

Environmental planning

Audubon plan for becoming a guardian of nature

BY SHELLY FOY
USGA Green Section

AND TOM BENEFIELD, CGCS

In part two of our series on the Audubon Cooperative Sanctuary Program for Golf Courses, we are going to offer tips on the "Environmental Planning" category.

First however, I would like to back track just a little.

STEP 1: Your course has made the decision to join the ACSP and you have sent in your registration form and \$100.00 registration fee. (Forms can be obtained by calling the Audubon Society of New York State, Inc. at (518) 767-9051 or by calling the USGA Green Section Florida office at (407) 546-2620.

STEP 2: Your golf course then be-

EDITOR'S NOTE: This continuing series of articles is designed to provide ideas which we hope will stimulate interest and creativity in this very positive environmental program. We have asked for help and ideas from superintendents around the state who are either seeking certification or have already received it.

The following segment is made possible by the generous supply of information from three outstanding Florida golf course superintendents. What we have provided are suggestions and ideas. Specific programs should be geared for your particular property and interests. So enjoy the information you are about to receive, for it comes from the best source in the world — you. TJB

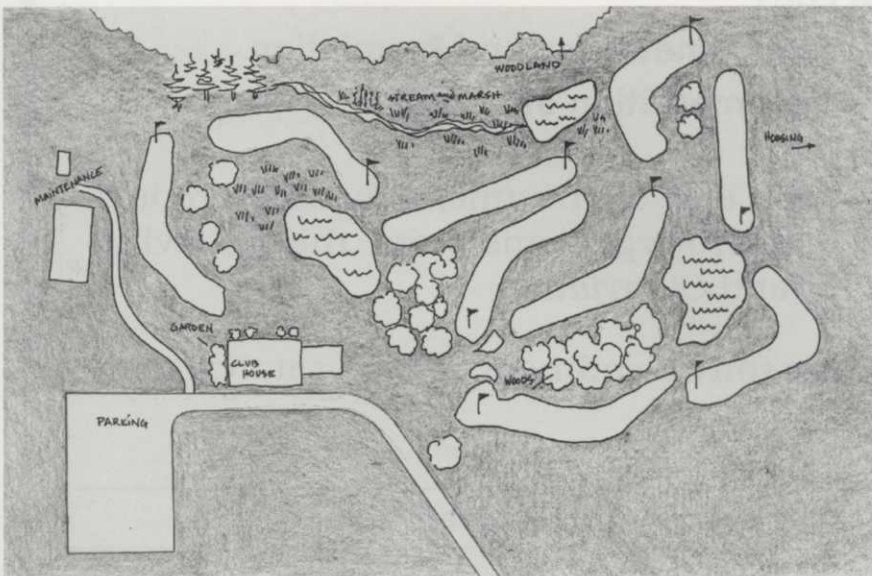
comes a registered member of the ACSP. You will receive a resource inventory handbook asking specific questions about your golf course property (size, existing habitat, etc. Once completed, the ACSP staff will use your resource inventory to provide you with a written report specifically for your golf course. This report will contain suggestions and recommendations on conservation and habitat en-

hancement.

Keep in mind, the ACSP staff only makes recommendations to your course. The final decisions concerning implementation of projects remains with the golf course superintendent and course officials.

STEP 3: You will need to form a Cooperative Sanctuary Committee, or "resource committee." This committee

First, map it out



such as trees, shrubs, woods or grass. Label these the best you can, and be as specific as possible about the types of vegetation present. Next, draw in any special features or distinct environments on your site. These may include water features, wetlands, gardens, steep slopes, or special maintenance areas. Outline surrounding land use that borders the property. Finally, label existing areas of high wildlife activity. Sketches courtesy of the Audubon Society of New York State, Inc.

To get a good picture of what you're starting with and plan appropriate habitat projects, make a simple map of your

property. First, draw in property boundaries, roads, buildings and parking areas. Then add golf play areas and existing vegetation,



could include staff of the golf course, board or greens committee members, golfers, and at least one person from the local community with expertise in the types of projects you wish to undertake.

