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Implementing Wildlife Conservation in Florida Golf Course Out-of-Play Areas

Reports estimate Florida's population will reach 33.7 million people by 2070, increasing development that will sprawl into the state's natural lands. Diverse natural areas, from the Panhandle to the Keys, are home to an impressive amount of native wildlife—black bears, panthers, butterflies, burrowing owls, scrub jays, otters, gopher tortoises, and water birds. Wildlife is facing a significant crisis with urban sprawl increasing and habitats shrinking.

Golf courses combine well-mowed turf with trees and have large out-of-play areas that provide a diverse environment attractive to many types of wildlife. In addition, golf courses tend to be permanent landscapes during urban sprawl because they are less likely to be bulldozed but are maintained for the growing population's enjoyment. Furthermore, the high densities of golf courses in Florida can create a network of natural patches to improve wildlife corridors across the Southeast.

On-course wildflower plantings increase pollinator and beneficial insect populations that enhance pest management. In addition, superintendents can be recognized for their wildlife conservation efforts through certification in Audubon International's Cooperative Sanctuary Program (ACSP) for Golf and charge higher greens fees than those without certification.

Golf courses can improve their sustainability by encouraging wildlife habitats in out-of-play areas, landscaping with native trees and vegetation, promoting wetland areas, and minimizing chemical applications.

Educational Objectives: Understanding the need for wildlife conservation in the face of urban sprawl and the opportunity for superintendents, I created a program to improve wildlife habitats in golf course out-of-play areas. Specifically, my objectives are:

- Annually, at least 25 superintendents in Florida will increase their knowledge of the benefits and strategies for improving wildlife habitats in out-of-play areas
- Annually, at least three superintendents in Brevard County will implement wildlife habitat enhancement projects in out-of-play areas
- By 2023, at least three golf courses in Brevard County will obtain ACSP certification

Program Activities: From 2020-2023, I have delivered five individual presentations and one golf course wildlife conservation workshop, reaching a total of 331 turf managers. Since the program's creation, I have completed 56 golf course site visits with one-on-one consultations with superintendents, specifically about wildlife conservation in out-of-play areas. Five golf courses implemented both wildflower plantings and blue-bird nesting boxes. I also conducted littoral zone plant modification projects for enhanced wildlife habits on three golf course ponds.

Individual Presentations

- *Pollinator Protection in Pest Management Programs*, Florida Turfgrass Association, Annual Conference, Champions Gate, Florida, Nov. 10, 2022
- *Wildlife Considerations for Aquatic and Natural Areas Vegetation Management*, UF/IFAS Extension Volusia County, Landscape Professionals Training, Feb. 23, 2021
- *Benefits and Strategies of Improving Wildlife Habitats on Golf Courses and Other Greenspaces*, Florida Turfgrass Association (FTGA): CEU Roundup, Jul. 29, 2020, Virtual; Regional Turf Seminars, Tallahassee, FL, Feb. 26, 2020, and Cocoa, FL, Jan. 9, 2020

Workshop

- *Space Coast Golf and Turf Association Spring In-Service Seminar: Wildlife on Golf Courses*, Duran Golf Club, Viera, Florida, May 5, 2021

Teaching Methods: PowerPoint presentations were given to turfgrass industry clientele locally and throughout the state as part of educational events with the Space Coast Golf and Turf Association, FTGA, and fellow UF/IFAS Extension agents. Attendees were provided presentations for reference. A half-day workshop was held at a local golf club. It featured expert speakers, including the Audubon International Director of Environmental Programs for Golf and the University of Florida's turf entomology specialist. The workshop concluded with an on-course tour of recent wildlife conservation projects. Attendees received hands-on experience monitoring blue-bird nesting boxes and acquired the information needed to pursue ACSP certification. One-on-one consultations with superintendents were performed to discuss site-specific plans for wildlife conservation projects. On-course projects provided hands-on learning experiences for small groups of superintendents and their maintenance staff. In addition, I reached audiences through a trade journal article.

Publications

- *Wildlife Management on Golf Courses is a Balance Between Conservation and Control*, Florida Turf Digest, Vol. 41, No. 1, pp. 22-24 <https://bit.ly/3ZBbn3C>

Results: Post-class survey results (n = 279) indicate a knowledge increase in the benefits and strategies for wildlife conservation and increased intent to adopt at least one of the strategies presented after individual presentations and the workshop. Specifically, 89% of attendees (248) reported a knowledge increase in wildlife conservation strategies, while 90% of attendees (251) reported intention to adopt at least one wildlife habitat enhancement strategy presented.

Adoption was confirmed for seven local superintendents, and as a result, five Brevard County golf courses received ACSP certification for conservation efforts in 2020-2023.

Impact Statement: If managed carefully, golf courses can represent compatible land for the state's native wildlife and help preserve the biodiversity of Florida's quickly shrinking lands and threatened natural resources. The adoption of wildlife conservation on golf courses expands and strengthens the wildlife corridors across Florida and the Southeastern U.S., where other states are experiencing wildlife habitat loss from urban sprawl. In addition, through on-course, wildflower plantings, native pollinator and beneficial insect habitats are created that help sustain biodiversity. They also enhance horticultural and agricultural production through ecosystem services and improved pest management. Superintendents that implement wildlife conservation practices on their golf courses are eligible to be recognized for their efforts through the world-renowned ACSP certification. One superintendent commented on a follow-up survey that he "would never have even considered wildlife an asset to his course before attending [the] programs." This superintendent received ACSP certification for his golf course and is now an example of environmental stewardship in the turfgrass community. This helps pave the way for other superintendents to adopt practices that improve Florida's environmental quality, biodiversity, and natural resources.

Evaluation: Written and Qualtrics 7-point Likert scale surveys were distributed to all attendees of individual presentations and the workshop to determine knowledge gain and intent to adopt wildlife conservation practices in out-of-play areas. The survey response rate was excellent at 84%, and a high percentage of respondents indicated knowledge gain (89%, 248) and intention to adopt practices (90%, 251). Follow-up site visits were conducted with local superintendents to confirm the adoption of practices (seven superintendents). Successful completion of ACSP certification was also used as an indicator of adoption (5 golf courses). To date, this ongoing program has reached its objectives. It is also adaptable to other counties in Florida and beyond.

I have learned through the process that there is a need to educate superintendents on wildlife conservation and the control of nuisance wildlife species. Their attitudes about conserving wildlife have been variable, with some strong negative opinions about promoting golf course wildlife. To conduct this program more effectively, I have created a survey to gauge the attitudes of superintendents and barriers to adopting wildlife conservation, so I can find ways to reach them more effectively. One way to do this may be to add the management of the nuisance golf course wildlife component to the program.