

THE LEDGES GOLF CLUB
ENVIRONMENTAL OVERVIEW

FOR
SOUTH HADLEY CONSERVATION COMMISSION MEETING
JANUARY 8, 2019

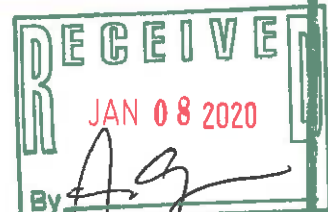


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Atlanta ● Boston ● Las Vegas ● Phoenix ● Tampa ● Virginia Beach

Thank you for the opportunity to highlight and discuss the environmental awareness, implementation of Integrated Pest Management (IPM) and utilization of Best Management Practices at The Ledges Golf Club. It is impossible to document all of the influences, decision making and outline the entire critical path that impacts the many facets of environmental awareness during golf maintain operations. A few basic points to understand:

- All golf course managers and any personnel involved in applying pesticides are licensed by the state governing body. In order to be licensed, the state tests each person's level of knowledge and experience.
- All golf course managers and any personnel involved in handling or applying pesticides are thoroughly trained on an ongoing basis. This continuing education approach is common among professionals in the turf industry.
- The simple premise that healthy turf is better able to withstand stress is critical. Reduction of pesticide and fertilizer inputs starts here. Good cultural programs such as aerification, thatch management, spiking and topdressing are important for healthy turf.
- Regular scouting is conducted around the course to identify ongoing conditions and detailed record keeping help to complete proper planning. Other strategies such as degree-day tracking help to provide valuable indicators about pest pressure.

As discussed, there are many misconceptions regarding turf management as a negative influence on the environment. We disagree. To understand why we feel so strongly about this position it is important to understand our commitment to the environment and how this commitment plays a primary role in all of our operational decisions.

ENVIRONMENTAL COMMITMENT

International Golf Maintenance (IGM) is committed to the continuous enhancement of the environment, conserving natural resources and protecting precious wildlife habitat. We are leaders in environmental performance through stewardship, education, employee involvement and the utilization of Integrated Pest Management (IPM) as well as sound Best Management Practices (BMP). We are committed to providing high quality services in a manner that ensures a safe and healthy workplace for our employees and minimizes our potential impact on the environment.

We recognize that economic development needs to be compatible with human welfare and a healthy environment. To ignore this is to risk increasing social, environmental and financial costs. Our role in managing and reducing environmental risk is one we take seriously and we regularly work in conjunction with governmental agencies, organizations and individuals to ensure our goals are achieved. We are committed to work together with all of those who



IGM Staff building nest boxes at community event

share our commitment and endeavor to identify realistic, sustainable solutions to the challenges facing the golf industry.

WE COMMIT OURSELVES AS STEWARDS OF THE ENVIRONMENT TO:

- Promote environmental awareness among our employees and encourage them to work in an environmentally responsible manner with a firm commitment to train, educate and inform our employees about environmental issues that may affect their work
- Communicate our environmental commitment to clients, customers and the public and encourage them to support in their own way
- Encourage and reward our supply base for working with us to implement changes in their operating procedures that will improve environmental and sustainability initiatives
- Promote efficient use of materials and resources throughout our facility including water, electricity, raw materials and other resources, particularly those that are non-renewable
- Integrate the consideration of environmental concerns and impacts into all of our decision making activities
- Avoid unnecessary use of hazardous materials and products, seek substitutions when feasible, and take all reasonable steps to protect human health and the environment when such materials must be used, stored and disposed of
- Ensure that we have environmental champions in each and every property and at each and every level in the organization

Everyday at each of IGM's golf courses, our managers are acutely aware of the impact our operations can have on the local, regional, and global environment. That is why we apply chemicals fastidiously and consistently with Integrated Pest Management (IPM) - the practice of scouting the golf course, discovering pests, determining thresholds when the pest populations reach damaging levels, and taking appropriate measures. These measures range from altering irrigation patterns and adjusting mowing heights to employing competing biological agents and applying traditional pesticides. The IPM strategy employs these measures in a sequence that has the least impact on natural environmental conditions to attain the desired result of reducing and maintaining pest populations below damaging levels.



