

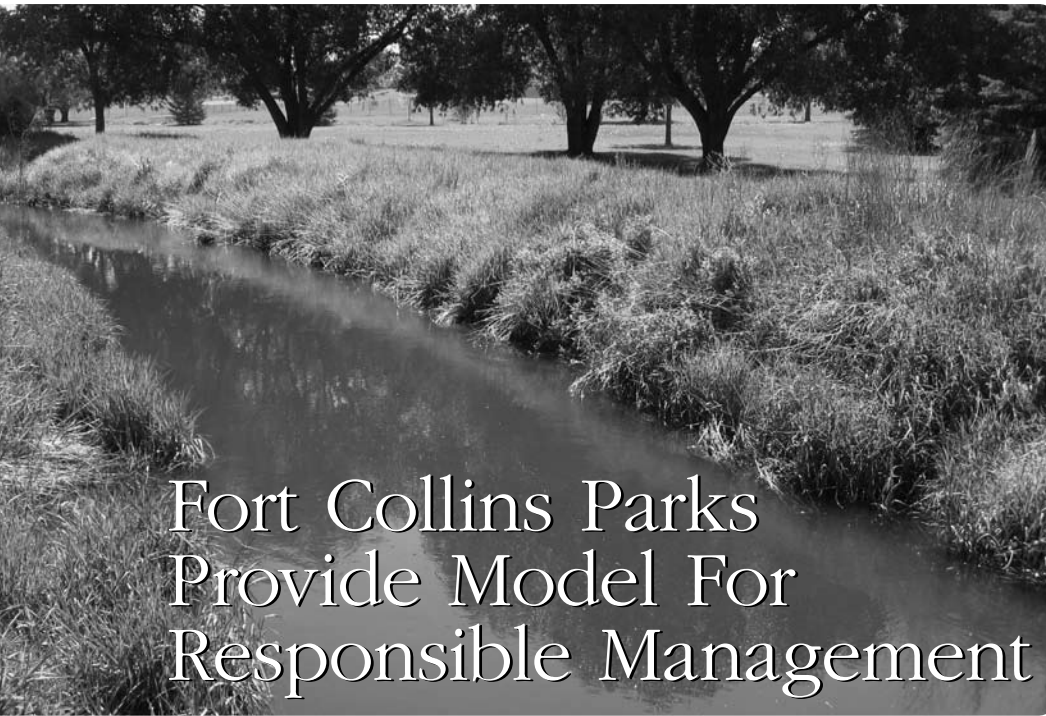


Stewardship

A PUBLICATION OF AUDUBON INTERNATIONAL

News

VOLUME 12, ISSUE 4 • FALL 2009



Fort Collins Parks Provide Model For Responsible Management

JIM SLUITER

Balancing the diverse recreational demands of a large and active urban population with environmentally-responsible property management is a common challenge for many municipal parks and recreation departments across the country. Located in the foothills of the Rocky Mountains in Northern Colorado, the City of Fort Collins Parks Department manages a wide variety of recreational properties and facilities for a metropolitan city of nearly 120,000 residents. Also home to Colorado State University, the city contains a dynamic population of residents and students who use six community parks, 44 neighborhood or pocket parks, and 29 miles of recreation trails.

Like many municipal parks and recreation agencies nationwide, the Fort Collins Parks Department has enrolled several of its award-winning park properties in the Audubon Cooperative Sanctuary Program (ACSP). The ACSP helps them to bet-

ter plan, implement, and track environmental stewardship projects while continuing to provide exceptional recreation facilities for its discerning user base. With facilities ranging from typical baseball/softball complexes, to more unique amenities such as a skate park and BMX track, to a very popular disc golf course and lighted horseshoe facility, meeting user demands while also protecting natural resources can be a daunting proposition.

The city's 65-acre Edora Park and 68-acre Rolland Moore Community Park were both recently designated as Certified Audubon Cooperative Sanctuaries in July 2009, joining the municipality's City Park property that attained designation in 2007. Two other properties in the system, Fossil Creek Park and Spring Canyon Park, are currently working toward certification in the program as well.

Averaging a mere 13 inches of rainfall a year, water conservation plays a large role in the daily manage-

No-Mow areas along a park irrigation ditch adjacent to Rolland Moore Community Park provide effective water quality protection and excellent food and shelter for local and migratory wildlife.

ment strategies for both Rolland Moore and Edora Park. Irrigation requirements for these predominately bluegrass parks in such an arid climate requires diligent attention to evapotranspiration rates as well as creative timing to utilize the limited 'watering window' available between programmed activities.

Crew Chief Lea Ann Haisch spearheaded the certification process for Edora Park that included converting the existing irrigation system in order to use raw water from a park pond thus eliminating the use of potable water resources on nine acres of the property. Regular inspection and maintenance of the Variable Frequency Drive pumps in the system ensure that irrigation water is used wisely and effectively while minimizing the energy consumption needed to provide adequate watering of maintained turf areas. Crew Chief Robert Burkhardt oversaw the certification process for Rolland Moore Community Park, which also uses a raw water



Landscaping with native plants can often provide enhanced aesthetics and wildlife habitat and blends in with more typical park features such as picnic pavilions and sports facilities.

continued on page 5

Dear Members and Supporters,

The great naturalist John Muir once wrote that “Most people are on the world, not in it—have no conscious sympathy or relationship to anything about them—undiffused, separate, and rigidly alone like marbles of polished stone, touching, but separate.” Muir’s view of the world, late in life, captured a sense of desperation, but also a source of inspiration. Your efforts along with the guidance of Audubon International and other conservation groups can help to prove him wrong. Together our members will continue to make a difference and increase stewardship efforts the world over. Inside this issue you will find conferences to keep yourself informed, tips to save energy at home, and inspiring cases of stewardship abroad.

