



# Environmental Complacency

As an industry, we cannot rest on our laurels. We must be vigilant in our efforts to inform golfers about the price of what they are demanding. Why do the golfers appear no more involved than they were a decade ago? Why isn't every course in the Audubon Program?

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When Rachel Carson penned the now-famous *Silent Spring*, she addressed an aspect of American life wrought with ignorance regarding pesticide use and environmental quality. The outrage stirred by *Silent Spring* provoked the anger created by the "cranberry scare" of 1959.

Cranberry growers applied a pesticide during the growing season in defiance of Food and Drug Administration (FDA) restrictions. The pesticide found at low levels in the cranberry supply was suspected of causing cancer. These events had a profound and enduring effect on the public consciousness. In many parts of the country, this concern persists today.

The golf industry experienced a similar *Silent Spring* event with publications from the United States Government General Accounting Office in 1988 asking the question, "Are the Hazards of Lawn Care Pesticides Underestimated?"

Then in 1989 the Attorney General of New York published "Toxic Fairways; The Risk of Groundwater Contamination from Golf Courses." Jay Feldman and his organization, National Coalition Against the Misuse of Pesticides (NCAMP) and other activists seized the moment to confront

the golf industry.

The initial response from the industry was defensive. The 1992 GCSAA conference held a packed session for thousands for golf course superintendents to hear from Mr. Feldman and officials from the EPA. The following year the GCSAA invited Michael Fumento, author of *Science Under Siege* who reported the results of topical searches he conducted on "golf courses" and "cancer."

"Golf courses fight cancer, as professional tournaments raise funds" Fumento proclaimed with the results of his search. The crowd erupted and you could sense that the golf course superintendents wanted this crisis over. Still, information was lacking regarding the fate of pesticides and nutrients applied to turf.

The United States Golf Association embarked on an important research initiative to more thoroughly understand the influence of golf turf management on environmental quality. The environment under investigation was air and water quality.

Concurrently, Ron Dodson was introducing a program to the golf industry that assisted the golf course superintendent with environmental management. Ron was also the driving force behind the Wildlife Links Research Program that investigated the

influence of golf turf management on wildlife. The research information was on its way, and now there would be a mechanism for implementation.

## Environmental Evolution

The USGA held a symposium at a 1998 meeting of the American Chemical Society to discuss the decade of USGA-funded environmental research. As a member of the Research Committee at the time, it was a unique experience to hear from the leading researchers in our field and then to have their work in a Symposium Book published in 2000.

The opening chapter authored by Mike Kenna and Jim Snow provides an excellent overview of the research. In the concluding section they state, "university research shows that most pesticides used on golf courses have a negligible effect on the environment." This has been the cry of golf course superintendents since the research has been completed.

Audubon International programs for new and existing golf courses has grown over the last decade, but still represents about 10 percent of all courses in the US. In fact the number of fully certified courses is well below 5 percent of all courses. Most courses are either not involved or if they have paid the entry fee (\$100), have not actively pursued full certification. Yet, in many states, the Audubon Programs are actively embraced by government agencies as a means of insuring environmental quality when a new facility is proposed.

Many golf courses throughout the country continue to face public opposition to pesticide and fertilizer use. Several communities in California have banned the use of most pesticides and this trend is actively underway in New York. The turfgrass industry has responded by mounting significant lobbying efforts to combat the legislative agenda of advocacy organizations. At the same time, the industry faces new pest problems such as bentgrass deadspot and gray leafspot that require substantial pesticide inputs to maintain expected quality.

## Another Level

Millions of dollars have been invested to research the environmental fate of applied chemicals. These studies attempt to





## Audubon, GCSAA Environmental Accomplishments

### Florida's Newest Audubon Cooperative Sanctuary Golf Courses

The Bear's Club, Jupiter  
Copperleaf GC, Bonita Springs  
El Conquistador CC, Bradenton  
Hideaway Beach GC, Marco Island  
Raven GC - Sandestin Resort, Destin  
Santa Rosa G&BC, Santa Rosa Beach  
U. of Florida GC, Gainesville  
Weston Hills C.C., Weston

### New Fully Certified Audubon Cooperative Sanctuaries

Chi Chi Rodriguez Golf Club, Clearwater  
Hammock Dunes Club, Palm Coast  
IGM - Savannahs at Sykes Creek, Merritt Island

IGM - Spessard Holland Golf Course, Melbourne Beach  
Naples Lakes C.C., Naples

### Recertified ACSP Courses

Foxfire G&CC, Naples certified since 1998  
Old Marsh GC, Palm Beach Gardens certified since 1998

### GCSAA Environmental Management Program

Stephen W. Wood, CGCS, El Conquistador C.C. in Bradenton has earned an environmental management specialist certificate from GCSAA for completing a specialization program in Integrated Pest Management.

trations that might cause human health concerns. But what if the levels we have been using were harmful to other species vital to aquatic ecosystems.