Fledglings in IGM nest box

The ultimate desire of IGM is to provide a foolproof, customer-driven service that will free up course managers to care for customers, the property and our environment. Properly designed and implemented, our environmental commitment program will help our customers to keep the facility in compliance with the ever-changing environmental rules and regulations and assist in achieving certification with the Audubon Cooperative Sanctuary Program for Golf Courses.

AUDUBON COOPERATIVE SANCTUARY PROGRAM

As a demonstration of this commitment our team is seeks to establish each of the properties we serve as an Audubon Cooperative Sanctuary. IGM is a Charter Member of Audubon's Conservation Country Club and has committed and maintained 100% participation of all its courses in the Audubon Cooperative Sanctuary Program for Golf Courses (ACSP). To date, IGM has completed certification of 13 courses across the country. One of IGM's certified courses, Widow's Walk Golf Course, is an environmental research center built to assess the impact of golf course maintenance practices on the environment.

There are five basic steps for completing the Audubon Cooperative Sanctuary Program's process - analysis, documentation, implementation, evaluation and revision.

HIGHLIGHTS & SUCCESSES

Our successes are measured almost daily by our team in many ways. Some of the accomplishments that we are proudest of:

- Complete participation of all maintained properties in ACSP
- Assisted in ACSP certification of 13 courses
- An additional 18 courses are nearing ACSP certification with all others working towards that goal
- Team members have received dozens of awards and recognition for Environmental Planning and Environmental Stewardship
- IGM CEO Mr. Ron Jackson served three years on the Board of Directors of the Environmental Institute for Golf.

Our efforts are collaborative with our clients and represent our desire to go above and beyond standard maintenance practices - this results in sustainability.



Naturalized or Native Area



Dead tree was topped but trunk left standing to provide habitat for woodpeckers



IGM Staff hosting golf course nature tour



Underbrush left where possible to provide cover for wildlife

AUDUBON COOPERATIVE SANCTUARY PROGRAM (ACSP)

What is the Audubon Cooperative Sanctuary Program for Golf Courses

ACSP is a program administered by Audubon International and sponsored by the United States Golf Association (USGA) which awards certification to recognize golf courses that establish and maintain high standards of environmental performance. Achieving certification demonstrates a course's leadership, commitment, and high standards of environmental management.

Who can achieve certification?

Golf courses enrolled in the Audubon Cooperative Sanctuary Program for Golf Courses (ACSP) may apply for certification. There are no restrictions on the types of golf courses that are eligible, all course are encouraged to become certified.

How long does it take?

Most courses achieve certification within three to five years, depending on how quickly they plan, organize, implement, and document their environmental practices.

What is involved?

ACSP members receive a Certification Handbook to guide certification efforts and documentation. The golf course begins by completing a Site Assessment and Environmental Plan. This information helps golf course personnel to take stock of current environmental management practices and plan improvements.

The course submits its Site Assessment and Environmental Plan to Audubon International and receives a Certification Status Report that offers suggestions to help it proceed toward certification.

Once the Site Assessment and Environmental Plan are reviewed by Audubon International, the course implements its plan and documents its efforts and results in each environmental quality area. Designation as a Certified Audubon Cooperative Sanctuary is awarded to a golf course

upon meeting environmental management standards in the following five areas:

- **Wildlife and Habitat Management**
The golf course enhances existing natural habitats and landscaping to promote wildlife and biodiversity conservation. Flexibility is essential to account for each course's location, size, and layout, as well as special wildlife species and habitat considerations.
- **Chemical Use Reduction and Safety**
The golf course implements best management practices at the maintenance facility and on the course to ensure that chemicals are stored, handled, applied and disposed of safely. In addition, maintenance staff employ integrated pest management strategies to track and target specific pests and minimize chemical use.
- **Water Conservation**
The golf course employs conservation management strategies to maximize the efficient use of water. These include determining proper irrigation; reducing irrigated acreage where possible; recapturing and re-using water and incorporating drought-tolerant plant species.
- **Water Quality Management**
The golf course implements Best Management Practices to eliminate potential nutrient or pesticide contamination of water sources. The course also employs environmentally-sensitive management practices in ponds, streams, and wetlands; proper equipment and chemical storage and handling; and water quality monitoring to verify results.
- **Outreach and Education**
Golf course personnel build support for their environmental management program through a variety of communication, education and outreach activities. They also form a Resource Advisory Group of people who provide technical advice and volunteer assistance to help implement the environmental plan. This helps to ensure the long-term success of environmental management practices.

