂ and Energy Costs

Point Reyes recently completed a lighting retrofit project this Winter through partnership with Smart Lights, an East Bay Area, CA non-profit organization designed to help businesses become more energy-efficient. An energy audit conducted by Smart Lights provided Point Reyes recommendations for replacing light fixtures and locating appropriate sensor switches. The lighting retrofit program includes retrofitting all T-12 light fixtures with higher energy efficient T-8s. In addition, all magnetic ballasts, which have a tendency to cause fluorescent lamps to flicker and "hum" when operated, will be replaced with more energy efficient electronic ballasts. The new lighting retrofit will result in an annual savings of \$8,797 in operating expenses and reduce emissions of carbon dioxide by 25 metric tons per year. For more information, contact: Sara_Hammond@nps.gov



Smart Lights changing out ballasts at NDOC.

Reduce → Reuse → then recycle.

Reducing the Use of Disposable Plastics in the SFAN Water Quality Program

By Angela Rodoni

The water quality monitoring program of the NPS San Francisco Bay Area Network (SFAN) and Presidio Trust requires monthly bacteria sampling at dozens of monitoring sites within several park units. In the past, this sampling was conducted with “single-use” plastic bottles that were either thrown away or tossed in the recycling bin, resulting in the disposal of over 1,000 plastic bottles each year. As many of us know, the use of plastics, and even the recycling of plastics, has become increasingly controversial. One controversy poses the argument that the initial production of plastics and the recycling of post-consumer plastics is very resource intensive. Another argument, adding to the complexity of the issue, is that most plastics are not actually recycled but rather **downcycled** into another form of plastic that is no longer usable in its original form. Downcycled plastic products, such as textiles, plastic lumber, and playground equipment, **mark the end of the road in that material’s recyclability**. Considered most wasteful, some plastics are not recyclable due to the fact that not all plastics are created equal and there are different forms that are excluded from the recycling process altogether. As a result, despite our recycling programs in place, many plastics end up in landfills or elsewhere in our environment, posing hazards to wildlife.



An autoclavable bottle used to sample bacteria in Olema Creek. Photo by Katie Booth

In order to avoid these negative consequences associated with the use of disposable plastics, the SFAN and Presidio water quality programs have implemented a more Earth friendly practice: REUSE! Instead of buying single-use, disposable bottles for bacteria sampling, the water quality program has set up a laboratory contract with an autoclaving (sterilizing) service, and now utilizes autoclavable polypropylene bottles that can be used again and again for years to come. This practice **will not only remove 1000’s of plastic bottles from the waste stream over the years, but it will also reduce NPS program costs.**

To learn more about plastics recycling and how to reduce your own use, visit these resources:

<http://www.calrecycle.ca.gov/Plastics/Prevention/>



Executive Order 13415 of 2009: Federal Leadership in Environmental, Energy, and Economic Performance requires federal agencies to divert 50% of non-hazardous solid waste from the landfill by the end of 2015. Let's continue to work towards this goal!

Scrap Metal Recycling

Did you know that behind the Roads & Trails shop lies a big blue metal bin (see photo on right) that is used to collect our park scrap metal? Accepted items include: any common metal-based products such as used pipes, metal fences, old structural steel building frames, aluminum & tin cans, sheet metal building pieces and parts, and any other metal-based products that contain iron, steel, copper, aluminum, etc. Items not accepted include: refrigerators, hazardous waste, garbage, cars, heavy vehicles, and aircraft. For any questions on scrap metal recycling at the park, please contact Ken Taylor, Hazmat Coordinator at ext. 5921.



WHY RECYCLE SCRAP METAL?

Metal has the ability to be recycled indefinitely. It requires less energy to manufacture products from recyclables versus virgin ore and prevents landfilling. According to the Institute of Scrap Recycling Industries (ISRI), metal recyclers divert 125 million tons of scrap metal from the landfill every year in the United States. That is enough to cover 10 soccer fields to a vertical height of one mile. Scrap metal recycling offers the removal of hazardous materials, for example, mercury switches that can be removed from older automobiles, devices, and equipment.

Source: www.isri.org



Cleaning Out Junk Mail

According to the U.S. EPA, about 4 million tons of junk mail is produced annually in the United States and over 50% ultimately gets sent to the landfill. By eliminating junk mail, you can help divert waste from a landfill, reduce the amount of energy and resources used to produce and ship junk mail, and reduce the risk of losing important mail in your junk mail-filled pile. It is easy to eliminate electronic junk mail usually by clicking the unsubscribe link attached in the email. However, for physical junk mail, one would have to phone call or fax in the back cover to unsubscribe from the mailing list. Here at Point Reyes, a service was initiated to help staff get rid of unwanted junk mail. For Point Reyes staff employees, you can fill out our online survey found here: <http://www.surveymonkey.com/s/Q962SSP> and we'll take care of the cancellation process. So far we've eliminated more than 30 catalogs, many of which are duplicates and for employees who are no longer working here. For more information please contact Dale Dualan, SCA Intern at ext. 5942.