Environmental researchers from Canada published an assessment of nitrogen pollution influence on amphibians in a 1999 issue of *Environmental Health Perspectives*. The paper is a review of available water quality information for the Great Lakes region of the US and Canada. Of the over 8,000 water-quality samples collected in areas surrounding the Great Lakes, 20 percent of them were found to have concentrations that cause sublethal effects in amphibians. Nitrate levels as low as 2.5 par per million have been shown to affect amphibians.

The nitrate in the water appears to disturb the digestive process in tadpoles in a way similar to the mechanism in humans. The nitrate is converted by the bacteria in the infant's gut and then severely restricts the blood's ability to become oxygenated. There is a significant lack of information

determine the role that specific management practices may play in minimizing off-site movement and often use EPA con-

centrations to evaluate success. In general, these levels are established from toxicological research that determines concen-

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available on the toxicity levels relative to the different amphibian species, including influence on the predators and prey.

The review did not point the finger at the turfgrass industry, but rather pointed to the need to understand the influence of wastewater treatment, livestock, precipitation, and fertilizers on nitrate pollution. Clearly, as major users of fertilizers for turfgrass areas such as golf courses, we must be aware of best management practices to minimize off-site movement. In addition, turf is an important vegetative buffer and biofiltration system to protect sensitive aquatic habitats. Now is the time to think about this bigger picture before another crisis occurs.

#### What's Next?

Kenna and Snow end the chapter in the ACS Symposium Book saying, "The USGA, and the game of golf, need to keep asking questions and looking for new ways to maintain golf course grasses. More important, efforts should be increased to educate

the golfer about environmental issues." The importance of these points cannot be overstated, yet I am regularly amazed at how many in our industry feel that the environmental crisis is over. I sense a complacency among organizations and industry leadership that image, labor issues, and expected turf quality are greater challenges, since they know the results of the USGA studies.

There is nothing more important to the wellbeing of the game of golf and our industry than environmental quality. Yes, the data is encouraging that as far as we can measure, there appears to be little negative influence, yet as we continue to ask questions we find new answers. At the same time, we need to look at course management. Should we plant ryegrasses where gray leafspot is going to be a problem? Can we justify intense pesticide use for new pest problems? Are we creating these problems from the conditions we create? Why do the golfers appear no more involved than they were a decade ago? Why isn't every course

in the Audubon Program?

As the human population grows, the concern for environmental quality will be even greater. As an industry, we cannot rest on our laurels. We must be vigilant in our efforts to inform golfers about the price of what they are demanding. In some cases, we may not know exactly, but shouldn't we err on the side of caution? The amphibian study is only one aspect of what we are a part of, as Carson states in *Silent Spring*, "the fabric of life, on one hand delicate and destructible, on the other miraculously tough and resilient, and capable of striking back in unexpected ways."

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STEWARDSHIP NOTES BY SHELLY FOY

# Summer is Really Here!

One of my favorite things about this time of year in South Florida, however, is that you can't go outside without hearing birds everywhere. For the first time in four years, I have great crested flycatchers nesting in a box in my backyard.



I have to laugh because I am constantly telling superintendents to be patient with their nest boxes, that sometimes it just takes a while for the birds to find them. I should take my own advice, because I am probably the most impatient person on this planet. Happily, I can now sit out on my patio and watch the mom and dad flying in and out of the box feeding their young. It just makes me feel incredibly satisfied with life.

I have found the secret to getting information for this column: pick up the phone and call people. Since you won't send the information to me, here is your heads up that I will be calling, so start making some notes on your environmental projects and programs.

### Nest Boxes

I have truly enjoyed some recent phone conversations with George McBath, ornithologist from Naples. George works with

a lot of golf courses in Florida installing birdhouses and setting up monitoring programs for them. George now has over 1300 birdhouses on over 46 golf courses in Florida. He is currently monitoring birdhouses on 26 golf courses in Southwest Florida.

For any golf course interested in establishing a nest box program, George McBath is the person you need to call. George has designed his own nest boxes made out of all recycled material. You can call George at 941-774-2820.

According to George, "It is nice to have birdhouse projects, but it is important to adopt the physician's credo: *First, do no harm.* You need to check the birdhouses at least twice a month during the starling nesting season, and if you find starlings, they absolutely need to be eliminated."