Best,



Joshua Conway
Education and Communications Manager

In this issue...



On the Cover—Fort Collins Parks Provides Model For Responsible Management. Community involvement and employee dedication are key to high-caliber parks that serve as models of responsible land management among diverse user demands.

Webinars offered with help from the USGA

On August 5, Joellen Lampman, along with Audubon Steward Network members Pat Blum, Steve Kealy, Karen Shragg, and Anthony Williams, presented the first of many webinars to be offered through the USGA. The first, entitled “The Audubon Cooperative Sanctuary Program for Golf Courses: Step 1. Environmental Planning” can be accessed at <https://gsportal.usga.org/webcasts/default.aspx>.

- 4 Let’s Talk Light Bulbs:** A quick look at the energy savings behind the transition from incandescent to compact fluorescents.
- 6 Audubon International Drives Sustainability in Spain:** PortAventura Golf Course, Spain.
- 8 Community Based Nutrient Management:** Composting at Stowe Mountain Lodge, Vermont.
- 9 Tear-Out Fact Sheet:** Chemical Storage Upgrades.



46 Rarick Road
Selkirk, New York 12158
(518) 767-9051
www.auduboninternational.org

You can reach our staff via e-mail by typing the person’s *first initial, full last name @ auduboninternational.org*.

ADMINISTRATION

Ronald Dodson, President
Kevin Fletcher, PhD, Executive Director
Mary Jack, Special Projects
Paula Realbuto, Executive Assistant for Operations
Jessica DesLauriers, Development Manager

AUDUBON COOPERATIVE

SANCTUARY PROGRAMS

Jennifer Batza, Membership Coordinator
Jim Sluiter, Staff Ecologist
Joellen Lampman, Program Manager

AUDUBON SIGNATURE PROGRAM

Nancy Richardson, Director
Linda Snow, Administrative Assistant

EDUCATION DEPARTMENT

Joshua Conway, Manager of Education and Communications

NEW YORK OPERATIONS

Fred Realbuto, Director

SUSTAINABLE COMMUNITIES PROGRAM

Suzanne Zakowski, Manager

GREEN LEAF ENVIRONMENTAL COMMUNICATIONS, INC.

171 Nepean Street, Ste 400
Ottawa, ON K2P 0B4 Canada
(613) 247-1900 Extension 222
Kevin Gallagher, President
greenleaf@auduboninternational.org

Audubon International Welcomes New Board Members

Audubon International recently added four new members to the Board of Directors—bringing the total number of Board members to nine. Included in the expansion are: Frank J. Mendelson brings past experience in community environmental leadership, environmental consulting, and academia; Tim Hiers, who has been employed as a Golf Course Superintendent for 33 years and was the first to bring a golf course through the Audubon Signature Program; Jim Becker, the President of EPIC Creative a 15 year-old advertising and public relations agency with a staff of 40 people; and Frank S. Rossi, Ph.D., the New York Extension Turfgrass Specialist and Associate Professor of Turfgrass Science at Cornell University. We welcome you all to Audubon International!



The second WaterSmart Innovations Conference and Exposition was held **October 7–9, 2009**, in Las Vegas, Nevada. In 2008, roughly 1,200 participants from 42 states and the District of Columbia—as well as 17 foreign nations—came together to help make WSI the premier venue for sharing information about effective conservation programs and policies and showcasing new water-efficiency technology. This year PepsiCo International Sustainability Director Dan Bena was the keynote speaker for the opening session and Australian water expert Dr. Jim Gill was the keynote speaker for the luncheon in October 8. Audubon International staff delivered water conservation and protection seminars to a host of professionals and community stakeholders.

Reaching Out to Developers:

Audubon International will participate in the 2009 Urban Land Institute Fall Meeting & Urban Land Expo in San Francisco, CA. The expo is schedule for **November 3-6**, and Audubon International Signature Program staff will be on hand to discuss how to plan, construct, and manage projects with a focus on environmental quality and sustainability—implementing improvements that can lead to greater economic stability in the long run.

AI at EPA Annual Conference

Joellen Lampman, Program Manager, will be speaking at the EPA's Office of Pesticide Programs Environmental Stewardship Branch (ESB) national conference, *The New PESP: Building Stronger Partnerships for Effective Environmental Stewardship*, being held on **November 17-18, 2009**, in Arlington, VA.

Changes to Audubon Signature Program Planned by 2010

By January, 2010, changes will be made to Audubon International's award-winning Audubon Signature Program in order to enhance participation, increase efficiency and effectiveness of program implementation, and better-reflect the operating environment of sustainable land development. Planned changes to the Audubon Signature Program include, but are not limited to, the following:

- Members will enroll in the Audubon Signature Program, not a specific level, and certification designations will be based on a new and improved set of placed-based and principle-based performance criteria.
- Upon being certified in the program,

members will have the ability to move up and down among the three certification designations as a result of improvements at the site, or declining performance, after certification.

- Any technical consulting team approved by Audubon International, will be permitted to serve the program member and write the required Natural Resource Management Plan for any level of certification. Currently, this is only the case with members at the Bronze level of programming, while Silver and Gold members make use of Audubon Environmental, Inc., exclusively. “Clearly the biggest change to the program will be our opening up of

some of the technical services in the Silver and Gold level of programming,” states Executive Director of Audubon International, Kevin A. Fletcher, Ph.D. “We will continue to work with Audubon Environmental Services, Inc., our long-standing partner, and other service providers in sustainable land development. The industry has changed and so must the program.”

