

Truly, a Team Effort!

Dear Joel (Jackson):

I must read 25-30 professional and turf magazines per month and most are the same old huma-huma; except for Golf Course Management which I seem to read cover to cover — sometimes twice. Well, the Fall 1994 issue of The Florida Green may have even beat out GCM. I have not only read it entirely several times, but I found that most of the articles are perfect support documents for several GCSAA seminars I teach.

In particular all of the “heads up” environmental articles were interesting, informative and instructive. Short, well written, and intellectually provoking. A couple of issues of those kinds of articles could be reprinted as a “how to” booklet for Florida and southern tier golf courses. I know I saved them for future reference, as I did the “hands on” series for proper safety, security, and management techniques.

Congratulations to you and all of your contributors, sponsors, and members for doing such a professionally awesome project. A truly spectacular effort.

Sincerely,
Michael J. Hurdzan

Michael J. Hurdzan of Columbus, Ohio is a well-known golf course architect and a past president of the American Society Golf Course Architects.

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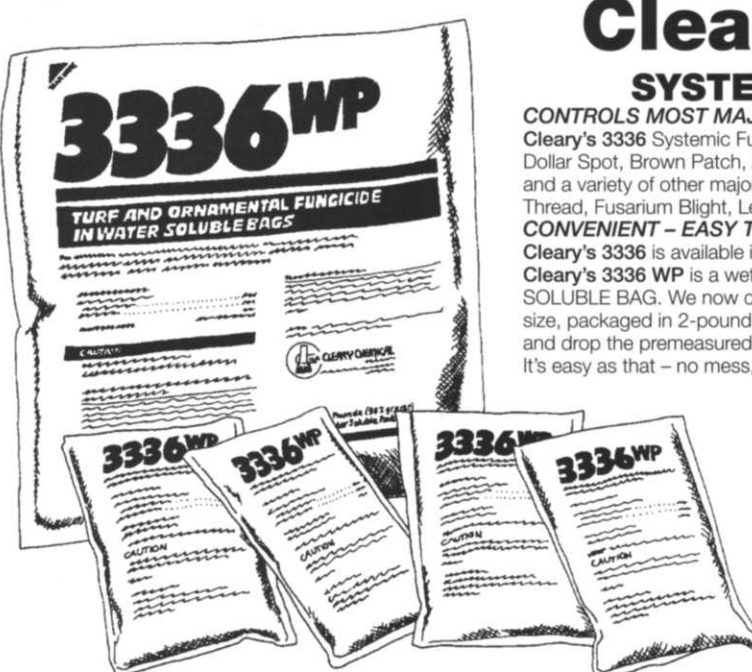
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Anhinga drying her wings.



Trio of White Ibis (immature) at dinner.

...not even one scientific article reporting bird populations in urban areas.

AmerAquatic Water and Wading Bird Survey

Bird Populations on Golf Courses

“Most native birds cannot survive in these highly-altered, asphalt and concrete environments.”

“In the less altered and more vegetated suburbs, a number of native species — Northern Mockingbird, Blue Jay, Northern Cardinal, Morning Dove and Common Grackle — do quite well.” — *Florida’s Birds, A Handbook and Reference*⁵

BY C. ELROY TIMMER,
VICE PRESIDENT, AMERAQUATIC, INC

These quotes in a reference handbook typify the mind-set of many environmental activists. Their characterization of the golf course as a green desert has been accepted by many in government and the media, and in turn by the general public.

But, is it accurate? There’s plenty of evidence that this view is false. *Red-shouldered hawks* scream overhead, a daily sight in Fort Lauderdale. The *least tern* is now nesting on protected rooftops. And it’s not uncommon for me to see a falcon consuming a pigeon or a dove in my back yard.

Last winter I took several friends on a birding trip to the Everglades. We did see birds, but my guests would have tallied more species, in greater numbers, in a golf cart.

The dwindling stock of native birds in natural areas (see story, Page 74) has been widely publicized. Have the birds been permanently lost, or have they just relocated? We don’t know, but my personal observations of golf courses suggests that urban areas — homeowner lakes, retention basins, drainage canals — have become an important resource for water and wading birds.

How important? After several days cruising the information superhighway, I found not even one scientific article reporting bird populations in urban areas.

No one seems to have considered the question, which gave birth to the AmerAquatic Bird Survey. Our inaugural effort, in February 1994, targeted water and wading birds on golf courses.

We solicited the help of golf course superintendents, asking them for data on the number and area of their lakes, the degree of lake vegetation and their total land area, and to count birds seen in a one morning observation.

For better data consistency, we sought data on only the 14 species listed in Table 2 — somewhat larger, fairly stationary, easy to find and to identify correctly — and provided identification guidelines.