Choose people willing to volunteer their time and energies to develop and implement habitat enhancement projects. Your committee will serve many purposes, including becoming technical advisers, volunteer laborers, public relations persons, but mostly, their commitment to the land and wildlife of the golf course should remain constant.

Choose people you feel comfortable working with. The Audubon Society of New York State does not specify who needs to be on your committee, nor are there any meeting requirements for this group.

STEP 4: Now you are ready to start documenting your efforts and receiving certificates of achievement for each of the six categories listed below:

- 1) Environmental Planning
- 2) Public Involvement
- 3) Wildlife Habitat Management (Formerly Wildlife Cover and Food Enhancement)
- 4) Integrated Pest Management
- 5) Water Conservation
- 6) Water Quality Management (Formerly Water Enhancement)

*The categories have recently been updated to help clarify and simplify the process.

To achieve status as a Certified Cooperative Sanctuary, all six categories must be reported to the Audubon Society of New York State and the criteria met.

Now, on to Environmental Planning.

The Environmental Planning category is like your blueprint or map. Your plan should include goals and how you plan to achieve them. Check each of the categories and see what you are doing now and what you can do to improve them. Do you have a time frame or deadline you want to set?

You are writing this plan to achieve certification in this category, but by being specific in defining goals, you will be making the process easier for yourself and your committee.

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Protecting nature is guiding rule at Tampa Palms

Since its conception in 1985, the guiding principal of the golf course design at Tampa Palms has been to preserve and protect the delicate beauty of the natural environment.

The property on which the course is built lies within the flood plains of the Hillsborough River and great care was taken during the construction of the course to ensure that the "natural areas" on and around the course were not disturbed. The associated residential community has been laid out in such a manner to preserve 50 percent of its original acreage for the development of parks, green spaces, nature preserves and other important components such as wildlife corridors and buffers.

Our commitment here at Tampa Palms, in the community and on the golf course, to preserve and protect the flora and fauna communities found in this area is not an imposed restriction, it is basic to the original design ideal.

Our plan for the future is to learn more about the techniques and practices available that will allow us to maximize the potential for this property as a sanctuary for the increasingly stressed populations of Florida wildlife.

As development of the Interstate 75 corridor proceeds, we are seeing wildlife populations such as deer and turkey increase as they seek supporting habitat and relief from the stress of sharing space with

All this planning has helped make the golf experience at Tampa Palms a very enjoyable one.

commercial and residential development.

All this planning has helped make the golf experience at Tampa Palms a very enjoyable one. Not only can one play a championship course designed by Arthur Hills, but one experiences a journey through an ancient Florida wetland, complete with encounters of wildlife such as osprey, hawks, alligators and numerous other species of birds and animals. Having blended golf and nature together in harmony at Tampa Palms is something we are proud to have and are working hard to ensure it remains that way.

Suggestions I have for anyone who wants to write their certification program for environmental planning are:

1. Talk with the architect of the golf course and find out what his design concepts were for your course.

2. Talk with the developers of the community associated with your course (if applicable) and find out their intentions for creation of preserves and green spaces within the boundaries of the community.

3. Develop and implement a long-range plan (2-5 years) for golf course projects such as the building and location of nest boxes.

4. Develop and implement a comprehensive IPM program for your golf course.

5. Establish good working relationships with local authorities such as the county extension agencies, local parks departments, County EPC and your respective water management district. Get to know people within these agencies on a first name basis.

6. Conduct your daily operations in a professional manner. Work within the limits that have been established for pesticide and water use. Be responsible for your management practices.

7. Educate your staff and your golfing membership as to the benefits of the Audubon program. Stress to them the importance of managing environmentally sensitive areas in a safe and effective manner.

8. Do a thorough job of documenting your efforts that you put forth when working on projects that you have selected for your course. Remember that a photo will tell a story within itself. Notes and photographs will come in handy when writing your certification program.

Above all, don't get discouraged with the program and think that it is going to take up too much of your precious time that as we already know, all superintendents are short on. You must set some time aside for the start-up program, but hopefully some of your staff can help once the program gets under way.