These broad changes will also apply to the Audubon Classic Program for renovation and redesign projects. Individuals interested in learning more about the program changes should contact Nancy Richardson, Director of the Audubon Signature Program, at nrichardson@auduboninternational.org.

AI Launches Two New Initiative Websites



Audubon International has launched two new websites designed to provide tailored and relevant information related to both community-level planning and sustainability efforts (www.sustainablecommunityinitiative.com) and eco-design and development efforts (www.ecodevelopmentinitiative.com). Each website will serve as an educational resource and news update for community leaders, citizen activists, developers, planners, builders, and a wide range of interested stakeholders. Users will also have the ability to sign up for a quarterly electronic newsletter tied to each website. By the end of the year, each of Audubon International's Strategic Initiatives will be represented, with an Environmental Stewardship & Management website joining the already launched www.GolfandEnvironment.com.

Facebook—Over 140 Fans and Counting



Audubon International now has a Facebook page. Sign up and stay in touch with the latest articles about Audubon International members and upcoming events, start or join a discussion, and add your own pictures and videos.

SPONSOR SPOTLIGHT

The newest Golf & Environment Initiative Sponsor—Sediment Removal Solutions—provides property owners with a cost-efficient method for sediment removal and pond restoration that is more environmentally sound than some other traditional methods.

Since its inception in 1990, Sediment Removal Solutions has developed a system that allows ponds and other relatively small bodies to attain greater health through the removal of accumulated organic sediment. Aesthetically, ponds have significant impacts on property value and the Sediment Removal Solutions system can enhance the health and attractiveness of a pond without disturbing or damaging wildlife habitat, fragile landscapes, or



negatively impacting the surrounding ecosystem. Employing certified divers, this system hydraulically removes the decaying sediment down to the original bottom of the pond without requiring the removal or relocation of fish and other aquatic life.

Audubon International is pleased to have Sediment Removal Solutions join our growing group of Initiative Sponsors at the Supporter Level (\$2,500). To learn about the other businesses and organizations that are providing better ways of interacting with the natural world around us, please visit: www.auduboninternational.org/initiativesponsorship.

For more information regarding Sediment Removal Solutions and the growing list of SRS Distributors, visit: www.sedimentremovalsolutions.com.

Lets Talk Light Bulbs

JENNIFER BATZA

Making the change from incandescent to compact fluorescents (CFL) is an easy way to “green” your home or office. The benefits are immediate without making a large investment.

Lighting accounts for 20 percent of your electric bill. CFLs use 75 percent less energy and last 10 times longer than a regular incandescent bulb. One CFL can save you \$30 or more over its lifetime. Every CFL can keep more than 400 pounds of greenhouse gas emissions out of the atmosphere and reduces the release of mercury and greenhouse gases from coal-burning power plants. If every home in America replaced just one incandescent light bulb with an ENERGY STAR qualified CFL, it would save enough energy to light more than 3 million homes and prevent greenhouse gas emissions equivalent to those of more than 800,000 cars annually.

Productdose (www.productdose.com) has a light bulb comparison spreadsheet that can show you the

cost savings of each bulb; you can enter your own data to see how much you will save in your home or office.

Home Depot has a national CFL Bulb recycling program. All you have to do is bring your non-broken bulbs to Home Depot, place them in a bag, and put them in the bright orange collection unit.

Home Depot also has a savings calculator located on their website at www.homedepot.com/ecoptions. You can type in your monthly electric bill total and it will tell you how much you could be saving by switching your bulbs to CFLs. They also have a great deal of other information about how to save energy and water at your home or business.

ENERGY STAR also has some great resources on their website at www.energystar.gov. There is a buyer's guide to help you chose the right product for your needs including an explanation of how the bulbs produce light, and how to clean up and dispose of your CFLs.



Fort Collins Park

Continued from page 1

system utilizing irrigation from the park pond. These projects have helped the property further conserve water resources and reduce energy waste over the long term, providing some financial savings in park operational costs.

Both Edora Park and Rolland Moore Park encompass central water features that provide pleasing parkland aesthetics as well as more passive user recreation such as fishing and bird watching. Protecting the overall quality of these ponds and streams was a cornerstone of the agency's management strategy.

At Rolland Moore, low-maintenance shoreline areas around the pond were increased from about 45 percent of total shoreline to nearly 90 percent, with natural breaks in vegetation providing fishing access for park visitors. A "Solar Bee" pond aerator was also installed, powered by solar energy harnessed by photovoltaic panels that have eliminated energy use and cost, while also reducing carbon dioxide emissions by about 150 tons a year over standard aeration systems.

Wildlife and Habitat Management efforts included the expansion of

wildlife travel corridors within both parks, as well as the construction and installation of nestboxes for bats and birds. Low-maintenance natural habitat areas within both parks were also expanded to increase their value to wildlife, and help to reduce energy use, irrigation consumption, and labor costs.

Outreach and Education has been pivotal to the success of the stewardship efforts in Fort Collins, with community organizations and volunteers participating in many of the property enhancements at both parks. Local Eagle Scout and Boy Scouts of America Troop 286 teamed up with local birding enthusiasts and community volunteers to design and build a bird garden at Rolland Moore. Edora Park staff partnered with a fifth grade class from nearby Putnam Elementary School to create a display documenting the ACSP certification process and highlighting stewardship projects taking place on the property.

