



Reducing Turfgrass and Saving Water at Wildhorse Golf Club

SCOTT SUTTON, GOLF COURSE SUPERINTENDENT

In recent years, groups like the Southern Nevada Water Authority (SNWA) have worked hard to engage consumers to conserve water in response to severe regional droughts. One innovative program started by the SNWA pays consumers to have turfgrass removed and replaced with mulched landscape with at least 50% living plant cover at maturity. The SNWA provides a list of plant cover values to be used regardless of the size of the plants at time of installation. Irrigation is allowed, but it must be a drip irrigation system equipped with a pressure

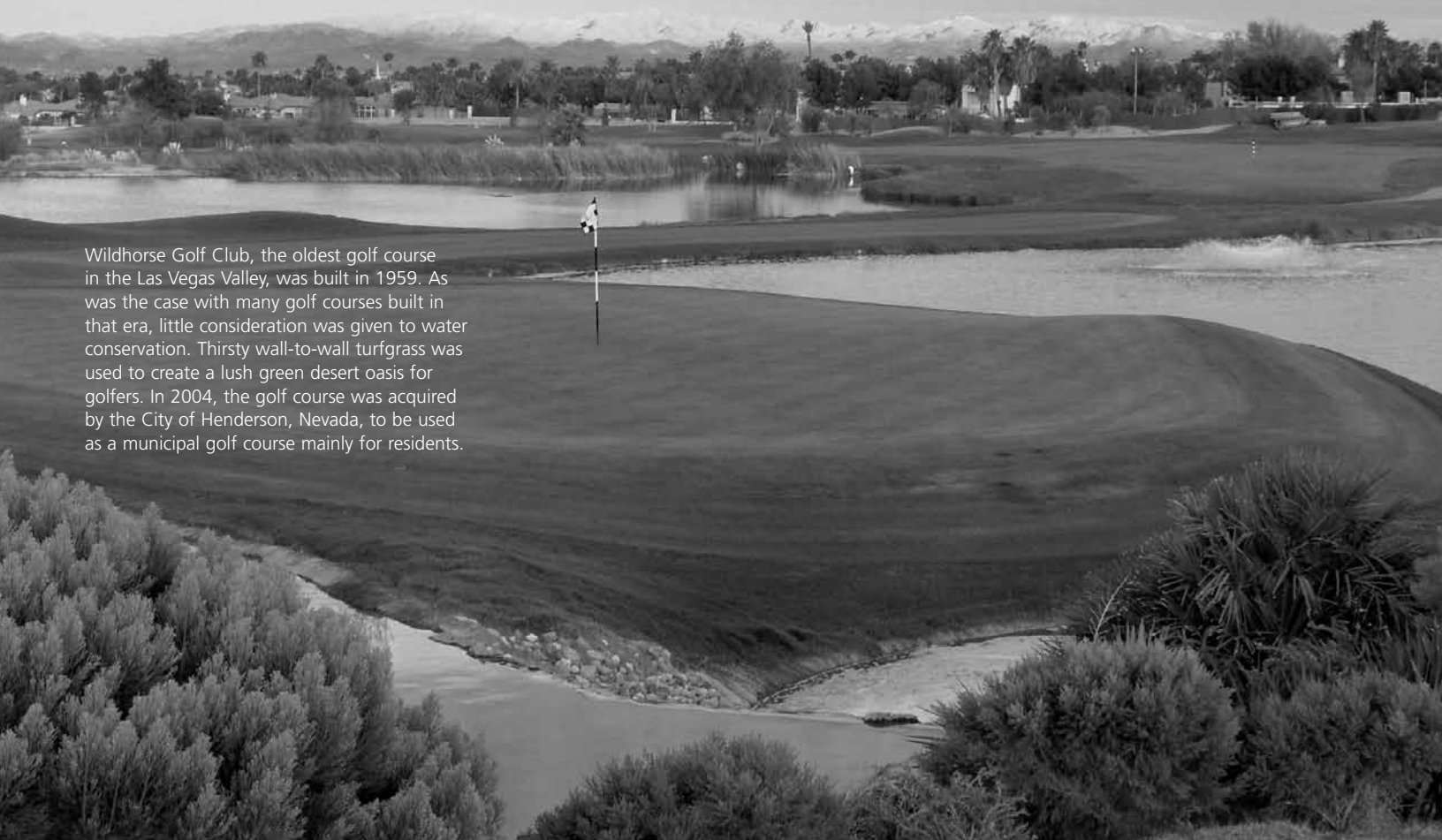
regulator, filter, and emitters. The rebate amounts have changed over the last six years but are currently a \$1.50 per square foot for the first 5,000 square feet and a \$1.00 per square foot thereafter, not to exceed \$300,000 per fiscal year.