Forty-eight golf courses (Table 1) returned usable surveys. They contained 585 lakes covering 1,258 acres, an average of 12 lakes (26 acres of water) per course.

Despite being full of human activity, these courses were surprisingly attractive to native birds. Observers counted 6,097 individuals of the designated species, an average of 127 birds per course and 4.8 birds per acre of water. Even considering that a February count includes migratory birds, that’s a lot of birds per acre.

Migratory birds may be preferentially drawn to golf courses, for several reasons:

1. A generally high nutrient environment. Although we did not gather data on chlorophyll or phosphorus (measures of trophic status), we generally find golf course lakes rather fertile.

2. An ample supply of food, including large numbers of small shad, bream and tilapia, clams and snails (both marisa and apple snails) and some species of non-native fish (particularly tilapia), which have moved into previously unoccupied food niches. And this food is concentrated and more accessible as water levels drop in the wintertime.

3. Small lakes, whose higher ratio of shoreline to water area enhances bird access.

4. Safe roosting sites. Urbanization may discriminate against many bird predators.

Utilization Of Golf Courses

Utilization by species is given in Table 2. (All data are presented in terms of birds per water acre. Hoyer and Canfield's observations by species are also presented as a comparison.)

As expected, *great white herons* and *limpkins* were among the least observed species. The *great white heron*, primarily a salt-water bird, was typically reported only on golf courses near salt water. The *limpkin*, commonly associated with marshes, wooded swamps and wet prairies, was also seen in low numbers.

Some counters went beyond the listed survey species and reported sightings of *bitterns*, *eagles*, *ducks*, *geese*, *night herons*, *pileated woodpeckers*, *sandhill cranes*, *northern flickers*, *glossy ibis*, *American kestrel*, *Cooper's hawk*, *red-shouldered hawk*, *parakeets*, *belted kingfishers* and more. In a one-hour survey, William Haunders, Jr., a dedicated observer and board member of the 90-acre Kelly Greens Golf and Country Club, recorded an additional 24 species (277 birds, see Table 3, page 75), for a total (including survey species) of 40 species and 573 birds.

Utilization varied widely between individual courses. However, we found no correlation between bird population and lake size, degree of vegetation or any other factor surveyed. We will look further into this variability on next year's survey.

Data Validity

Reporting survey results in terms of birds per water acre may not be wholly appropriate. Gulls and Terns, for example, may just be resting on the course and not utilizing the lakes. Similarly, White Ibis may not be drawn to the golf course for the water. Nonetheless, as they utilize the resource for some purpose, they were included, paralleling Hoyer et al who counted all birds seen.

The accuracy of any survey can always be questioned. Participating golf courses varied in size, maturity and vegetative cover. Counting times were not uniform. Counters varied from novices to experts. There is always the concern that amateur surveyors may mis-identify some species or count some individuals twice.

We did a limited amount of work to confirm counting accuracy, and were also reassured by the fact that both Limpkin and Great white heron were least reported, as expected. On the whole, we believe an undercount to be more likely than an overcount. It is easy to overlook such small, dark or secretive birds as the *little blue heron*, *green-backed heron*, *anhinga*, *cormorant*, *tricolored heron* and *common moorhen*, and an expert-only count may have been even higher.

Conclusions

Bird counts on golf courses cannot be compared acre for acre with those in Everglades National Park or the water conservation areas. There are substantial differences in topography, habitat and counting methodology.

Neither is direct comparison possible with Hoyer et al, which involved larger lakes. Also, they report the average of observations in three seasons spanning two years. Our single wintertime count is inflated, perhaps substantially, by migratory birds.

Nonetheless, 4.8 birds per acre (at any time of the year) is a lot of birds, and it seems safe to conclude that golf courses are substantially more attractive to water and wading birds than is commonly believed. In fact, the golf course may be more oasis than green desert. Birds have no loyalty to place; they go where they can make a living and many of them, like people, choose golf courses.

How significant are golf courses as a resource?

Extrapolating from a small sample is perilous, but if our respondents are typical, Florida's 1,100 golf courses may support more than 100,000 water and wading birds.

I believe golf courses are not unique in attracting birds; other urban lakes do so as well and their impact could be substantial. If, for example, homeowner and condominium lakes have twice the area of golf course lakes, and urban drainage canals perhaps 3-4 fold more, it would not be surprising to find urban areas providing a livelihood to half a million water and wading birds!