A revamped recycling program has resulted in increased community participation. The added benefit of acceptance of co-mingled recyclables (glass and plastic) has eliminated the need for employee's sorting of materials prior to pick up. The savings in time and labor costs have allowed the department to better maximize



Low-Maintenance areas, such as the Spring Creek corridor at Rolland Moore Community Park, provide excellent water quality protection and enhanced wildlife habitat on the property.

staff efforts and also incorporate an organic waste recycling program that converts grass clippings, leaves, and other organic materials into valuable compost for landscaping projects within the city park system.

The Fort Collins Parks Department has already accomplished an impressive array of environmental successes, but they strive for continuous improvement as they further their environmental management focus within the ACSP. Community involvement and employee dedication has provided an exceptional park system that continues to provide high-caliber parks and recreational facilities while also serving as a model of responsible land management among diverse user demands. ●

Philadelphia Water Department Contracts with Audubon International

The City of Philadelphia Water Department (PWD) and Audubon International have teamed up to assist landowners and managers to better manage stormwater runoff as a part of the city's new stormwater management credit program. Through a \$30,000 contract, Audubon International will work with cemeteries, corporate properties, arboretums, golf courses, and other landscape-based businesses within the city limits through the Audubon Cooperative Sanctuary Program and workshops co-presented with PWD.

"PWD is a water, sewer and stormwater utility serving over 1.5 million people in the Philadelphia region. Its mission is to provide safe and reliable drinking water service and to manage wastewater and stormwater in innovative ways that balance cost efficiency with its environmental protection and restoration goals," states Joanne Dahme, General Manager, Public Affairs, City of

Philadelphia Water Department. "Our work with Audubon International is helping the PDW to meet that mission through direct environmental education and assistance to private land owners and managers."

In an effort to control the steadily increasing costs of stormwater management, the PWD has initiated a number of projects, including the incentive based Gross Area Credit. The credit provides tax relief to customers who create little or reduced runoff from their property. The Audubon Cooperative Sanctuary Program and the Audubon Cooperative Sanctuary Program for Golf Courses provide landowners with assistance and recognition for putting best management practices in place. Audubon International's programs, combined with the fiscal incentives of the credit, combine to further increase the business value of environmental stewardship.

Audubon International Drives Sustainability in Spain

NANCY E. RICHARDSON

PortAventura Golf Courses near Tarragona recently passed their final environmental on-site audit with flying colors and made history by becoming the first Certified Gold Signature Sanctuary in Spain. The resort's 45 holes of golf (27 designed by Greg Norman and 18 designed by Alfonso Viador) have been built as part of a plan to further expand the resort amenities. Because of its expertise in ecological design, habitat restoration, and sustainable development, Audubon International was selected to provide technical assistance and education for the PortAventura project team for the golf course development.

Tarragona is located on the Mediterranean coast, 60 miles southwest of Barcelona, Spain, in the region of Catalonia. While earlier settlements may have inhabited the area, the first occupation of Tarragona was by a Roman military camp in 218 B.C. It grew quickly and was named a colony of Rome in 45 B.C. by Julius Caesar. Tarragona is considered the most important Roman town in Spain. Ruins can be seen throughout the area and are even found on site at PortAventura golf courses.

The first tees at the Center course are located on the highest point of the resort where ancient olive and carob trees were original to the landscape and have now been replanted among the Roman and medieval structures uncovered during excavations shown here at the first tees.

A Sustainable Approach

In writing about the newly certified golf courses, this is first a story about the PortAventura resort and the environmental policy that is their corporate statement of commitment to protection of the environment.

