A journey through the ACSP certification process

Part 2

AUDUBON COOPERATIVE SANCTUARY SYSTEM

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In part two of the series on becoming a fully certified Audubon Cooperative Sanctuary, the Medalist Golf Club is applying for certification in Water Conservation and Water Quality Management.

But first, lets see how we did with the Resource Inventory and Environmental Planning category.

After completing the Resource Inventory for Medalist Golf Club, it was sent to Audubon International staff for their review. They in turn sent us an Audubon Conservation Report written specifically for Medalist Golf Club. This report contains an overview, as well as specific projects and programs they feel would be beneficial to the golf course.

The four page Medalist Audubon Conservation Report commended us for the extensive amount of natural habitats that were preserved, including wetlands, pine scrub and sand pine flatwoods, and the careful use of resources to prevent pollution and depletion.

Recommended Projects within the Conservation Report are as follows:

Wildlife & Habitat Management:

- Create wildlife "corridors" between habitat areas
- Plant flowers for hummingbirds, butterflies and songbirds
- Mount and monitor nesting boxes
- Mount a bird feeder
- Begin a wildlife inventory
- Add shoreline vegetation to water features where possible

Public Involvement & Education:

- Display registration certificate and other ACSP information
- Host wildlife walks or habitat tours
- Mount educational signs in naturalized areas
- Use newsletter to promote conservation efforts and educate golfers
- Create a simple brochure to highlight your ACSP participation
- Encourage homeowners/neighboring properties to get involved
- Invite local groups or school classes to help with projects such as nest boxes or wildlife inventories

Integrated Pest Management:

- Expand scouting and monitoring - designate one lead scout
- Reduce turf stress from carts, low cutting heights, and traffic
- Mount bat houses

Water Conservation and Water Quality Management:

- Mulch landscape plantings and garden areas
- Improve aquatic habitat and reduce nutrient inputs around water features by planting shoreline vegetation
- Discourage golfer activity and avoid heavy maintenance in and around wetlands
- Evaluate maintenance area for actual or potential water quality problems

When applying for certification in any category, Audubon staff will send you a Certification Status Report (which is new). This report lets you know exactly where you stand in the program; Categories Achieved, Categories Pending, and Categories Remaining. There is also a Certification Summary.

The Certification Summary for the Environmental Planning category let us know that additional development in IPM would be needed before certification could be granted, which includes:

1) Maintenance of written records including monitoring activities, control measures used, and results
2) Reduction of turf stress due to carts, traffic, or low mowing heights
3) Use of least toxic pest controls

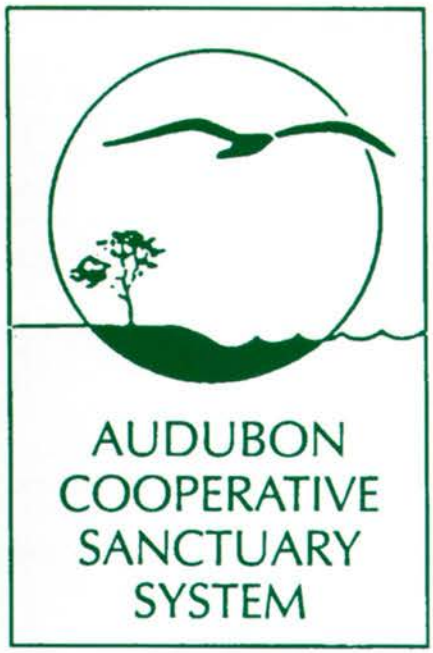
Additional projects will also need to be developed in the Public/Member Involvement category. Suggestions were offered such as putting up a display in the clubhouse or pro shop using certificates, art prints and photographs of projects we are working on. It was also suggested that we pursue having local community experts on wildlife help with specific projects.

We found both the Audubon Conservation Report and the Certification Status Report to be well written and filled with good information and suggestions for project implementation. Our Resource Advisory Committee will be meeting soon to start working on some of the recommendations.

The following is information submitted for certification in Water Conservation and Water Quality Management. We're making progress here at the Medalist Club toward becoming a fully certified Audubon Cooperative Sanctuary, and we hope you are too!

Certification for Water Conservation

Water conservation efforts at Medalist Golf Club have been implemented that demonstrate the Club's commitment to wise water use and environmental stewardship. The Club understands the importance of water conservation and the perils of the overuse of water.