George went on to say that, "Particularly on more urban courses that are surrounded by homes and shopping centers,

you really need to be concerned about starling reproduction. They are going to be more prevalent in these areas because they tend to hang around areas where there are a lot of people." Shelly's advice: Go out and buy a good book on Florida birds that has pictures of the birds and the eggs before you start your monitoring program.

George also talked about birdhouses fulfilling another function: wintertime roosting. He has seen quite a few red bellied woodpeckers roosting in boxes during the winter.

George tells me that these are the birds in Florida you can expect to find nesting on your golf courses: screech owls, bluebirds, great crested flycatchers, carolina wrens, red bellied woodpeckers, downy woodpeckers, nuthatches, kestrels and purple martins,

Now, obviously that does not mean that every golf course will attract all of those birds. It basically depends on the surrounding habitat, and what area of the state you are in. For instance, even though technically bluebirds could be found in Southeast Florida, I can't tell you where any are. However, they are all over the place in Southwest Florida. Same with Kestrels: you are more likely to find them the further north you go in the state.

In talking about purple martin houses, George says that the success rate for the first year is over 90 percent. Basically, if you put up purple martin houses, you are going to have nesting success. He was particularly pleased with the purple martin boxes at Stonebridge in Naples. They had very good first year results with the boxes on the golf course, and more than that, a lot of the homeowners were so impressed they

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## North American Birdwatching Open

Florida golf course participants  
in Birdwatching Open:

### ACSP Courses

(Golf Course, City, Total  
Species)

IGM @ Aquarina CC, Melbourne  
Beach, 33

Foxfire Golf and CC, Naples, 54

Heritage Pines GC, Hudson, 66

Indian River Club, Vero Beach, 50

Interlachen CC, Winter Park, 30

Royal Poinciana GC, Naples, 51

Seminole GC, Tallahassee, 17

IGM @ Spessard Holland CC,  
Melbourne Beach, 23

The Majors Golf Course, Palm  
Bay, 42

Panama CC, Lynn Haven, 28

Shadow Wood CC, Bonita Springs,  
50

IGM @ The Habitat GC, Malabar,  
43

### Signature Courses

Bonita Bay East Courses,  
Naples, 42

Collier's Reserve, Naples, 61

IGM @ West Bay, Naples, 50

Twin Eagles, Naples, 25

got involved and put the purple martin boxes on their properties as well. And that folk's is what it is all about... educating people and setting good examples.

George was also particularly impressed with the Waterlefe Golf Course in Bradenton. He said they had quite a diversity of birds, and that on the first day he was on the course he counted 62 species. They must be doing something right!

Can you imagine the data we would have if every golf course in Florida kept track of the bird species present and monitored and kept track of nesting birds? I have no doubt we would all be impressed with the numbers. More importantly, people outside of our industry would be impressed as well.

### Everglades grants

The EGCSA recently gave grants to two golf courses to install bluebird boxes: Countryside and Gleneagles. Countryside had

three nesting pair this first year. Gleneagles had bluebird sightings on top of the boxes, but no nesting to date.

I also recently checked in with Collier's Reserve, and Pepper Terry reported that in a three-year period, 129 species of birds have been counted! Collier's Reserve has some members that are avid birders, and they keep an ongoing species list.

I also enjoyed hearing about the golf course tours they give every year to schools. This year, they gave 28 tours in three months to 580 students ranging from first graders

to seventh graders. These students toured Collier's Reserve from six different schools and a Boy Scout troop. Collier's would like to thank Bill Gamble and Bill Gordon from Club Car of Florida, who donated four transporters to help get the students around the golf course this year. Bill Davidson and/or Pepper would be happy to give you the scoop on how they organize these school tours, so just give them a call.

### Replacing bermuda roughs

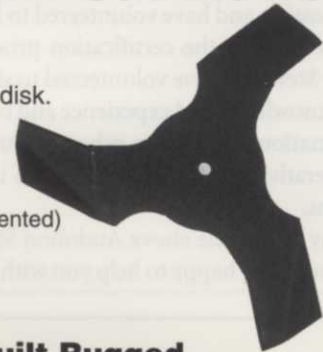
Matt Taylor and I talked about Audubon

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related projects at Royal Poinciana. Just in the past year, they have taken out over 15 acres of non-play bermuda and have planted over 27,000 native grasses, including cordgrass, fakahatchee grass and muhly grass. They are working on a longrange drainage plan, and have donated a pair of bluebirds for the Everglades project talked about in the Winter 2001 issue of the *Florida Green*. McBath also did a bird count for Matt, and on May 14, there were a total of 348 birds and 41 different species counted.