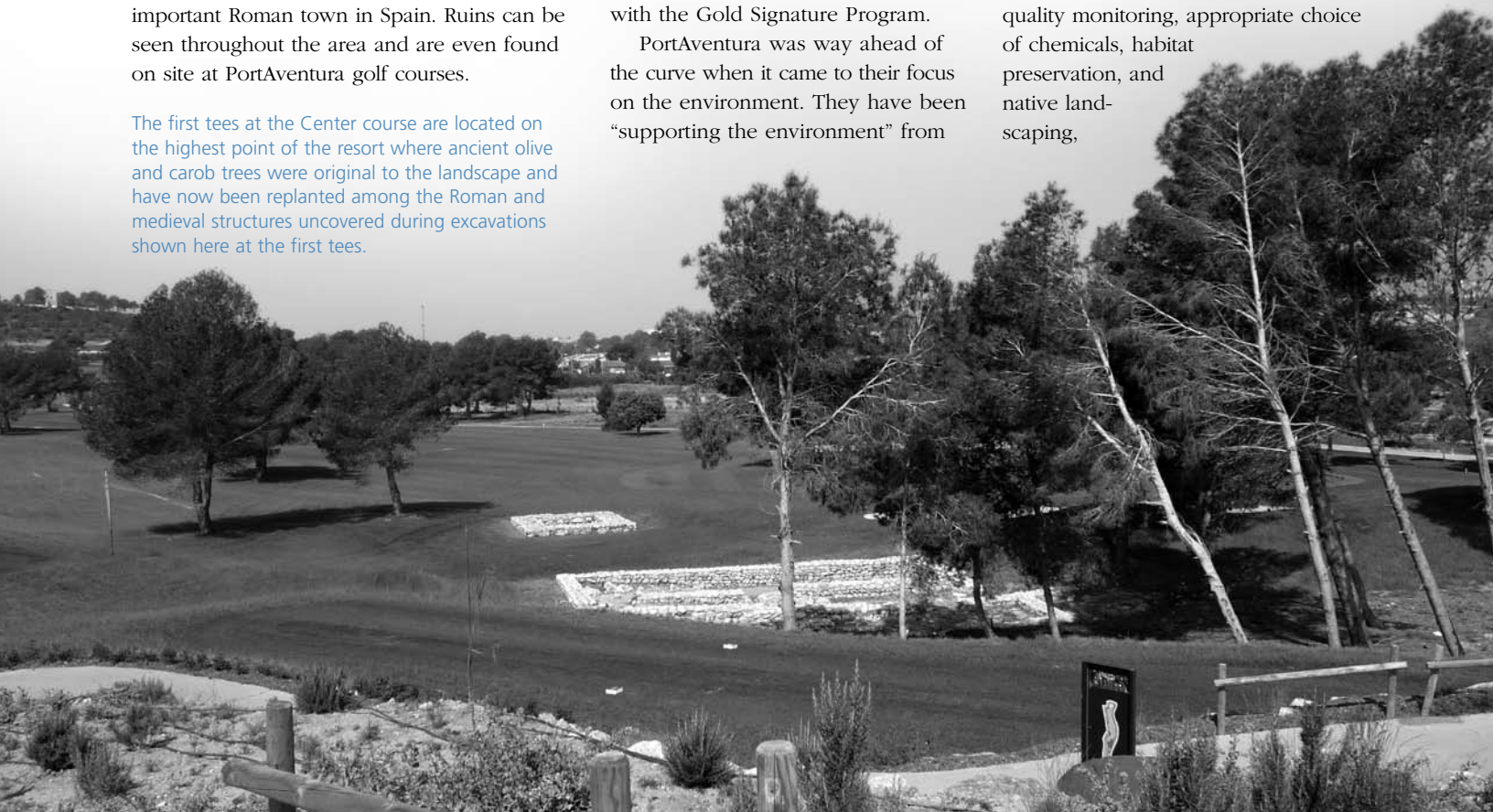
The first trip to the property in July 2007 was to learn more about PortAventura, its philosophy toward the natural resources on the property, and to meet those people making decisions. The trip included meetings with staff, looking at water delivery systems and storage rooms, and having landscaping discussion with specialists. It was clear that the golf courses were being created as amenities to the theme park resort. It was also clear that this theme park resort had unprecedented stature and commitment, making it an ideal fit with the Gold Signature Program.

PortAventura was way ahead of the curve when it came to their focus on the environment. They have been "supporting the environment" from

the start when they voluntarily decided to conduct business with utmost respect for the environment and its local surroundings. To do that, they created a corporate-wide Environmental Statement and environmental corporate philosophy.

Although only the golf courses were eventually registered in the Signature Program, environmental policy put in place by PortAventura resort-wide greatly impacted how well the courses would be constructed and operated for the long term. It was also made clear by the President of PortAventura that they had every intention of building these projects with the environment in mind because they knew of no other way to do it.

So when we talk about reducing construction waste, recycling water and waste, water conservation, water quality monitoring, appropriate choice of chemicals, habitat preservation, and native landscaping,



Excerpts from PortAventura's Environmental Statement:

“To educate, train, and raise awareness among all levels of company personnel in order to foster an atmosphere conducive to the success of any environmental measures.

To promote and commit ourselves to minimizing energy consumption, as well as minimizing waste generation, by giving priority to recycling and reuse.

Inform all people working for, or on behalf of, the company of our policy, including contractors and suppliers, and make sure that they adhere to our environmental rules.

To promote and commit ourselves to minimizing energy consumption, as well as minimizing waste generation, giving priority to recycling and re-use.”

PortAventura implemented that policy in many ways including, but not limited to, the following:

1995 > Best practices first implemented by recycling water from the treatment plant for use in the sprinkler system and re-channeling rainwater into the lake to keep it filled.

1996 > First waste management study conducted.

1997 > Creation of the Green Team Environmental Committee with members from all departments; Approval of Environmental Policy.

1999 > Design of an Environmental Management System for Eco-Management and Audit Schme (EMAS). EMAS is a management tool for companies and other organizations to evaluate report and improve their environmental performance.

2000 > EMAS certification is earned.

2004 > Contracts the ENVOY computer system from the company Entropy International for its internal environmental management.

2006 > Recovery and maintenance of the Sequia Major wetlands in Vita-seca, transferred to the local Town Council for use with educational environmental tours.

2007 > EMAS certification renewed. ISO 14001/2004 certification earned. Placement of containers in strategic locations throughout the resort for the selective collection of waste to allow visitors to sort three different types of waste. Environmental awareness information electronic signs with the EMAS logo and corporate environmental logo, environmental information posted in restrooms and other public areas.

Portaventura was already doing all of this throughout the resort. Making the switch to building from the ground up was not much of a stretch for them.

PortAventura Preserves History and Habitat

With an overall 65 percent of existing green space preserved during the project, the most important consideration in overall design of the courses was preserving the Sequia Major wetland, and enhancing connections from the other parts of the property to that wetland. The wetland area, an old irrigation channel used for agriculture, was protected during previous construction and a project for its restoration was carried out between 1996 and 2000. The land is still the property of PortAventura but is managed through an official agreement with the government environmental authorities. On the 18-hole Greg Norman-designed North Course, the original landscape has been restored and the 18 holes integrated seamlessly around the Sequia Major (named an Area of Natural Interest [EIN] by the Generalitat of Catalonia). In some of the flatter open areas, grains have been planted to stabilize the soils and provide habitat. Because the ground water table is so



Jose Gomez, golf course superintendent; Anna Vilarnau, Natural Resource Manager; Gloria Barbera, Certification Coordinator—enjoying a light moment after the Final Audit.

high (only about three meters above sea level), to prevent wicking of water up through the soils, a geo-textile was placed between the groundwater and the soil in which turf was to be grown. Salts in the groundwater could negatively affect soil structure and the ability of plants to survive.