Are birds newly using urban areas, or

Table 1 Participating Golf Courses

Amelia Island Plantation
Boca Lago Country Club
Calusa Lakes Golf Club
City of Jacksonville Beach Golf Course
Collier's Reserve Country Club
Colony in the Wood Mobile Home Park
Cypress Knoll Golf Club
Deer Creek Golf Club
Del Vera Country Club
The Dunes Golf & Tennis Club
(Sanibel)
Ekana Golf Club
The Falls Country Club
Feather Sound Country Club
Hibiscus Golf Club
Hilaman Park Golf Course
Hole-In-The-Wall Golf Club
John's Island Club
Kelly Greens Golf & Country Club
LaGorce Country Club
Lucerne Lakes Golf Club
Meadow Woods Country Club
Metro-Dade County's Greynolds
Golf Course
Miles Drive Lake (Port Orange)
Naples Beach Hotel & Golf Club
Oak Tree Country Club
The Oaks at Palm Aire
Orangebrook Golf Course
Orchid Island Club
Palm Beach National Golf &
Country Club
Palma Ceia Golf and Country Club
The Plantation Country Club
(Jacksonville)
Polo Trace Golf Club
Quail Ridge Country Club
Riomar Country Club
RiverBend Golf Club
Riverwood Golf Course
Royal Poinciana Golf Club
Saddlebrook Resorts
Sailfish Point Golf Club,
Seminole Lake Country Club
Spanish Wells Country Club
Stouffer Vinoy Golf Course
Tampa Palms Golf & Country Club
The Deerwood Club
Villa Del Rey Golf Course
Wilderness Country Club
World Woods Golf Club
The Yacht & Country Club

have we just begun to notice them? Are birds emigrating from natural areas to find more food and fewer predators? Has the urban landscape matured, and become more attractive for roosting and nesting?

This survey, limited in scope, can only raise such questions, not answer them. However, our results indicate that the role of urban spaces as a wildlife resource should be reconsidered, especially given the well documented decline of birds in natural areas. We encourage wildlife biologists, ornithologists and environmental studies experts to rise to that challenge.

For 1995

We received many suggestions to improve the survey in 1995, including: counting fewer species (for greater precision); counting more species (to get a better handle on utilization); counting more times per year; using both experts and amateurs, perhaps for parallel counts; including homeowner lakes and drainage canals; and adding mammals (and perhaps fish!) to the list.

We thank our participants for their pioneering effort, and encourage everyone to join them for the 1995 survey.

Editor's Note: Participation is a must! It is your duty! This kind of information is exactly the type of unbiased information we need to share with the general public so they can fairly judge the issues! Do it!

Birds In Natural Areas

We constantly hear that the environment (or what's left of it) is degradating. Our time is characterized by "no net loss" of wetlands, mitigation projects and environmental restorations, including such big ticket items as restoring the Kissimmee River flood plan and the Everglades.

Ornithologists are concerned because bird populations (particularly wading birds) are dropping. Wading birds are seen as an indicator of the health of a wetland system. If the food supply drops, the birds simply move.

*Everglades, the Ecosystem and Its Restoration*¹ states "Most conspicuous and alarming among the biological changes have been the plummeting of the Everglades wading bird populations to less than one-fifth of their abundance during the 1930s."

An Audubon Society publication gave the bird population of the water conservation areas, some 878,000 acres of wetlands in south Florida, as 31,814 wading birds in January, 1993 and 15,132 in February, 1993.

FOOTNOTES

1. *Everglades, the Ecosystem and Its Restoration* Steven M. Davis and John C. Ogden, Ed. St. Lucie Press, 1994
2. *Wading Bird Population and Distribution in the Water Conservation of the Everglades: the 1993 Season*, G. Thomas Bancroft and Richard J. Sawicki, National Audubon Society.
3. *Palm Beach Post*, June 13, 1994
4. *Bird abundance and species richness on Florida lakes; influence of trophic status, lake morphology and aquatic macrophytes*, Mark V. Hoyer and Daniel E. Canfield, Jr. *Hydrobiologia*, 297/280; 107-119, 1994
5. *Florida's Birds, A Handbook and Reference*, Herbert W. Kale, II and David S. Maehr, Pineapple Press, 1990

Table 2
Golf Course Utilization By Species
Birds Per Acre of Water

| Species | AmerAquatic | Hoyer& Canfield |
|-------------------|-------------|-----------------|
| White Ibis | 0.93 | 0.035 |
| Gulls & Terns | 0.92 | 0.102 |
| Cormorant | 0.69 | 0.039 |
| Common Moorhen | 0.47 | 0.106 |
| Anhinga | 0.47 | 0.044 |
| Great Egret | 0.36 | 0.024 |
| Wood Stork | 0.21 | 0.007 |
| Snowy Egret | 0.19 | 0.001 |
| Green Heron | 0.15 | 0.017 |
| Blue Heron | 0.14 | 0.010 |
| Tricolored Heron | 0.12 | 0.009 |
| Great Blue Heron | 0.10 | 0.023 |
| Great White Heron | 0.05 | 0.000 |
| Limpkin | 0.04 | 0.003 |
| Total | 4.84 | 0.042 |