For information on how you can prevent or get rid of junk mail, visit:

http://www.epa.gov/nc/communities/stop_spam.html



“As the largest consumer of energy in the U.S. economy, the Federal Government can and should lead by example when it comes to creating innovative ways to reduce greenhouse gas emissions, increase energy efficiency, conserve water, reduce waste, and use environmentally responsible products and technologies.” – President Barack Obama

AVOID GREENWASHING

All environmental claims must comply with Federal Trade Commission Guides for *Use of Environmental Marketing Claims* (“FTC Green Guides”). The term “greenwashing” is the act of misleading consumers regarding the environmental practices of a company or the environmental benefits of a product or service.

Environmental “Green” Purchasing in the NPS

Purchasing is a core function in all organizations. Ultimately the purchases we make hold a great deal of market power and responsibility from the acquisition to the end-use stage. Purchasers may not know it, but they can have a big role in influencing staff by the products they purchase. On a large scale, purchased items used can have large ripple effects on hundreds or thousands of individuals as well as their surrounding communities, environment, and ecosystems.

What is environmental purchasing?

Often used interchangeably with “green procurement,” environmental purchasing incorporates key environmental factors with traditional price and performance considerations when making purchasing decisions. Environmental purchasing encourages an individual to consider multiple environmental attributes of both products and services prior to purchase. Environmental attributes include recycled content, energy efficiency, less toxic constituents, less packaging, durability and upgradability. Remember too that choosing NOT to buy a product and service is also a sustainable purchasing strategy.

Why buy green?

By buying green we conserve foreign and domestic raw materials, landfill space, and energy in securing, transporting, and manufacturing. Durable, long-lasting, green products can save costs in the long run and help reduce worker health impacts. It could create jobs, markets, revenues as well as reduce pollution and greenhouse gases. Overall, we still have to keep in mind proper usage, maintenance, and disposal of any of the products we purchase!

Buying green is also required by law for Federal agencies under the following legislation:

- RCRA
- Pollution Prevention Act
- Energy Policy Act of 2005
- Energy Independence and Security Act of 2007
- 2002 and 2008 Farm Bills

...and mandated under the following Executive Orders:

- E.O 13423 *Strengthening Federal Environmental, Energy, and Transportation Management* (2009)
- E.O. 13514 *Federal Leadership in Environmental, Energy, and Economic Performance* (2007)

...as well as detailed under the Federal Acquisition Regulation (FAR) provisions for green purchasing.

What do we buy?

Federal agencies are required to purchase recycled content products, Energy Star/FEMP (Federal Energy Management Program)-designated products, biobased products, alternative fuel vehicles/alternative fuels, non-ozone depleting substances, EPEAT (Electronic Products Environmental Assessment Tool)-registered products, environmentally preferable products and services (i.e. janitorial, landscaping, cafeteria, construction, etc.) and WaterSense labeled products.

Where can we buy?

GSA Advantage, Excess Surplus Property, UNICOR, AbilityOne, Wholesale Supply Sources, Federal Supply Schedules, Commercial Sources

For more information on Environmental Purchasing please visit:

<http://inside.nps.gov/regions/custompages.cfm?rgn=161&id=4170&lv=2&pgid=1566>

Source: NPS Sustainable Operations and Climate Change Branch Training Course: Intro to Environmental “Green” Purchasing

How do we know it's green? Our “green” is based on government standards or guides, vendor claims, and third-party standards. Some examples of seals and labels:



A Volunteer's Mission

Volunteers are important in fulfilling the National Park Service mission. Nearly 176,000 Volunteers-In-Park (VIPs) donate about 5.4 million hours annually. This is the equivalent of having about 2,600 more employees.

Park Volunteer Shares Take Home Message with Coastal Cleanup Project

Local volunteer Richard James, recipient of the Point Reyes National Seashore Volunteer of the Year Award in 2009, has put together an artistically rendered display of plastic bottles collected over a one year span. **James' display hopes to encourage people to use a refillable bottle and stop buying single-use plastic bottles.** The bottles were collected over 20 miles from the tip of Tomales Point south to the Point Reyes **Lighthouse, as well as at Drake's and Limantour Beach.** Five meta-bottles were created and photographed at various park locations (See photos below).



Drake's Beach



Horse pasture near Pt-Reyes-Petaluma Blvd and Hwy 1
(Bottles will be here until May 31.)