The wetland is also home to the endangered fish species, *Lebias ibera* commonly called the ‘fartet’. The species is considered “Endangered” in the National Endangered Species List (Royal Decree 439/1990). It is also cited as “Endangered” in the Red Book of Vertebrates Spanish. Habitat destruction appears to be

one of the primary reasons for the species being listed so it was very important to have continued open water as well as to have the wetlands protected from human use.

The 9-hole Center Course is hilly and located on the highest part of the resort, where ancient olive and carob trees were original to the landscape and have now been replanted to restore that original landscape. Roman and medieval structures, such as those seen in Tarragona, only on a smaller scale, were uncovered during excavations and are preserved and easily seen at the first tees. This area will be one of the focus areas for historical interpretation.

What's Next?

When a property is certified as an Audubon Signature Sanctuary, such as PortAventura Golf Courses, it signifies that it has fulfilled the program's basic requirements. Yet, as the site matures and natural resource management practices are implemented, the long term results of the developer's many environmental efforts really come to fruition. So we congratulate the PortAventura team for what they have accomplished and look forward in coming years to see how the new landscaping is flourishing. ●

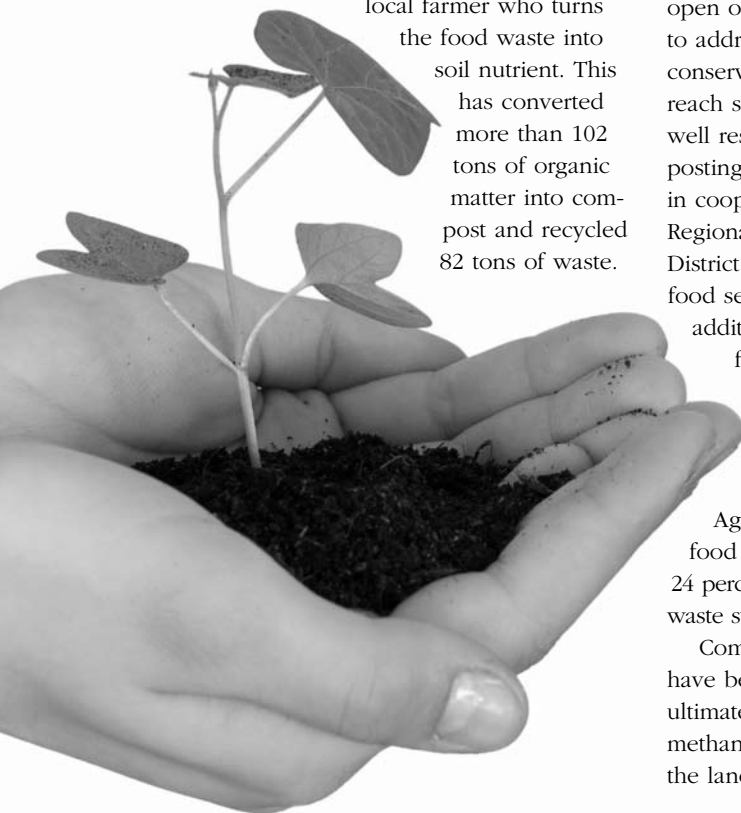
Community Based Nutrient Management

SUZI ZAKOWSKI

Balancing environmental stewardship and luxury are an increasing issue for hospitality management experts. The more components you add to the equation, the trickier the balance becomes. Yet, Stowe Mountain Resort has won another award for environmental excellence and has done so while maintaining the high standards the guests expect at the resort in Vermont.

CLIF® BAR, the leading organic-certified energy bar, has recognized Stowe Mountain Resort with a 2009 Silver Eagle Award for Environmental Excellence. The award hails the Stowe Mountain Resort for its leadership and innovation in waste reduction and recycling. Stowe Mountain Resort developed a stand-out waste reduction program by highlighting the power of food. The composting plan delivers impressive results—enjoying an 84.5 percent diversion rate. Stowe's program works with a local farmer who turns

the food waste into soil nutrient. This has converted more than 102 tons of organic matter into compost and recycled 82 tons of waste.



Those who are familiar with the resort might not be surprised. Since developing more amenities on the resort property, such as the Lodge, private residences, and the golf course, the management has made sure development is in strict adherence to an Environmental Charter designed to preserve the area's ecological viability. This includes designating 2,000 acres for wildlife preservation, using recycled storm water to irrigate the golf course, limiting pesticide use, implementing green building design to maximize water and energy conservation, and hosting local environmental education programs. The development and adoption of the Stowe Mountain Resort 2000 Community Master Plan was based on the objective to both reinvigorate and establish a sustainable future for the resort.

Because the Lodge was one of the final pieces of development to open on the property, opportunities to address waste reduction, resource conservation, and community outreach specifically for the Lodge were well researched. A resort-wide composting committee was established in cooperation with the Lamoille Regional Solid Waste Management District. Composting for the various food service sites at the lodge, in addition to the entire resort, was found to have significant environmental, social, and economic benefits if implemented. According to the U.S. Environmental Protection Agency, yard trimmings and food residuals together constitute 24 percent of the U.S. municipal solid waste stream.