I would be happy to answer questions that anyone might have about Tampa Palms involvement with the Audubon Cooperative Sanctuary Program. Feel free to give me a call at (813) 972-3375.

Greg Plotner

Tampa Palms Golf & Country Club

Why should my course join the ACSP?

As we all know, there is a growing negative perception about the golf course environment and the management programs practiced. As a member of the ACSP, your course will:

- Receive advice to improve current project efforts and suggestions for new conservation projects.
- Be recognized for its commitment to wildlife and environmental quality.
- Provide wildlife habitat and also add beauty and distinction to the golf course while enhancing the enjoyment of a game of golf.
- Provide financial savings from reduced maintenance costs and conservation measures.
- Help preserve a healthy, diverse and beautiful landscape for future generations.
- Set a positive example for others to follow.



Wetland planting area during construction at Olde Florida Golf Club, Naples

Olde Florida: Environmental concerns are a daily effort

At Olde Florida Golf Club, we are fortunate to have had the time, ability and foresight to give great consideration to the surrounding environment in planning and construction of the golf course.

Now, after the turfgrass is established and the golf course is in full operation, consideration of the surrounding environment remains a daily effort for the maintenance staff and the membership. This effort has transpired into a written plan that details the steps that have been taken, as well as ongoing and future plans.

This written plan is what composes our Environmental Planning section of the Audubon Cooperative Sanctuary Program. This written plan is also one of the six steps that must be completed to become a Certified Audubon Cooperative Sanctuary.

The Environmental Planning category must include information detailing the efforts being made in the following five categories: Public Involvement, Integrated Pest Management, Wildlife Habitat Management, Water Conservation and Water Quality Management.

Below are steps that we have taken in an

attempt to comply with each category.

Public Involvement

Involving the public at our club began with forming a Resource Committee of club members and other interested individuals.

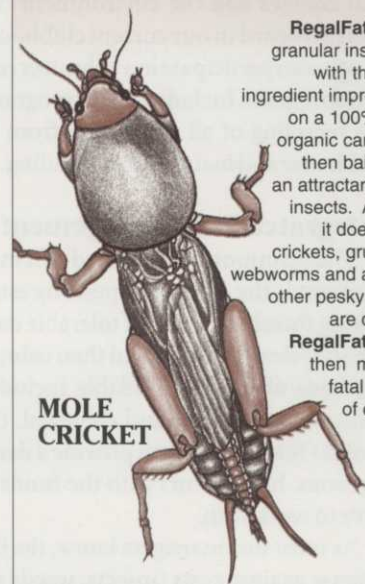
I began by writing an article for our club newsletter explaining the positive impact our golf course has on the environment. The article further explained the requirements for certification as a Cooperative Sanctuary System sponsored by the Audubon Society of New York State, Inc.

I received numerous calls of support and was able to sign up nine members for our Resource Committee. I also included a local fifth grade teacher on this committee who had no connection with the membership or the club. Through the help of the teacher, we arranged a field trip for the fifth grade class to our golf course.

The purpose is an effort to educate the students on the numerous positive impacts that Olde Florida and other golf courses have on the environment and the community. We took pictures of the students on the golf course, combined it with a written explanation and released this

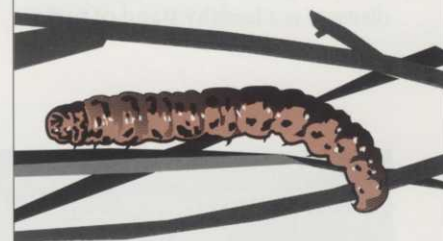
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information to the press in an effort to further educate and inform.

Another effort that takes very little work and can increase public awareness is displaying the certificate of participation in the program in a highly visible area.

Our certificate is on display in the reception area of our maintenance facility. Once we move into our permanent clubhouse, we will post a plaque in the lobby. In the meantime, I post interesting articles about golf courses and the environment on a bulletin board in our current clubhouse.

We also participate in a volunteer recycling program. Included in this program is the recycling of all aluminum from the clubhouse and maintenance building.