Study says lake area and trophic status principal influences on bird populations

The *Palm Beach Post* recently reported that 5,000 egrets, herons and white ibis nested at the North Palm Beach Solid Waste Authority complex, an urban landfill/resource recovery facility, compared with only 500 in Everglades National Park (1,077,760 acres). It quoted biologist Steve Davis as saying in regards to the Everglades, "Nearly 250,000 birds nested in there in the 1930s. The figure fell to 50,000 by 1976, and its steady drop is continuing. Several species are now considered endangered or threatened."

Recently, Hoyer and Canfield at the University of Florida published a pioneering study of bird populations on 46 Florida lakes totalling 8,408 acres. Bird counts were taken three times (one each in winter, spring and summer) between 1988 and 1990. All bird species (not just water and wading birds) were counted. The average population (for all counting periods) was 0.7 birds per water acre and the highest population was 3.2 birds per acre.

In a statistical analysis, the authors concluded that lake area and trophic status were the principal influences on bird populations. Trophic status (general nutrient level) determined total bird population. Lake size determined species richness (more individual species inhabit larger lakes) but not total population. Lake morphology and aquatic vegetation had no correlation with either species richness or total population even though most birds were observed utilizing near-shore areas where food and cover are most abundant.

**Table 3
Birds Sighted at
Kelly Greens Golf Course
One-Hour Survey**

| | |
|------------------------------|----|
| Boat-tailed Grackle | 52 |
| Blue-winged Teal | 42 |
| Coot | 35 |
| Cattle Egret | 30 |
| Red-winged Blackbirds | 23 |
| Fish Crow | 18 |
| Palm Warbler | 15 |
| House Sparrow | 10 |
| Starling | 10 |
| Morning Dove | 8 |
| Mottled Ducks | 6 |
| Spotted Sandpiper | 3 |
| Red-billed Grebe | 3 |
| Mallard Duck | 3 |
| Greater Yellowleg | 2 |
| Lesser Yellowleg | 2 |
| Red-bellied Woodpecker | 2 |
| Glossy Ibis | 2 |
| Mockingbird | 2 |
| Yellow-rumped Warbler | 2 |
| Osprey | 2 |
| Flicker | 2 |
| Killdeer | 1 |
| Belted Kingfisher | 1 |
| Carolina Wren | 1 |



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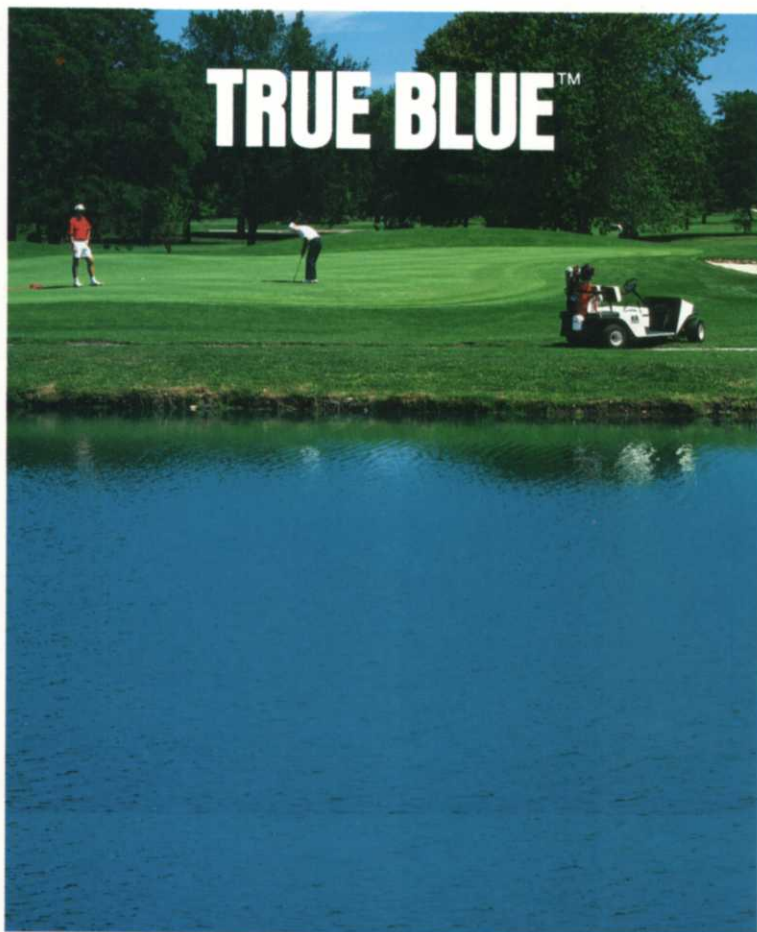
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C. transvaalensis (CTR 1111) plot on April 15, 1994.