Composting organic materials that have been diverted from landfills ultimately avoids the production of methane and leachate formulation in the landfills. The committee also

considered the community involvement in the process and the benefits to public and employee education. Economic benefits, including asset reallocation, generated revenue from marketing/public relations efforts, and cost savings, led to the conclusion that it costs a lot less to compost a ton of organic matter than it does to place it in the dumpster.

Many benefits, however, come from keeping the process local, and getting a return on the composted materials. If the product is used on-site, composting ultimately has the ability to prevent pollutants in stormwater runoff from reaching surface water resources and has also been shown to prevent erosion and silting on embankments parallel to creeks, lakes, and rivers, and prevents erosion and turf loss on roadsides, hillsides, playing fields, and golf courses.

The materials that are composted come from Solstice restaurant, Hourglass bar, Schuss gourmet shop, Aqua pool bar and the Lodge's associate dining area, and include fruits, vegetables, grains, meats, and compostable cups, plates, napkins, and utensils. In addition, all of the hotel's cut flower displays, yard materials, and grass clippings are composted. Due to the rich nutrient content, the resort can reduce the need for water, fertilizers, and pesticides. From May to December 2008, Stowe Mountain Lodge composted 204,500 lbs. of organic matter and recycled over 40,000 pounds of other recyclables. The resort has produced a landfill diversion rate of 84.5 percent, as compared to the statewide average of just over 30 percent. The documented savings of over \$8,600.00 from that period results from the diversion of disposal as municipal solid waste.

continued on page 11

Fact Sheet

AUDUBON
INTERNATIONAL



CHEMICAL STORAGE

Chemical Storage Upgrades

In every home, garage, maintenance facility, and office chemicals are found that have the potential to affect human health, air, and water quality. Included in this list of chemicals are cleaning materials, fertilizers, pesticides, oils, fuels, pool chemicals, and others. Even “natural” products pose risk and must be handled according to label instructions.

In the work place, the first decision affecting chemical storage is choosing what products to use. Base fertilizer selections on soil tests, follow integrated pest management protocol when picking out pesticides, and research what cleaning products will work best in your given situation. The next decision is how much to purchase. The less material you have to store, the less risk there is to you, fellow employees, and the environment. When possible, purchase only as much as you will need and time purchases to arrive at about the time you plan to use them.

Many of us purchase products that we use on a regular basis, so purchasing them “as-needed” is neither cost-effective nor efficient. For these products, providing proper storage is the first step in protecting the environment. The chart on the back of this sheet focus on the ideal situation for pesticide and fertilizer storage, but the principles can be applied to all chemicals.



If the leaking chemical lands on a paper bag or box, it can cause a hazardous chemical reaction to occur. When leaking bottles are on wooden shelves, the chemical soaks into the wood, and at the end of its storage life, must be treated as hazardous waste.



In this maintenance facility, the spill kit is located behind large containers and is too high to be removed quickly. Keep spill kits near the entrance and easily accessible.



Ideally, pesticides would be stored in the same place where they are mixed and loaded, thus reducing the risk of dropping or spilling the concentrated chemical during transport.



Placing bottles in plastic or metal storage bins is an inexpensive way to create secondary storage.



In case of fire, firefighters should have access to the list of chemicals, so store Material Safety Data Sheets in an easily accessible area separate from the chemical storage area.



Where you store

- Chemicals are stored in a designated chemical storage structure (that meets state or provincial codes), separate from the general maintenance facility, that is secure and has limited personnel access. Signage clearly marks the structure.
- Structure is climate controlled (heated or properly insulated) if chemicals are stored over the winter.
- Structure is well ventilated with powered venting capable of three air exchanges per hour.
- Powered venting is on a timer for automatic venting once per day.
- Structure includes passive venting to outside, where possible.
- Manual switch for fan is located on exterior of building or door.
- Fire safety precautions are in place and response plan is on file.
- Structure has explosion-proof electrical devices, if needed, or electrical devices on the outside of facility.
- Structure has an impervious floor, such as metal or sealed concrete, that is self-contained.
- Procedure or device (e.g., sump pump) is in place to clean up liquid spills, should they occur. Ideally, floor should be designed to drain to a trough or toward the door to facilitate safe clean up of spills.
- Structure has emergency wash facilities with adequate soap and water, including eye wash stations, in close proximity.

How you store

- A spill containment kit is readily accessible and easy to open.
- Current Materials Safety Data Sheets for all storage products are readily available.
- Spill containment procedures are posted and written in English (and Spanish/French, if needed).
- Pesticides are stored away from fertilizers and in an area with proper ventilation.
- Pesticides are kept dry and away from activities that might knock over a container or rip open a bag.
- Pesticides are stored off the floor on metal or plastic shelving or, if wooden shelves, have secondary containment (e.g., plastic bin or tray).
- Liquid products are stored below dry products or have secondary containment on the shelf.
- A minimum amount (one season supply) of pesticides is stored.
- Liquid pesticides stored during cold weather require additional consideration. Usually, when a liquid pesticide freezes, the only risk is separation of the active ingredient from the solvents or emulsifiers. However, if the liquid expands upon freezing, the container holding the pesticide may crack or rupture. Avoid having excess pesticides that require winter storage.

If you have only a few chemicals to store, limited space, and a small budget, a sealed metal toolbox can provide a locked space with spill containment.



Nutrient Management

Continued from page 8

Composting is made easy for employees by placing bins throughout the kitchens, so that all pre-consumer and post-consumer food materials can be easily gathered and separated from the trash. The associate dining area also has a compost bin that captures post-consumer food material during breakfast, lunch, and dinner breaks. The bins are emptied into 55 gallon drums, and then collected by Sanctuary Farms in Morrisville, VT.