Wildhorse Golf Club, Las Vegas, NV, decided to apply for the program primarily because of the water savings, but also to improve the aesthetics of the golf course and provide new habitat for wildlife. In 2004, 132 of our 135 acre property, was turfgrass and ponds. Since that time, 52 acres of turf grass has been replaced with

desert landscaping, including the installation of over 4,500 trees and over 3,000 desert plants. In landscape beds we installed a 5/6 inch minus decomposed granite mulch material so that the golfers could easily hit out of the landscape beds with minimal damage to their golf clubs.

Incentive programs are available for a variety of projects throughout the country, from turf reduction to energy conservation programs. The first step is finding what is available in your area. For this particular program, you need to complete an

continued on page 7



Wildhorse Golf Club, the oldest golf course in the Las Vegas Valley, was built in 1959. As was the case with many golf courses built in that era, little consideration was given to water conservation. Thirsty wall-to-wall turfgrass was used to create a lush green desert oasis for golfers. In 2004, the golf course was acquired by the City of Henderson, Nevada, to be used as a municipal golf course mainly for residents.

Dear Members and Supporters,

Earlier this year, I answered twenty of the most common questions we get about the Audubon Cooperative Sanctuary Program for Golf Courses (ACSP). I responded “no” to one of those questions: “Do I need to work with a consultant to become a Certified Audubon Cooperative Sanctuary?” After receiving reader feedback, I want to expand on this answer.

The main reason for that answer is because the ACSP is an *education* program that has a certification component to it. “Education” is the key word. As individuals work through the Site Assessment and Environmental Plan, put the plan into action, collect backup documentation, and develop a case study, they are on an educational path that not only changes the way a property is managed, but also the way those involved in the program think about property management. Hiring someone to complete the certification process diminishes the biggest benefit of the program.

Another reason is that we strive to keep the costs associated with the program low, including the program fee. And, we do not have certification requirements that require large investments in infrastructure. One of our more popular presentation topics is called “Greening Your Maintenance Facility on the Cheap.”

Finally, our staff have had some bad experiences working with consultants in the past. Sometimes a consultant comes in, does all the work, and leaves. No one is left on site that has any ownership in the environmental program and it falters. We want our members to be successful for the long-term and having dedicated staff and golfers on site is part of that success.

Similarly, some consultants simply ignore our program process. We have set up the certification materials to be as efficient as possible for our members to complete *and for us to review*. If a consultant changes the look of the submitted certification materials, perhaps to make them look more professional or to give us information we do not ask for, it slows down our review time substantially. The program costs are very low, and we simply cannot afford to extend the time needed to review materials.

That is not to say there is no place for a consultant. We do stress that the ACSP is not a one-person task, which is why we look for each member to set up a diverse Resource Advisory Group made up of staff, golfers, and local experts. Conducting a wildlife inventory, collecting water quality data, performing an energy audit, creating educational signs, and choosing native plants are just a few of the projects that our members might not have the experience to complete. Usually Resource Advisory Groups are made up of volunteers, but not always. A local consultant can bring expertise that you cannot find from a volunteer and will often be knowledgeable about local programs and incentives that you might be able to tie your environmental efforts to.

Also, if your property is dealing with significant environmental issues or is under heavy criticism, it can be a wise investment to have a professional gather some of your environmental information, such as conducting your water testing or performing an irrigation audit, and make recommendations based on their expertise.

So, for consultants that would like to work with our members, there are certainly projects within the program that a consultant can help with, especially if they approach it with a willingness to share in the educational philosophy of the program and help set up an active, resourceful, dedicated Resource Advisory Group. Feel free to contact us to discuss your strengths and how they might benefit golf courses in your area.

And, for our members, we do not require you to hire a consultant, but if it fits within your budget and helps to meet your specific sustainability goals, it might be worth exploring the option. But, please, do not hire a consultant simply because you need to in order to get your course certified. What benefits you receive from directly engaging in the education process of our program will serve you and your golf course well for many years to come.

Best,

Jennifer Batza
Membership Coordinator



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Celebrating 10 Years of Low-Impact Development at ThunderHawk

NANCY RICHARDSON

Next year will mark the twenty-year celebration of the registration of the first member in the Audubon International Signature Program. The Signature Program was created in 1992 as an opportunity for landowners/developers to benefit from a comprehensive approach to environmental planning and protection during the design, construction, and long-term management of a new project. Since that time, 92 projects have been built using low-impact development (LID) guidelines, best management practices, and experience gained by Audubon International Signature staff in working with these projects.