Same C. transvaalensis (CTR 1111) plot on Oct. 10, 1994.

Bermudagrass Selections for South Florida Golf Course Putting Greens

BY DR. MONICA L. ELLIOTT

University of Florida

Fort Lauderdale Research and Education Center

Wanted: Bermudagrass that will stay green and healthy all year long when cut at 1/8 inch, even with 300+ rounds of golf per day in January; does not require overseeding; requires minimal fertilizer and water; tolerates minimal sunshine and 30+ inches of rain during the late summer months; cold-tolerance would be a real plus as would the ability to smile on national TV when the cameras zoom in for the last shot! If you have the features and are willing to tolerate the abuse the snowbirds and native golfers slice out each day, please contact us immediately!

It is not possible to have perfect putting greens every day of the year in Florida. However, everyone in the industry strives for this goal, and the tourists and club members expect it! A major component of a good putting green is the bermudagrass cultivar planted on that green. The standard today is the cultivar Tifdwarf, a grass which was first introduced in the mid-1960's by the USDA research center in Tifton, Georgia. According to Dr. Glenn W. Burton, 'Tifdwarf' is believed to have originated as a natural mutant in the vegetative stolons of 'Tifgreen', another cultivar that was introduced in the 1960's. 'Tifgreen' was a F_1 hybrid between *Cynodon dactylon* and *Cynodon transvaalensis* (Burton, 1992).

These grasses were developed almost 30 years ago. While the grasses have not changed, the golf industry and management practices have changed dramatically! We have exasperated that problem in Florida by not maintaining a strong turfgrass certification program, but that is another story. The goal of the current project at the Fort Lauderdale Research and Education Center is to evaluate bermudagrasses for their ability to tolerate currently used management practices and our unique Florida environment. The standard for comparison is 'Tifdwarf'.

The bermudagrass selections that have been planted are listed below. PF11 was planted in May 1994. All other grasses were planted May or June 1993. The Quality Dwarf and Classic Dwarf have been used commercially in Florida for at least five years. However, to my knowledge, they have never been evaluated in replicated trials with the 'Tifdwarf' standard.

'Tifdwarf': Foundation material was provided by the Georgia Seed Development Commission in Athens, GA. Again this is the standard for comparing all other selections.

'Tifgreen': Foundation material was provided by the Georgia Seed Development Commission in Athens, GA. This was included since many older courses still have this cultivar on their putting greens.

Quality Dwarf: A 'Tifdwarf'-type selection made by Dr. G. C. Horn from a putting green in Florida. This material was provided by Quality Grassing and Services, Inc. in Lithia, FL.

Classic Dwarf: A 'Tifdwarf'-type selection made by Dr. G. C. Horn from a putting green in Florida. This material was provided by Classic Dwarf, Inc. in Newberry, FL.

PF11: A 'Tifdwarf'-type selection made by Mr. Paul Frank and provided by Mr. Frank, Wilderness Country Club, Naples, FL. This grass demonstrated tolerance to sting nematodes in a greenhouse study conducted by Dr. Robin Giblin-Davis.

TW72: An induced mutant of 'Tifway' provided by Dr. Wayne Hanna, USDA, Tifton, GA.

T596: An induced mutant of 'Tifdwarf' provided by Dr. Wayne Hanna, USDA, Tifton, GA.

CTR 1111, CTR 2352, CTR 2570, CTR 3048, CTR 2747: These five grasses are *Cynodon transvaalensis* selections provided by Dr. Charles Taliaferro, Oklahoma State University, Stillwater, OK. *C. transvaalensis* is one of the parents of 'Tifgreen' bermudagrass and likewise 'Tifdwarf'. This diploid grass provides the fine texture, softness, and increased density to the hybrid bermudagrasses (Burton, 1992).

Materials and Methods: A 10,000-square-foot putting green was built at the FLREC in October 1992. The FGCSA budget was limited so the green was not built according to USGA specifications. The native topsoil which is a well-drained sand was scraped by the contractor and leveled. A nutrient amended root-zone mix was placed on top of the scraped area. The mix was composed of 85% sand and 15% Canadian sphagnum peat moss. The root-zone mix was then fumigated with methyl bromide. The black plastic remained in place (replaced once in February) until the following summer when the grasses were planted.