The following is an overview of the Water Conservation Program for Medalist Golf Club:

Irrigation System

Medalist Golf Club has a Rain Bird Maxi - System V Irrigation System in use at the present time. The Maxi System allows us to interact among the various field satellites (Rain Bird MSC 24) in order to maximize the overall efficiency of the entire irrigation system. The irrigation heads are predominately Rain Bird Eagle Rotors.

Connected to the Maxi System V is the Maxi Weather Station. The station monitors daily climatic conditions, such as rain, wind speed and direction, solar radiation, air temperature and humidity. This monitoring allows the weather station to calculate an ET value for the previous 24-hour period. This information is then communicated to the Maxi System.

The Maxi System will then provide for automatic daily adjustments to the irrigation schedules. Due to soil conditions that tend to be very sandy and have high infiltration rates, normal irrigation cycles tend to be set at 100% of the daily ET rate.

Also connected to the Maxi System V is the Freedom System for Maxi. This is a radio operated system that integrates with the Maxi to provide control of the irrigation system from remote locations. The Freedom also provides voice communication to and from the field as well as remote locations.

These hand held units save us a lot of valuable time by being able to access the irrigation system from anywhere on the golf course. The Freedom System also allows for telephone calls to be received in the field, which is sometimes very convenient.

Water Source

Three sources of water are available for irrigation use at Medalist Golf Club. Our primary source is effluent water that is received from Hydrotech Utilities in Hobe Sound. The water is directly piped to our irrigation lake and quantities received are recorded daily.

If sufficient quantities of effluent water are not received for irrigation purposes, there are two 4-inch groundwater wells available for use. It is our intent to limit the withdrawals of groundwater for irrigation purposes to the maximum extent possible.

A third source of water is also available for irrigation purposes. All storm water and irrigation water is retained on the golf course, with excess water being captured and transferred back to the irrigation lake for future reuse.

It was Medalist Golf Club's desire to use this water as our primary source for irrigation purposes, but an upcoming modification in our water-use permit will prevent this water from being used. A more thorough explanation of why the storm water cannot be used for irrigation will be discussed when Medalist Golf Club applies for Certification in Water Quality Management.

Watered Areas and Frequency

Irrigation at Medalist Golf Club is minimized to the maximum extent possible at all times and watering is avoided as much as possible during peak evaporation periods. We recognize that the amount of water a plant requires to stay healthy can vary greatly from day to day.

Our Maxi System V, that is ET sensitized, when used properly, allows us to save resources such as water, power and turf products while improving the quality of the playing surfaces. Irrigating when needed and in the proper quantities equates to better overall plant health.

Medalist Golf Club is unique in the fact that there is no cut of rough on the golf course. Fairway acreage is approximately 27 acres and is normally watered 2 to 3 times per week. Greens, tees and approaches are closely monitored and watered on an "as needed" basis. Hand syringing in these areas is often done to keep "hot spots" to a minimum.

Water Recapture and Reuse

As mentioned previously, Medalist Golf Club captures all storm water and irrigation water received on the golf course through an extensive collection system and then transfers this captured water back to the irrigation lake with the use of a series of pumps. This water is then available for future reuse purposes. Absolutely no discharge of storm water or irrigation water is to occur at Medalist Golf Club at this time. A modification of our water use permit in the near future will change this.

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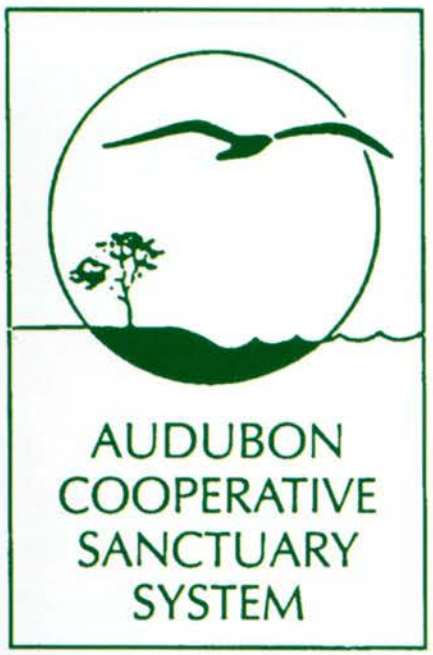
Turfgrasses

Medalist Golf Club has Tifdwarf bermudagrass greens, tees and approaches. Fairways are 419 hybrid bermudagrass with the exception of Fairways #17 and #18 which are GN-1, a new hybrid bermudagrass on the market. There are only 40 acres of turfgrass on the golf course and all is mowed to a height of 1/2" or less. There is no cut of rough on the course.