#### Audubon Steward Network

Audubon International has developed an Audubon Steward Network made up of people that have taken a property through certification and have volunteered to help others through the certification process. These Stewards have volunteered to share their knowledge and experience and be an information source for other Audubon Cooperative Sanctuary members in their regions.

Any one of the above Audubon Stewards would be happy to help you with any

questions you might have about the ACSP. If you have taken a property through certification and are interested in being an Audubon Steward, call Joellen Zeh, staff ecologist for Audubon International at 518-767-9051 ext. 14, or e-mail her at [jzeh@audubonintl.org](mailto:jzeh@audubonintl.org).

#### Birdwatching Open Results

For the fourth year in a row, Audubon International has invited members of the Audubon Cooperative Sanctuary Program to participate in the North American Birdwatching Open. It was held on International Migratory Bird Day, May 12. Interested members were given forms and asked to identify by sight or sound, all bird species on their property within a 24-hour period. The purpose of the event is to gather data on specific bird species that use managed lands and to demonstrate publicly that many land managers are committed to responsible environmental stewardship.

There are more Florida golf courses than are on this list that have birds on

property, right? Joellen will be making changes to the Birdwatching Open for 2002, and I sincerely hope that more of you will participate. We currently have 231 ACSP registered properties in Florida. I know we can do better than 16 participants. (I'm hoping that a little guilt will work wonders)

#### Meadowbrook Birdwatching Cooperative

Lyne Page, Meadowbrook/IGM Environmental Compliance Coordinator reported that they had five courses in close proximity work together to participate in the Birdwatching Open. Three of those courses are managed by IGM. The Majors, Indian River Club, IGM at Habitat, IGM at Spessard Holland and IGM at Aquarina had 12 volunteers spread out across the area counting, and everyone was pleased with the results (*see results above*).

Lyne was also particularly pleased with some recent naturalization projects at Spessard Holland. The golf course only has 65 acres, and they have still been able to

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## Audubon Stewards in Florida

**Buddy Keene**, Gainesville Golf & Country Club, Gainesville

**Bob Karnes**, Disney's Osprey Ridge, Lake Buena Vista

**Matt Taylor**, Royal Poinciana, Naples

**Jeff Klontz**, Country Club of Florida, Village of Golf

**Ron Hill**, Amelia Island Plantation, Amelia Island

**Lyne Page**, Meadowbrook/IGM, Lakeland

**Don Merritt**, Hobe Sound Elementary School, Hobe Sound

**Shelly Foy**, USGA, Hobe Sound  
**Todd Lowe**, USGA, Englewood

naturalize over 10 acres. They primarily used saw palmetto, muhly grass and sea oats. The golf course also has a 3-acre butterfly garden planted with coontie, beach sunflower, and galardia. The butter-

fly garden was planted last summer and Lyne reports that it is just beautiful!

A personal comment on the Meadowbrook/IGM golf courses. There are currently over 40 of them in Florida, and each one is a member of the Audubon Cooperative Sanctuary Program. Currently, six are fully certified, and most of them are enroute towards full certification. I'd personally like to give a pat on the back to Scott Zakany and Greg Plotner for seeing the importance in having all of these golf courses participate in the ACSP. Kudos to you both.

### Everglades Bluebird Project

Here's the quick update on the golf course bluebird translocations and their current status from Gary Slater (*see article in Winter 2001 issue*). We moved a pair of bluebirds before they began breeding from each of three golf courses: Royal Poinciana, Foxfire, and Grey Oaks. All except one of these birds, the female from Foxfire, have been found nesting in Everglades National Park.

The Grey Oaks pair nested, but an

American crow depredated their nest. We expect them to renest. Birds from Royal Poinciana and Foxfire nested together in the unlikely location of a hole in a Ted Shed, but just fledged three juveniles. Finally, the second bird from Royal Poinciana is nesting with a Big Cypress bluebird that was also translocated this year. Their nest is still active, but should fledge soon.

At two golf courses, The Glades and Eagle Creek, we moved a pair and their nestlings. All the nestlings fledged in their aviary fine. Unfortunately, a snake made a meal of the two fledglings from the Glades. The Glades birds were radio-tagged and released and one has been located on a couple occasions. The pair from Eagle Creek split up after release, but we found the female with one surviving juvenile. The male has been flying all over Everglades National Park and we locate it regularly.

Gary will give us a full update on the Bluebird project in the next issue of the Florida Green.

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