Integrated Pest Management

The definition of integrated pest management is the control of pests by establishing threshold levels of tolerable damage (physical & visual) and then using all methods of control available including cultural, mechanical and chemical. Our goal at Olde Florida is to provide a dense, vigorous, healthy turf with the funds we have to work with.

As most turf managers know, the best defense against pests (insects, weeds and disease) is a healthy stand of turf.

A key factor in an integrated pest management program is the ability to correctly identify host plants, key pests and their life cycles that can affect the turfgrass and ornamentals on the golf course.

Part of our integrated pest management program is being aware of individual plant sensitivity to stress (pesticides, mechanical and environmental). Stress could weaken the turf and increase its vulnerability to invasion by pests. A well-trained staff is critical to the success of a properly executed integrated pest management program.

In the original planning stages of the golf course, turfgrass and ornamentals were selected which are indigenous to our site. This practice will continue with any future plantings of ornamentals.

Our site is predominantly Pine, Cypress and Palms. There are also a few scattered Bay trees, Dahoon Holly and Wax Myrtle.

Species currently existing on site will be the only types of plants brought in if additional plant material is necessary. This will result in fewer problems with pests, stress, disease and will decrease pesticide use.

Unfortunately, regardless of how much we would like to not use any pesticides, it is impossible to completely eliminate them. Therefore, to be a successful integrated

pest management manager, it is critical to correctly apply pesticides.

To define this, a written Pesticide Methodology was transcribed and posted at Olde Florida. This methodology includes good record keeping of chemical applications and mapping of troublesome areas on the golf course. By keeping written physical documentation of pest problem areas, chemicals can be applied by spot applications rather than wall to wall chemical applications.

When chemicals are applied at Olde Florida with a boom sprayer, raindrop nozzles (larger particle size) are used, which reduces the potential for drift.

A pre-emergent herbicide can be a valuable tool to reduce the need to apply a post-emergent herbicide. If the pre-emergent herbicide is used with just cause, it can also be a valuable integrated pest management method.

At Olde Florida we have four golf holes that have reached an unacceptable threshold level of goosegrass. After cleaning up these four holes with a selective, post-emergent herbicide, a pre-emergent herbicide is applied. This is done only to these four holes to prevent the germination of additional weed seeds that are inevitably in the soil.

Wildlife Habitat Management

Providing food and cover for wildlife is essential for attracting and sustaining healthy wildlife populations.

There are numerous ways in which we are accomplishing this, one of which is simple and very noticeable to the membership or guests. It is the addition of bird feeders around the maintenance facility and clubhouse. This can also prove to be a very noteworthy public relations move.

A second method that is less noticeable to the membership is the perpetuation of existing native trees that are a very good natural food source.

At Olde Florida, these trees include Cabbage Palms, Pines, Cypress, Dahoon Holly and native Lantana.

Cabbage Palms produce a black fruit that many birds eat and the palm thatch is used for nesting material.

The Cypress trees produce seed cones that squirrels and ducks eat.



Newly planted wetland plants along lake bank at Olde Florida Golf Club in Naples.

HEADS UP



This is the existing wetland planting at Olde Florida Golf Club in Naples.

Pines provide winter cover and have abundant seeds.

Other plant species on our property that benefit wildlife as a food source is the Dahoon Holly, native Lantana and Wax Myrtle.

These species provide abundant berries for birds and other animals. In addition, they can be aesthetically pleasing. Dahoon Holly was chosen for planting in front of the windows in the maintenance facility and around the clubhouse patio.

The red berries are attractive and also provide food for birds which staff and visitors can see the birds eat from within the building. Any future plantings that occur on the golf course will be from one of the previously listed native plants.

Since Olde Florida is a non-residential golf club, we are very fortunate not to be driven by real estate pressure of golf course views.

This made it possible to establish wildlife corridors between all the golfholes. The wildlife corridors are areas of native vegetation that are selectively cleared to varying degrees. These corridors provide wild-

life with safe freedom of movement around the golf course.