A message from our volunteer...

What I have learned from my many hours on the beach is that it does not so much matter how many people pick up the trash that is coming in, 24/7/365 from the sea. More importantly, we all need to stop adding to the mess by making wiser, more sustainable hydration and other purchase choices.

These meta-bottles show what one person can pick up on a fraction of the earth's coastline in one short year. Imagine what is trapped in the many gyres in all the seas! The earth cannot metabolize what man keeps dumping in the sea. These bottles eventually break down and are eaten by fish that are eaten by fish and eventually eaten by man.

Please consider never buying another plastic bottle of water. Tell a friend, too!

Thanks go out to Lacey, Joe, Madeleine, Gordon, Samantha, Michaela, Katrina, Sean, Katie, Jesse, Chris, Angie, Gabe and especially Vicki for helping me along the way. Thanks everyone!

Richard, Coastodian

James has volunteered nearly 500 hours cleaning up the beaches at the Seashore. More information will be made available at www.coastodian.org (currently under construction). Richard James can be contacted at info@coastodian.org (email to be available soon).

Some meta-bottle facts from Richard James:

- All plastic beverage containers were collected on Point Reyes National Seashore beaches between January 14, 2010 and January 14, 2011.
- I personally picked up approximately 99% of them. On a few occasions, friends were along as I walked the beach and helped me.
- The meta-bottles are made of donated and purchased chicken wire. The tops are buckets I also found on the beach.
- The meta-bottles are 30 inches in diameter, 8.5 feet tall and each weigh between 35 and 40 pounds. There are approximately 172 cubic feet of mostly un-compressed bottles.
- A majority of the bottles are from Asia. There are some with Costco and Arrowhead labels still very much intact that are likely "locally grown".
- Bottles with labels intact represent the following nations: Japan, China, Korea, Russia, Malaysia, and Greece. There are possibly others too, though my language skills are lacking.

A Few Reminders...



Quarterly Challenge

Leaving a computer on for 24 hours a day instead of shutting it off costs about \$26 a year as well as generates 44 percent more CO₂ per computer per year.* For environmental and security reasons it's important to shut your computer down at the end of every workday.



*Source: Lawrence Berkeley National Lab

E-Waste

Renew Computers, an e-waste recycler located at 446 Dubois St. San Rafael, right across from Jackson's Hardware Store, offers a free drop-off for electronic waste. This includes TVs, VCRs, computers, desktops, laptops, cables, cell phones, and other electronic devices. They do not accept microwaves, toasters, lamps, or wooden speakers. Here at Point Reyes we haul work-related e-waste to Renew Computers a few times a year. Remember, any electronic equipment with a property tag/number, please refer to Aimee Davis (ext. 5123). As a member of the Federal Electronics Challenge, we will also offer an e-waste drive for staff personal electronics, once or twice a year. Stay tuned for announcements!



Leaky Situations

One aspect we get "graded" on in the Sustainability Scorecard is our water use. In 2010, we partnered with North Marin Water District to have a water audit. We were given several low-flow faucets and aerators which were installed. Water is our most expensive utility. Can you please take a moment to remind your staff that low-flow fixtures and aerators should be the first choice when replacing fixtures (toilets 1.6 gpf (gallons per flush), aerators for sinks 0.5 gpm (gallons per minute), and kitchen faucets at 2.0 gpm). Also, when it comes to hot water leaks, we are not just paying for the water- it hits our wallet three times: 1) Purchase of water, 2) heating the water, and 3) disposing the water. Fixing the smallest leak immediately will save us money and water. Please encourage your staff to make work orders for all leaks.



Leak Facts:

- The amount of water leaked from U.S. homes could exceed more than 1 trillion gallons per year. That's equivalent to the annual water use of Los Angeles, Chicago, and Miami combined.
- Common types of leaks found in the home include leaking toilet flappers, dripping faucets, and other leaking valves. All are easily correctable.
- Ten percent of homes have leaks that waste 90 gallons or more per day.

Leak Detection:

- One way to find out if you have a toilet leak is to place a drop of food coloring in the toilet tank. If the color shows up in the bowl within 15 minutes without flushing, you have a leak. Make sure to flush immediately after this experiment to avoid staining the tank.
- A good method to check for leaks is to examine your winter water usage. **It's likely** that a family of four has a serious leak problem if its winter water use exceeds 12,000 gallons per month.

Source: U.S. EPA WaterSense Partnership Program



If you have any questions, stories, topics you'd like contribute, feel free to contact Dale Dualan at x5942 (email: Dale_Dualan@partner.nps.gov) or Sara Hammond x5165 (email: Sara_Hammond@nps.gov)