Grasses were planted in 8-foot by 10-foot plots with 1-foot borders between each plot. Each grass was replicated four times

Table: Quality scores of bermudagrass selections on FGCSA Research Green at the Fort Lauderdale Research and Education Center (May through October 1994).

| Selection | May 4 ^a | May 17 | June 6 | June 20 | July 5 | July 27 | Aug 16 | Sept 8 | Sept 22 | Oct 7 | Oct 21 |
|---------------------------------|--------------------|---------------|---------------|----------------|---------------|--------------|--------------|---------------|---------------|---------------|---------------|
| Tifdwarf | 6.8 a | 6.6 a | 6.5 ab | 4.4 bcd | 6.5 a | 6.1 a | 6.4 a | 7.0 a | 6.0 a | 5.3 a | 7.4 a |
| Tifgreen | 5.9 b | 5.5 b | 5.4 d | 3.4 e | 4.8 b | 5.0 b | 3.5 b | 3.5 c | 3.1 c | 2.8 bc | 2.9 ef |
| Quality | 7.0 a | 6.8 a | 6.6 a | 5.3 a | 6.8 a | 6.4 a | 6.3 a | 7.0 a | 5.5 ab | 5.2 a | 6.9 a |
| Classic | 6.8 a | 6.5 a | 6.4 ab | 5.0 ab | 6.5 a | 6.1 a | 5.9 a | 6.4 a | 5.1 b | 4.9 a | 5.8 c |
| TW72 | 6.8 a | 6.6 a | 6.1 bc | 4.4 bcd | 6.4 a | 6.0 a | 6.3 a | 6.0 b | 5.5 ab | 5.0 a | 6.6 ab |
| T596 | 6.8 a | 6.4 a | 6.5 ab | 4.6 abc | 6.3 a | 6.0 a | 6.0 a | 6.5 ab | 5.9 a | 4.9 a | 6.5 bc |
| CTR 1111 | 5.1 c | 4.8 c | 5.8 cd | 4.1 cde | 4.8 b | 4.3 c | 3.5 b | 3.1 c | 2.8 cd | 2.5 c | 2.8 f |
| CTR 2352 | 5.0 cd | 4.5 c | 5.5 d | 3.8 de | 4.5 bc | 4.0 c | 3.8 c | 3.4 c | 2.6 cd | 2.5 c | 3.4 ef |
| CTR 2570 | 4.5 de | 3.9 d | 3.4 f | 2.5 f | 2.9 d | 2.8 d | 2.6 c | 2.4 d | 2.3 d | 2.6 bc | 3.6 e |
| CTR 3048 | 4.1 e | 4.3 cd | 4.9 e | 3.6 de | 4.0 c | 4.0 c | 4.0 b | 3.3 c | 3.3 c | 3.1 b | 4.5 d |
| CTR 2747 | 4.9 cd | 4.4 cd | 4.8 e | 3.5 e | 4.4 bc | 3.6 c | 3.5 b | 2.9 cd | 2.8 cd | 2.6 bc | 3.4 ef |
| Height^b (in.) | 0.188 | 0.188 | 0.180 | 0.180 | 0.160 | 0.160 | 0.160 | 0.170 | 0.165 | 0.165 | 0.160 |

^aQuality scores based on color and density using a scale of 1 (poor quality) to 10 (best quality).

Values presented are means of four replicate plots.

Values in the same column followed by the same letter are not significantly different at P = 0.05 according to Waller Duncan K - ratio t test.

^bPlots are cut six days per week with a walk-behind greens mower. 0.188 = 3/16 in.; 0.156 = 5/32 in.

in a randomized complete block design. Grass materials were not uniformly propagated since they came from six different sources. In general we were able to plant sixteen 2-inch plugs into each plot using 18 inch centers. If material was not received free of soil or potting mix, plants were washed thoroughly before planting.

After the grasses had covered the plot area, maintenance and fertilization practices have been and will continue to be conducted according to normal practices for putting greens in southern Florida. This includes 18 lbs. N and K₂O per 1,000 sq. ft. per year (12 lbs. from November through April and 6 lbs from May through October). The mowing height was initially 3/16 inch. It has been gradually lowered to 7/32 inch and will be lowered this winter to 1/8 inch. The plots will not be overseeded for the winter months. Plots are verticut and top dressed on a regular basis - twice each month, alternating procedures each week. Plots are monitored for pests, but pesticides are used only when justified.

Plots are evaluated for quality twice each month or when some event natural or man-made causes a noticeable change in quality. Quality is based on a combination of color, and density. We use a scale of 1 to 10 with 1 equivalent to the lowest quality grass and 10 equivalent to the best grass. Only absolutely perfect grass would receive a rating of 10. Plots are rated by myself and Marcus Prevatte. Our scores are then averaged and the average score used for statistical analysis.