Trees are very beneficial for wildlife cover as well as providing framing and backdrops for the golf course. When construction was complete, a small number of areas on the golf course needed some additional plant material to connect existing natural areas. These areas are being filled in with native vegetation and then mulched to hold in moisture.

Another method of managing woodland areas for wildlife is allowing dead trees to remain standing if they pose no threat to

the membership or employees. These dead trees provide food sources and nesting sites. When these trees fall to the ground, they return nutrients to the soil.

When construction was complete on the golf course, there were hundreds of dead trees that were allowed to remain. In addition, several trees were struck by lightning during construction and their trunks still remain standing.

The dead trees, or “snags,” are abundant with nesting areas and birds such as

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ACSP environmental planning outline

1. Wildlife Habitat Management:

A. Current: Native saltwater marshes are overgrown with non-native species of Brazilian Pepper and Melaleuca trees.

Future: Plan a non-native tree removal program to enhance the natural wetland area, allowing Red & Black Mangroves growth to provide cover for wading birds. Cary Lewis to monitor. Began 5/93.

B. Current: Clean edges with little vegetation throughout the fresh water lake system on the golf course.

Future: Planting of fresh water aquatic plant material to improve fish population and increase habitat for our many species of wading birds. Mike Swanson to monitor. Began Spring 1994.

C. Current: Few Nesting Cavities.

Future: Initiated and installed a nesting box program (Adopt-A-Box), membership funded, to attract bluebirds, wood ducks and other varieties. Randy Mosley to monitor. Began Spring 1993.

D. Current: Several small areas currently maintained as golf

turf.

Future: Investigate native grasses and wildflowers to possibly plant in these areas to increase habitat. Cary Lewis to monitor. Begin Spring 1995.

2. Water Conservation:

Current: Toro automatic system, using 100% reclaimed water for irrigation of all property. Practice deep watering programs which increase efficiency. Reclaimed source has high sodium levels which causes some salt burn at certain times.

Future: Install an acid injection system that will decrease the soluble salt load and increase water effectiveness. Cary Lewis to investigate and install when funding is approved.

3. Public Involvement:

Current: "Adopt-A-Nest" program for members and guests. We have installed a permanent Audubon Information Center in the Proshop, which includes bird books and a wildlife log.

Future: Native plant tagging program to increase awareness. Tom Pyne to monitor.

Cary Lewis
Stouffer Vinoy Resort

ACSP workshops announced

Florida golf courses are in a position to take a positive environmental leadership role with involvement in the ACSP. Currently, over 100 Florida golf courses are members of this very worthwhile program. Canada is behind us with 74 members and Michigan, Illinois and California follow with approximately 65 each. This program offers a wonderful opportunity to get the word out that golf courses are good for people, wildlife and the environment.

To help golf courses who have already joined this program and want to become certified, the USGA Green Section, the Audubon Society of New York State, Inc., Tampa Palms & Golf & Country Club in Tampa, and Collier's Reserve in Naples, are offering two, one-day ACSP workshops.

The dates are Thursday, August 11 at Tampa Palms Golf & Country Club and Monday, August 15 at Collier's Reserve. The format will be a three-hour workshop in the morning, lunch, followed by golf in the afternoon. The learning process will continue through your round of golf, as ACSP programs implemented throughout the golf course will be pointed out and explained by literature provided.

The cost for this seminar is \$40 and GCSAA CEU's are being applied for. Space is limited at both sites. To register, call

- Greg Plotner, Tampa Palms G & CC 813-972-3375 Aug. 17
- Tim Hiers, Collier's Reserve 813-597-7063 Aug. 15

If you would be interested in hosting a ACSP workshop at your golf course, please call Shelly Foy with the USGA Green Section at 407-546-2620.

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Eagle, Osprey, Hawk, Swallow-tailed Kite, Dove, Owl, Woodpecker and others.

In addition to the natural, native wildlife nesting sites on the property, we are in the process of building artificial nesting structures. These boxes will be placed in open areas, along wood edges and near

lakes to attract a variety of bird species. Osprey feeding in the lakes has also been a common occurrence, so we are mounting an Osprey nesting platform.