ThunderHawk Golf Club

ThunderHawk Golf Club is an 18-hole public golf course that is part of the Lake County Forest Preserve System in Illinois. Also a Robert Trent Jones II-designed golf course, ThunderHawk was registered in the Signature Program on May 6, 1996, and opened three years later. On April 26, 2001, the birthday of John James Audubon, it was certified as the first Signature Sanctuary in the state of Illinois. Built using low-impact development and best management practices from the design through construction, ThunderHawk Golf Club has sustainably maintained the property for ten years.

Located one hour from Chicago in the northeastern corner of Lake County, the course property totals 243 acres with only 33 percent of the course, or 80 acres, as maintained turf. The majority of the turf is pennlinks bentgrass, which was used for the greens, tees and fairways, and was chosen for its upright growth habit and less thatch characteristics. The rough is a combination of four cultivars of Kentucky bluegrass with native prairies used as a buffer between turfgrass and water to



Small sundrops in bloom.

protect the golf course's wetlands. The other 163 acres include 57 acres of native prairie, 32 acres of wetlands, and 74 acres of woodlands. The majority of the site drains eastward towards Bull Creek which drains to the Des Plaines River, a cause for concern during the planning process.

To mitigate the loss of nearly an acre of palustrine emergent wetlands directly impacted by the construction, over 900 native trees were planted throughout the site, in addition to the 200 existing trees, that were transplanted in groves throughout the course. An estimated seventeen acres of tree planting and woodland creation yielded a total of 84 woodland acres. In addition, 23.5 acres of undesirable woodland species such as

buckthorn were removed during the process. Tom Abbott, ThunderHawk golf course superintendent says, "Involvement with Audubon International starting with the design process kept us focused on the environmental issues facing the game of golf. Their assistance with the rerouting of play areas to protect large wetland tracts and keep wildlife corridors intact produced a more environmentally-focused product."

On June 23, 1997, the Illinois state endangered plant known as the small sundrops (*Oenothera perennis* L.) was found at the development site. Small sundrops are found in four Illinois counties with a total of eight populations identified state-wide. At ThunderHawk,

Celebrating 10 years of Low-Impact Development at ThunderHawk

Continued from page 3

fourteen additional colonies were discovered representing 2,000 individuals over six acres, primarily in the southeast corner of the golf course development. The plant's preferred habitat is heavy clay soils that retain seasonal moisture yet become very hard during droughts.

This unforeseen discovery turned out to be a great testament to the fact that when working with the appropriate persons and agencies, even discovering an endangered species mid-construction can have a happy ending. In the end, fairways twelve through sixteen, and eighteen, were found to have sundrops populations. The plants were transplanted from these areas and were permanently marked so that they could be located again in the future. Each plant was marked with a nail, two nail lengths to the north of the plant, and all original plants were marked with a nail and washer. Marking original plants helped to identify new plants and to track population increases over the years.

Each Sundrops Protection Zone is separated from the course by an eighteen foot split rail fence. Informative signs are posted at 100 foot intervals stating that this point is the "No Play Zone-Free Drop." Information about the sundrops as well as rules and regulations are printed on course scorecards and displayed in the



Tom Abbott, Course Superintendent and Mark Petitgoue, Superintendent of Lake County Golf Courses, stand at the entrance to ThunderHawk showing the Audubon Signature Sanctuary sign. Not only is ThunderHawk a locally used and appreciated facility, *Golfweek* named ThunderHawk among the 10 best municipal courses in the United States in 2009 and "Best in State" six years in a row. ZAGAT calls ThunderHawk one of "America's Top Golf Courses".

clubhouse. Golf balls entering these areas cannot be retrieved.

To ensure long-term survivability of the sundrops population, protection and restoration areas were defined so as not to

be impacted by current or future activities. A Natural Area Management and Monitoring Plan was created to address prescribed burning, exotic species removal, and other natural resource management related issues. Buffer zones were setup near protection where pesticide and fertilizer use is modified or eliminated, and a public awareness and education campaign was created to introduce the sundrops to golfers and guests.

Now fourteen years later, The Sundrops Conservation Area is still maintained according to the Sundrops Habitat Management Plan developed by the Lake County Forest Preserves' staff. Since the discovery of those first plants, the number of sundrops plants on the property has tripled. "We would like to thank the Lake County Forest Preserves for their continued commitment to protect the heritage of the region," says Nancy Richardson, Audubon International's Signature Program Director. "A certified Signature property serves as a model, providing encouragement and a good example for other landowners, managers, consultants, and the community at large to make responsible land management decisions based on the environment not just the economic values of the land. ThunderHawk Golf Club continues to represent that model." ●



CALL FOR NOMINATIONS!