Once the organic matter leaves the Lodge, a representative from the farm monitors it as it goes through three stages. The initial stage is the Mesophilic Stage, where microbes and organisms begin to break down material and the temperature starts to climb. The second phase is the Thermophilic Stage where the material reaches its highest temperature. The final phase is the Curing Phase, where the material decreases in temperature and stabilizes. The material is then turned and screened until the finished product is ready to be put back into the earth.

The product is being returned to the grounds of the resort, in a process called community-based nutrient management, which is the practice of generating organic material and utilizing this asset to achieve nutrient needs in the soil. By composting the organic matter generated and then



Composting is made easy for employees by placing bins throughout the kitchens, so that all pre-consumer and post-consumer food materials can be easily gathered and separated from the trash.

returning it to the grounds, Stowe Mountain Lodge closes the loop and returns nutrients back to the land. Stowe Mountain Lodge plans to bring 60 yards of farm-crafted compost back to the resort in the spring and add it to the hotel's landscape.

Spruce Peak at Stowe, the real estate component of the Stowe Mountain Resort Master Plan, has been recognized by Audubon International under the nationwide Sustainable Communities Program. Spruce Peak at Stowe has been praised by Audubon International for such sustainable development practices as energy efficiency, innovative stormwater collection and treatment, compact design and the use of native landscaping. In 2007 Stowe was the

first mountain resort in the U.S. to earn Audubon International's Green Community Award.

The Stowe Mountain Golf Club course has also received Signature Sanctuary Certification from Audubon International, and is one of only 63 golf courses in the world to have met these extremely high standards. This certification ensures that the golf course has been designed, constructed, and managed with a very comprehensive approach to environmental protection.

Finally, Stowe Mountain Lodge has also received specific designation through Audubon International, achieving a four out of five leaf rating in the organization's Green Leaf™ Eco-Rating Program for Hotels. In addition, the property is also designated a Green Hotel by the Vermont Green Hotel program. This program is a partnership between The Vermont Agency of Natural Resources and The Vermont Small Business Development Center, assisting and recognizing environmentally responsible hotels throughout Vermont.

Moving forward, Stowe Mountain Resort plans to compost all organic material generated throughout the entire development. The new Spruce Camp Base Lodge and the Stowe Mountain Golf Club Cottage have joined the composting effort. Being leaders in this movement exemplifies Stowe Mountain Resort's unrelenting commitment to environmental stewardship. ●

Coconut Creek, FL, earns Audubon Green Community Award

The City of Coconut Creek, FL, has earned the Audubon Green Community Award from Audubon International. The award will be presented at the City Hall on September 15th, 2009.

"The City of Coconut Creek has demonstrated a strong commitment to embodying the ideals of sustainability—economic vitality, environmental protection, and social responsibility," says Suzi Zakowski, Manager of the Sustainable Communities Program. "With the surrounding natural landscape of South Florida, Coconut Creek has much to celebrate. It is a unique place filled with residents, businesses, and community organizations that care deeply about the place they call home."

Coconut Creek is the first city in Florida to earn the Audubon Green Community Award for their ongoing green initiatives. Members of Audubon International's Sustainable Communities Program are eligible for the award, which recognizes environmental achievement and is an intermediate milestone on the way to earning rigorous designation as a Certified Audubon Sustainable Community.

Support Audubon International While You Shop!

**Support Audubon International while you shop online—
with no cost to you!**

When you register with iGive, a portion of any online purchase you make at a participating store (over 700 vendors) is donated to your organization or cause. Since so many of us shop online anyway, this is an easy, no-cost way to contribute to good causes. Simply visit www.igive.com/audubon to designate Audubon International as the cause you would like to support. To get credit for your cause, start online shopping at the iGive website. Or, install the iGive toolbar with donation tracker to ensure your cause gets credit for all qualified purchases automatically. This is an easy way to support our efforts. We hope you will register today!



Stewardship News

Audubon International publishes *Stewardship News* four times a year. Inquiries, contributions, or letters to the editor should be addressed to:
Joshua Conway, Editor
Audubon International
46 Rarick Road
Selkirk, NY 12158
Or sent via e-mail to: jconway@auduboninternational.org

Layout and Design: 2k Design, Clifton Park, NY
Printing: Benchmark Printing, Schenectady, NY

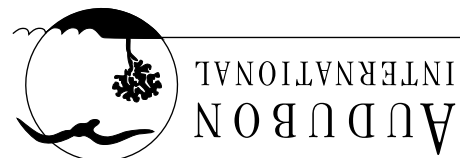
Audubon International is a non-profit environmental organization dedicated to fostering more sustainable human and natural communities through research, education, and conservation assistance. Programs seek to educate, assist, and inspire millions of people from all walks of life to protect and sustain the land, water, wildlife, and other natural resources around them. Funding is provided by memberships, donations, and program sponsorship. The ACSP Golf Program is sponsored by The United States Golf Association.

The newsletter is printed on recycled paper.

Look inside for a tear-out fact sheet!

Help us to keep up to date!
If you have a change of address or contact person, please let us know.
Call (518) 767-9051, ext. 110 or
E-mail jbatza@auduboninternational.org

Phone: (518) 767-9051
Web Page: <http://www.auduboninternational.org>
e-mail: acss@auduboninternational.org



Non Profit Org.
U.S. Postage
PAID
Permit No. 55
Delmar, NY 12054