There are many ways in which you can get involved in our golf course efforts or to make an impact in your home, neighborhood or business. For more information please visit www.auduboninternational.org or www.golfmaintenance.com.



WHAT'S THE BUZZ? IGM'S EFFORTS TO SAVE HONEY BEES

Cindy Sternlicht – June 2019

When honey bees made themselves at home, building colonies at The Ledges Golf Club and Chicopee Country Club, the South Hadley and Chicopee, Massachusetts communities welcomed them. International Golf Maintenance, which provides maintenance services for both golf courses, knew just how to keep them safe. Mike Bach, IGM's superintendent at Chicopee Country Club, happens to be a professional beekeeper and was happy to take responsibility for the colonies.

A colony of bees consists of 20,000-60,000 honey bees and one queen. Bach keeps an eye on two colonies at The Ledges and 10 colonies at Chicopee, located near the maintenance buildings. "We keep them out of sight for their own protection." The honey bees present no danger to golfers at the courses, unless they were to be disturbed, of course. "The maintenance crews are comfortable around them. We've never had a worker stung," said Bach.

The annual nationwide survey by the Bee Informed Partnership found 37.7% of honeybee colonies died during the 2018-2019 winter months, nearly 9 percentage points higher than average. "Beekeeping is a lot of work, involving timely decisions. The biggest challenge here is the weather," said Bach. "2018 was very wet and very hot, which challenged the bees to gather enough food for the long New England winter. With our help, they have a fighting chance. 2019 has been good for us, so far."

Bees are extremely sensitive to pesticides, and both golfers and non-golfers have expressed concerns about pesticide usage on golf courses. With a long-standing commitment to healthy environments, IGM protects and fosters the bee colonies, partly to demonstrate how environmentally friendly their golf course maintenance operations and products are.

Bach also noted, "There's a symbiotic relationship between humans and honey bees; we need them, and they need us. Feral bees are under a lot of environmental stress and are becoming extinct." The American Beekeeping Federation estimates that one-third of the food we eat in America depends on honey bee pollination in one way or another. Honey is also widely regarded for its use as medicine, for everything from sore throats and digestive disorders to skin problems and hay fever.

Some of the factors in the declining honey bee population, and Colony Collapse Disorder (CCD), according to the Environmental Protection Agency, are:

- Increased losses due to the invasive varroa mite, which has recently entered the U.S., as well as other emerging diseases.
- Pesticide poisoning through exposure to pesticides applied to crops or for in-hive insect or mite control.
- Stress the bees experience from such things as transporting hives to other locations for pollination services.
- Changes to the habitats where bees forage, which can lead to inadequate nutrition.

As a professional beekeeper with 100 colonies of his own, Bach is proud of the success IGM has achieved with maintaining the colonies at The Ledges and Chicopee. "People immediately want to say pesticides are the problem, but we are well educated in pollen protection. We've maintained these colonies on golf courses for several years." IGM is extremely conscious of environmental issues at all its golf courses. The company uses an Integrated Pest Management System and is committed to providing high quality services that ensure a safe and healthy workplace for employees and minimize potential impact on the environment.

In addition to preserving the honey bee colonies, IGM harvests and packages the honey, using it in the kitchen and as gifts for friends of the two golf courses. Mike Fontaine, IGM's superintendent at The Ledges, said collecting the honey is a nice way to pay back those who support the club.

OTHER NOTES

- Removal of hazardous trees will be coordinated as-needed with the South Hadley Conservation Agent to ensure that approval is given.
- Limited maintenance takes place on the wooden bridge over White Brook. To date, only the only repairs that have been completed have been the result of dead trees falling and striking the bridge. The bridge is in good condition and there are no plans for repairs or replacement.



Cart path & wooden bridge through White Brook area

- The selective thinning and periodic cutting used on numbers eleven and eighteen are limited to only what is needed to maintain line of sight across these areas for golf play. No chemicals controls are ever used.



Number Eleven (Above) & Number Eighteen (Below)