Another beneficial form of wildlife cover that takes very little extra effort and that is a common practice at Olde Florida is the disposal of all organic material from the golf course property on site. We take brush,

tree limbs and other material and dispose of it on unused areas of the property.

The disposal of these materials creates new habitats for Fox, Skunk and other small animals.

Water Conservation

I am fortunate in that I was hired early in the project and I was able to assist in the design of the pumping and irrigation systems. We were able to incorporate numerous water saving technologies.

One method was installing part-circle heads on most lake banks and tree lines, eliminating excess water from being thrown into these areas. Dispersing irrigation water into natural areas not only wastes water and fertigation, but increases electricity costs. This also benefits existing native vegetation.

By irrigating native vegetation, you can force decline and encourage unwanted weed competition.

The greens are constructed to USGA recommendations with dual heads installed around all of the putting surfaces. A part circle head irrigates the perimeters on nights that we do not desire to water the greens.

The USGA greens are also a valuable form of water conservation. The perched water table effect allows us to irrigate the greens deeply every three to seven nights, depending on the climate conditions. In between nightly irrigation cycles, only a small amount of hand watering of "hot" spots is needed, thus eliminating the need to water more frequently.

The irrigation system that we chose to install at Olde Florida is a computerized system that includes a weather station. This system allows us to replenish only the necessary amount of water, as determined by the daily evapotranspiration rate that the weather station transmits to the computer.

The computerized system also shortens the necessary time to run the irrigation on the golf course. A rain sensor is also linked to the computer that will signal the shut down of the irrigation cycle in case of rain.

Water conservation at Olde Florida remains an ongoing process. The Irrigation Technician and Assistant Superintendents make continued course checks



Osprey observation perch at Olde Florida Golf Club in Naples.



A well thought-out environmental planning guide is evident here as the young hatchlings of the Sand Hill Cranes are doing quite well.

Photo by Tim Cain

looking for wet or dry areas and adjusting the run times accordingly.

By adjusting nightly run times on the golf course, the turf remains as healthy as possible without having to do excessive watering of dry areas in the daylight hours. Adjustment on the part circle heads is also periodically checked to insure parameters have not unintentionally changed.

Fertilizer and chemicals that require subsequent irrigation are timed so needed irrigation that follows the application would coincide with a normal scheduled watering. A pre-set schedule is not adhered to for chemical and fertilizer applications. A guideline of these applications is prepared, which is then altered by a few days if necessary to coincide with needed nightly irrigation.

Water Quality Management

The largest, most noticeable form of water quality management is the addition of over 70,000 sq. ft. of planted wetland

vegetation. Some of these areas were planted during construction to comply with Collier County and South Florida Water Management District requirements.

Since this time, more plantings have been added and others are in the process of being added, by utilizing mature plants from the existing well-established wetland planting areas. These wetland plants not only provide a pleasing visual water enhancement, but are a tremendous wildlife cover and serve as wildlife food enhancement areas.

Numerous birds, including a variety of egrets, are a normal site in these areas. Also abundant in these areas are alligators, turtles and fish, all of which use the sites for beneficial cover and as a food source.

Another form of water enhancement is actually a form of preventive maintenance on the lake banks and the water. Fertilizer or granular chemical applications on the golf course are done carefully so as to not throw material into the water.

Instead of using large tractor-drawn spreaders around the water's edge, the lake banks are fertilized by hand using walk behind rotary spreaders. The weeds on the lake banks are hand-picked when necessary so that only a very small amount of pesticide spraying has to take place on the turfgrass in close proximity to the lakes. If spraying is deemed necessary, spot application is used whenever possible.

Environmental planning is more than just a step in the certification process for the Audubon Cooperative Sanctuary Program. It is a way of thinking that includes many avenues that all lead to the same end result. By consciously following a written environmental plan and making your voice heard outside the golfing arena, you can prove that not only can golf courses co-exist with nature, they can greatly improve the environment as a whole.

Darren Davis
Olde Florida Golf Club