Water Distribution

Irrigation water is distributed to the golf course by a Flowtronex PSI VFD pumping station. This pump station has a delivery capacity of approximately 1800 gpm through the use of three 75 HP Newman motors.

With the assistance of a full-time irrigation technician, we are ensured that the irrigation system is operating as efficiently as possible at all times. Individual sprinkler heads are frequently checked and monitored to ensure proper and even water distribution.

With the aid of the Maxi System, a failure in the irrigation schedule is easily detected and corrected immediately. As one can see, there are many checks and balances to ensure that the system is operating as efficiently as possible.

Mulches

Medalist Golf Club recognizes the importance of mulches and makes it a practice to use these materials whenever and wherever possible. Pine straw is used extensively on and around the golf course. The straw helps to stabilize the native areas surrounding the course by preventing weed seed from germinating, minimizing the blowing of native sand into the playing areas and providing an area surrounding each hole that a golf ball can come to rest in, be found, and be played.

Wood chips have been used at Medalist Golf Club to build maintenance paths in the native areas of the course. Selective under brushing of non-desired plant species, that is then chipped, generates some of the material that we use to build these paths.

All landscaped areas on the golf course and its related amenities, such as the Halfway House and the comfort stations, are mulched. Choice of products used range from pine straw and wood chips to cypress mulch. The clubhouse is currently under construction and the landscape plan indicates that all beds will be mulched.

Water Reduction

Medalist Golf Club realizes that the supply of water in the world is finite. Water is neither created nor destroyed. We recognize that water is a commodity and we attempt to conserve it in every way possible.

From our elaborate collection system for storm water and irrigation water to our use of effluent water as our primary irrigation source, we are demonstrating to others our commitment to environmental excellence. Judicious water use is something everyone should practice and at Medalist Golf Club, we have made it a habit to use water wisely.

Water Quality Management

Water Quality Management Practices have been in place at Medalist Golf Club since construction began on the golf course in 1994. The Club's

Master Plan was designed to effectively integrate the course in a manner which enhances play, but all the while protecting the value of the surrounding wetlands and upland preserve areas.

The Martin County Growth Management Department consulted with Medalist Golf Club during construction to ensure environmental impacts in relation to the golf course design were kept to a minimum.

The wetland and upland preserves were incorporated into the golf course design in such a natural manner that minimal needs now exist for trimming or removal of vegetation from these areas.

The under brushing that is done is monitored on a full time basis by a qualified environmental professional. Any exotic vegetation (e.g. Brazilian pepper, malaleuca) that is found on site must be removed. This must be accomplished without the use of heavy equipment and any areas left void of vegetation due to the removal of exotics must be revegetated with appropriate native vegetation.

To further protect the wetland features on the golf course, all golf cart crossings are elevated boardwalks. Field inspections during construction by Martin County staff ensured the crossings were located in the least damaging areas.

These elevated cart crossings allow for wildlife corridors within the wetlands to remain open. Protecting our wetland areas is important to Medalist Golf Club, for we understand the significant role these wetlands play in supporting the various wading birds, birds of prey and small mammals that are present here and normally associated with these types of areas.

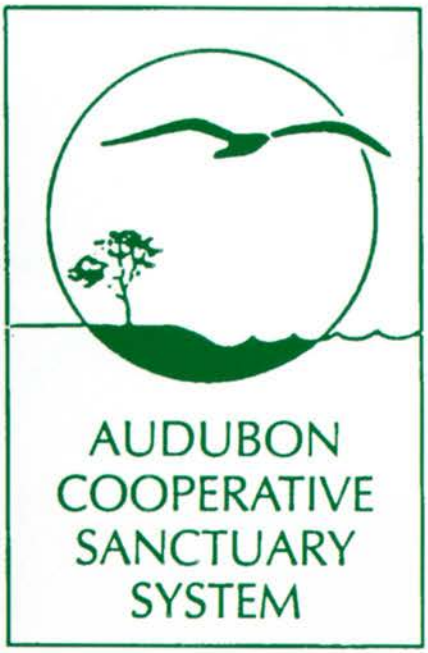
In conjunction with the Club's Site Development Plan, it is our commitment to see that all wetland and preserve areas are maintained and improved upon to reach a high utilization level in these areas by various types of wildlife common to our area.