Ronald G. Dodson Golf & the Environment Leadership Award



USGA Green Section National Director James T. Snow (right) is presented with the 2011 Ronald G. Dodson Golf & the Environmental Leadership Award by Audubon International founder and president, Ronald G. Dodson.

This award is designed to celebrate an individual or individuals involved with a golf course, project, or other effort connected to the game of golf which exhibits leadership in environmental stewardship and sustainability. Like the leader the award is named after, finalists and winners will stand as examples of innovation, leadership, and boldness in uncovering new and improved ways to protect and sustain the natural resources that the game of golf depend upon. This annual award is announced in February each year at the Golf Industry Show.

To nominate an individual (or individuals) who you feel has helped the game of golf become more sustainable, simply fill out the form below and fax or mail it to Audubon International by November 15, 2011. You may also submit the required information by email to the address listed below. No self-nominations please.

MAIL TO:
Development Office
Audubon International
46 Rarick Road
Selkirk, NY 12158

FAX TO:
518-767-9076

EMAIL TO:
jdeslauriers@auduboninternational.org

FOR QUESTIONS, send email to the address above or call: 518-767-9051 x120

2012 Ronald G. Dodson Golf & the Environment Leadership Award Nomination Form

Date: _____

YOUR INFORMATION

Name _____

Business Affiliation _____

Address _____ City/State/Zip _____

Telephone _____ Email _____

NOMINEE INFORMATION

Name _____

Address _____ City/State/Zip _____

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Please tell us why you feel the nominee deserves to be recognized through the Ronald G. Dodson Golf & the Environment Leadership Award:

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Reducing Turfgrass and Saving Water at Wildhorse Golf Club *Continued from page 1*



Reducing the amount of turf at Wildhorse Golf Club saves \$70,000 annually.

application, host a site visit by a SNWA representative who will pre-measure the area to be converted and take pictures, and sign a covenant agreement stating that the land will never be converted back to turfgrass. Like a conservation easement, this covenant transfers along with the land from owner to owner.

The two biggest costs for this project were labor and the decomposed granite mulch we chose. Over the six years, the project cost \$2,000,407 and we were reimbursed \$2,160,437.50 by SNWA. We invested the excess \$160,000 into upgrading our irrigation system.

“By taking advantage of this program, we are saving \$70,000 annually.”

Our biggest challenge has been weed control. The areas we converted to landscaping were maintained as turfgrass for almost 50 years, so the soil had been well irrigated and fertilized. Once the turfgrass was removed it exposed very fertile soil that provided a perfect growth medium for weeds. Considering our limited budget, using pre-emergent herbicide is out of the question. Luckily, being city-owned allowed us to take advantage of another program—the work-ordered court program. Individuals

from the court program can complete their community service work pulling weeds on the golf course. This has saved me countless dollars in both labor and herbicide expense and it's a more biological and environmental way of controlling the weeds.

Another challenge we face with the new landscape is the maintenance on the drip irrigation system. The entire golf course is irrigated with effluent water which plays havoc on the drip system. We installed 153 new electric valves with a basket filter and pressure regulator on each one to prevent the multi-thousand emitters from getting plugged. These filters need to be cleaned at least once per month, and twice per month during the late spring and summer. The drip emitters also need to be checked and cleaned regularly.

The main benefit of taking out so much turfgrass has been the water savings. The golf course converted approximately 40 percent of the property to desert landscaping. The water savings is approximately 27 percent. With the price of our reclaimed irrigation water this equates to approximately 67,000,000 gallons of water or \$56,000 total savings per year. In addition, we save \$14,000 annually in electrical costs for pumping.

By taking advantage of this program, we are saving \$70,000 annually.

The desert landscaping does have some down sides including the drip system maintenance and controlling the weeds, but in my opinion the golf course is much more aesthetically appealing and environmentally friendly. Our golf course is now considered a target golf course as opposed to a wall-to-wall turfgrass golf course. It did



“The wildlife love it. Very little, if any, wildlife was found on the course in 2004,” recalls Scott Sutton. “Now the local Audubon Society chapter visits the course monthly and has identified 62 species of birds so far this year!”

increase the toughness of the golf course a little, but now after six years, the golfers really like the changes. The trees and plant material are now getting some size and they are beginning to separate the golf holes a little better and give the golf course a unique look. And the wildlife love it. Very little, if any, wildlife was found on the course in 2004. Now the local Audubon Society chapter (Red Rock Audubon Society) visits the course monthly and has identified 62 species of birds so far this year!

Looking back over the last six years, I believe the project went extremely well and the golf course will see the future benefits for many, many years to come. If you are in Las Vegas, I would be happy to show you around. ●



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The newsletter is printed on recycled paper.

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