Results: The grasses were grown-in very differently from the normal methods used on a golf course. We had to be absolutely certain that no cross contamination occurred. Therefore, we had almost complete coverage of the plots before any physically disruptive maintenance (mowing, verticutting, etc.) was used. No data was collected concerning the grow-in period since the grasses were planted at different time and, more importantly, provided by different sources who used different methods for growing the plugs. During the winter of 1993-94, the height of cut was slowly lowered to 3/16 inch.

The results from the past year illustrate why research takes time (a long time) and why researchers are reluctant to share results before the experiment is completed. The *C. transvaalensis*

selections looked absolutely beautiful last winter and spring. For those who attended the 1994 South Florida Turfgrass Exposition in April, you saw for yourself that all the grasses, including 'Tifgreen', were of equal high quality. Everyone was excited about the *C. transvaalensis* selections because they did indeed have a very fine texture. "Almost like bentgrass" was the common refrain.

However, the grasses had not yet lived through a summer at a typical putting green height. The quality scores collected during the summer and late fall are provided in Table 1. Scores from PF11 are not included as it was planted in May 1994 whereas the others had been planted the year before. As the summer progressed, the 'Tifgreen' hybrid bermudagrass and the *C. transvaalensis* significantly declined in quality. These grasses are starting to recover as the temperatures decrease this fall. We plan to lower the cutting height to 1/8 this winter and will maintain that height for as long as possible. In other words, the grasses will be subjected to the worse possible conditions for growing grass. If none of them survive, we will raise the height of cut. We will keep you informed of the results from this project, but please be patient. This is a long term project! Please feel free to visit the plots at any time or make special plans with a group to come to the Fort Lauderdale Research and Education Center on March 16, 1995 for the annual University of Florida Turfgrass Field Day and South Florida Turfgrass Exposition.

References Cited: Burton, G. W. 1992. Breeding improved turfgrasses. Pages 759-776 in: Turfgrasses. D. V. Waddington, R. N. Carrow, and R. C. Shearman, co-eds. American Society of Agronomy, Madison, WI.

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In the last issue of *The Florida Green*, Shelly Foy put together a tremendous article about the Audubon Cooperative Sanctuary Program (ACSP) and details for implementation of several wildlife enhancement projects. I'd like to follow up on her excellent work with information

superintendents can use when asked why the ACSP isn't endorsed by the National Audubon Society.

The first fact to be noted is that there are over 500 Audubon Societies in the U.S., separately incorporated, each guided by its own Board of Directors with their own

programs and positions. The Audubon Society of New York State, the sponsoring organization of the ACSP, was the second State Audubon Society to be formed, founded in 1897 by Theodore Roosevelt and others. The National Audubon Society was formed in the 1940's to focus on issues beyond the scope of the state Audubon Societies.

Given this fact, the suggestion by members of the National Audubon that the New York State Audubon was attempting to exploit "the good Audubon name" when it instituted the ACSP, seems arrogant and presumptuous. The Appellate Division of the Supreme Court of New York apparently agrees, since it ruled against National Audubon's lawsuit in 1987 in their attempt "to permanently enjoin the use of the term 'Audubon Society' or any variation thereof by the Audubon Society of New York State".

The fact that some golf course managers were unaware of these organizational differences is irrelevant. The merit of the program is what

attracted their interest, and if anything, finding out the National Audubon not only did not support it, but was harshly critical of it, surprised and disappointed those who chose to participate. There was no intent to mislead, and to my knowledge, no golf course in Florida has pulled out of the program or refused to join when this was explained to them.

The rift between the two organizations is philosophical, and can be best described as a battle between environmental idealism and "wise use" strategies. The National Audubon has taken the idealistic position while New York State Audubon represents a practical "wise use" philosophy.

What this means is that the National Audubon looks at all golf courses as pieces of ground which would better have served the needs of birds and other wildlife if left in the original undeveloped state. They are opposed, and always be opposed, to golf courses on this basic philosophical point.

The National Audubon refuses to acknowledge the positive environmental contributions of golf courses, but instead, focuses on the perceived negatives, such as pesticide and water use. Theirs seems to be a simplistic and unrealistic view that if the golf course wasn't there, the land used to build it would be left in its natural state as a pristine wilderness.

The New York State Audubon, on the other hand, takes the practical approach that any piece of property, including golf courses, can have a positive or a negative impact on the environment, depending on how the land is managed. They recognize the reality of private property rights and that people can and do use their land for various activities, and they realize the futility of simply preserving pristine land and creating new regulations to solve environmental problems. They believe that all land is important and that everyone can and must become actively involved in the stewardship of their land.