Other Water Quality Management Practices include:

Water Quality Monitoring and Baseline Data

A Water Quality Monitoring Program is conducted on a quarterly basis by McGinnes & Associates Consulting Laboratories, Inc., at six different locations throughout Medalist Golf Club property. These surface water samples are collected by the "bucket grab" method and then iced for delivery to the laboratory.

Analyses include pH, dissolved oxygen, alkalinity, total nitrogen, total phosphate, orthophosphate, and conductance. This program was initiated in June of 1995 and will continue for a minimum of three years. Additional sampling locations are available and will only be used in the event that unusual or unexpected



results were to appear from the original six locations.

Four groundwater monitoring wells are also being sampled within the requirements of Medalist Golf Club DEP Land Application Permit. A few of the parameters that are being measured at these well sites include: nitrates, chlorides, pH, total phosphorous, total dissolved solids and total nitrogen.

In accordance with a mutual consent agreement between Medalist Golf Club and South Florida Water Management District, time zero and baseline monitoring reports are soon to be prepared. These reports will establish parameters that must be maintained within our Wetlands Mitigation Program. This reporting will continue on an annual basis for a period of five years. Tom Lucido and Associates, Inc. will be preparing these reports for Medalist Golf Club.

Wetlands

All wetlands within the property of Medalist Golf Club are protected and appear to be in a very viable and productive state. The Time Zero and Baseline Monitoring Reports being prepared by Lucido and Associates, Inc. will provide the club with valuable information that can be used to ensure these wetland areas remain pristine and productive.

Under the guidance of David Coogan, the Club's environmental technician, and with the assistance of Environmental Waterways, our lake management consultant, the wetland areas are frequently monitored to ensure that exotic vegetation is removed upon it's discovery. Also, other nuisance species such as torpedo grass, spike rush and duck weed are kept to a minimum, either by manual removal or spot chemical treatment.

Buffers and "No Spray" Zones

Medalist Golf Club has implemented a program, with the assistance and guidance of David Coogan, to plant vegetative buffers within the man-made water features on the golf course. These plants as they mature will filter excessive nutrients from our water bodies.

The surface water sampling program will assist us in monitoring nutrient levels, and hopefully these aquatic plants will help to ensure these levels are kept in check. It should be noted once again, that no runoff from the golf course is allowed to enter our water bodies.

All runoff from storm water and irrigation water is captured on the course and transferred back to the irrigation lake. This elaborate drainage system will aid in keeping our water bodies in a healthy state.

Our IPM (Integrated Pest Management) technician has been instructed not to spray directly into or near the water bodies on the golf course when applying turf products. This procedure will minimize potential contamination of our water features.

Also, our lake management applicator is instructed to check in with the Golf Maintenance Department prior to applying any products. This open communication line is important, as this procedure ensures us that only areas within our water bodies that need to be treated are being treated.

Drainage

As previously mentioned, all storm water and irrigation water that is received on the golf course is captured and then returned to our irrigation lake. This lake is lined with a 40 mil polyplastic liner. Effluent water is also received and stored in this holding area. The resulting mix of water becomes what we use to irrigate the golf course.

No filtering mechanisms are currently being used within our irrigation lake. However, opportunities to improve the quality of the irrigation water are being explored. Random sampling of the water is done to ensure nothing harmful is being applied to the golf course.

Such tests include pH, total dissolved solids, chlorine levels and dissolved oxygen. Should any of these levels become a concern, corrective measures will be taken.

Chemical Additives

Other than occasional spot treatments for unwanted vegetation within our water bodies, no chemical additives are currently being used at Medalist Golf Club. These spot treatments are kept to a minimum and used only if manual removal is not economical or is not feasible.

Other Water Quality Management Strategies

Medalist Golf Club has installed an equipment wash down system which is very efficient at removing particulate matter from the water that is used to wash down the maintenance equipment. This system was installed by Chemical Containers, Inc.

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