Thus was created the Audubon Cooperative Sanctuary Program, a proactive partnership of education and

The rift between two Audubon Societies

Mark My Words



Mark Jarrell

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guidance for landowners to manage their land in a more environmentally friendly manner. The goals are to get people to use fewer pesticides, less water, more native plants, use energy more efficiently, recycle, and create wildlife habitat. On golf courses, this usually translates to building bird feeding stations, nestboxes, native grass restoration projects, aquatic environment enhancement, and other activities to increase space, food, water, and cover for wildlife.

The National Audubon's mindset that the best use of the land is to leave it alone blinds them to recent indications of properly managed lands creating greater biodiversity than wilderness areas, especially places like South Florida where many undeveloped tracts have been overtaken by exotics.

This "black-or white" mentality gives no credit to golf courses built on landfills or other marginally useful properties, or to the many ponds created for water hazards which serve to support many forms of wildlife. Sometimes golf courses are the only green spaces to be found in an urban area, and may often be the only safe haven for neotropical migrants looking for rest stops on their journeys between the Americas.

To most people, the word Audubon is synonymous with "birds", but it makes you wonder if those affiliated with the National Audubon have ever set foot on a golf course. At Palm Beach National, the course I manage, our mammal population is pretty much limited to raccoons, squirrels, opossums, armadillos, and an occasional fox, but our bird

population is large and diverse. On any given day you can see various species of ducks, herons, ibis, anhingas, egrets, cormorants, doves, crows, coots, owls, and many varieties of songbirds. Hawks and osprey hunt the property on a regular basis. At golf courses in less urban surroundings, even greater numbers and diversity of both mammals and birds can be found.

The Audubon controversy is a perfect example of environmental idealism versus "wise use" and good stewardship.

All Americans should carefully evaluate the positions and philosophies of the environmental organizations they choose to support, and the impact this has on personal freedoms, property rights, and economic security.

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To anyone who cared to listen, I have characterized the summer of '94 as being no fun trying to grow grass under water and in the dark! It was a great time to float a loan, but a lousy summer for selling

sunscreen. At one stretch it got so bad they were filming Sea Quest on my 8th fairway, and I kept seeing Lloyd Bridges and Flipper in the parking lot. Golfers, when they could play, had to read a tide chart as well as the sand bars to sink a putt. We were issuing life jackets and paddles with each golf cart. We

used airboats for beverage carts and the rangers had canoes.

I don't know about you, but my growing season started falling apart on May 28th. It is now November the 18th. In these past 171 days, we have had 114 days of recorded rainfall. As bad as that sounds, there were parts of the state that were hit even harder than that. Actually, October and November have been liveable except for tropical storm Gordon's contribution to the misery this week. I was beginning to regret that I had sent \$14.95 to Popular Mechanics for those ark building plans. We had begun to get 4 to 5 day stretches with no rain. And most importantly, we were getting sunny days.

It may be rather academic to report that the average rainfall for the Orlando area is 48 inches per year, and we have recorded 75.96 inches so far at our course. The point is that it obviously hasn't been a normal growing season this year. Besides the record rainfall, it was mostly cloudy and overcast every day. Do you remember junior high biology?

How about the part where plant cells take water and sugar in the presence of sunlight and produce chlorophyll? It is called photosynthesis. Read my lips! Photo equals sunshine. No sunshine . . . no synthesis. No synthesis . . . no healthy green grass. Normally, you'd have hot sunny days with clouds and showers in the late afternoon that would move through quickly. Not this past summer!

This year with saturated root zones and reduced sunlight we were being set up for weak turf conditions. Clubs that tried to maintain aggressive management programs probably ended up with thin areas. I know that was the case for me as we tried to prepare our 1 year old greens for their second PGA event since they were planted. At least in our case, my management was here all summer and they knew the rotten conditions that had existed all season. They were just happy that we caught a break in the weather and could get the tournament completed.

But some courses and superintendents were being put on the rack for poor course conditions as members who spent the summer up north came back to find playing surfaces less than ideal. I just hope enough of them were back for Gordon's little soggy post script on that miserable season. Gordon was a condensed version of our whole summer.

Unfortunately, conditions have not improved dramatically. We can expect to have a tough winter and spring with the usual increased traffic on the already weak turf. If the weather improves, we may be able to grow a good stand of winter grass to hide the weak bermudagrass, but we will have to eventually deal with the thin turf in the spring. Let's hope that next year's summer is a little more normal.

There are a lot of unsolved mysteries in the world. Why you cannot grow turfgrass under water and in the dark is not one of them!

The Summer of My Discontent

Green Side Up



Joel D. Jackson

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Editor