

Below: a female sea turtle laying her eggs.
Right: leatherback hatchlings dig out of the nest.



“[The number of hatchlings] changes so much,” says Cañón. “A turtle lays from 80 to 150 eggs. Out of those, around 60 to 70 will hatch.”

The number of nests also varies year to year. In 2012, Bahia Beach had six nests and only about 250 turtles hatched. The year before, they had 24 nests and counted over 1,500 turtles.

Even though the turtles hatch, that doesn’t mean they’re necessarily going to make it to the water.

“Just one out of 1,000 survives from hatching to adulthood,” says Cañón. “One of their

“People are **really proud** of it. They take care of their turtles, and that’s really important.”

– Marcela Cañón, Bahia Beach Resort & Golf Club

most dangerous phases is from hatching to the water because they have lots of predators.”

More volunteers are on site for the hatching. The staff is able to track the eggs from laying to hatching, so they know exactly when the small turtles should be making the trek from the nest to the water. The volunteers are there to try and keep them safe as they make the big journey to the water, keeping predators and unsuspecting humans away.

“We have increased the number of turtles that survive from 1-out-of-1,000 to 10-out-of-1,000,” says Cañón.

Along with protecting the turtles, the resort also turns it into an educational opportunity for the guests, as well as the people in the community.

“We have an educational program that comes with it,” says Cañón. “We have a different campaign each year. We talk to the kids in public schools about these issues and we always include the turtle conservations. We help to change minds.”

“It’s something amazing,” she adds, “to see what people do. To see kids transmit the message to their homes.”

Another way they educate the community

is by holding a yearly beach cleanup at the end of April. Usually 250 to 350 people show up to help pick up the trash that’s washed ashore. Cañón says this event helps people realize that anything they throw into the water has the potential to cause harm to sea life.

In fact, trash is a large cause of death in Leatherback turtles. The turtles’ main source of food is floating jellyfish, which can look very similar to floating pieces of plastic and trash. When the turtles ingest it, they can choke and die. On a few occasions, the turtles have been found to have as much as 11 pounds of plastic in their stomachs.

With the beach cleanup program, people

Dogs’ best friend

Along with the turtle conservation, Bahia Beach also has a stray dog recovery program. While the dogs aren’t native, wild animals to the island, they have become a huge problem.

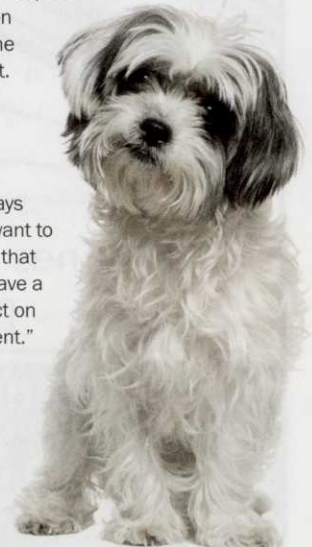
“People are not aware of all the needs of a pet,” says Bahia Beach Resort & Golf Club’s Marcela Cañón. “They just throw them to the streets.”

The stray dog problem in Puerto Rico is now in the thousands, with most of the dogs starving to death, getting hit by cars, or being sent to animal shelters, where they are euthanized.

Bahia Beach rescues some of the dogs, taking care of them and trying to help get them adopted.

The resort even pays to take the dogs to the vet.

“We’re trying to be a responsible part [of the community] says Cañón. “You want to do something that will last and have a positive impact on the environment.”





THE SUSTAINABILITY ISSUE: SPECIES

Just one sea turtle out of 1,000 survives from hatching to adulthood, and one of their most dangerous phases is from hatching to the water. Volunteers are on site for the hatching to keep the turtles safe as they make the big journey to the water.




JRM Inc.
Innovative Turf Technology

Made in America for America
"Quality Matters"



NEW PRODUCT
"The Vulcan"
Fits Anglemaster, Foley,
Peerless and Neary

Tines • Bedknives • Blades
Blocks • Bedknife Grinding Wheels

JRM Inc. • Clemmons, NC
(888) 576-7007
www.jrmonline.com

are both helping the environment, and understanding that they need to do their part to take better care of it.

"Think of everything you throw that ends up on the beach," Cañón says. "[They] see it because they have to pick it up, little by little."

Overall, Cañón says the response of resort guests to the turtle conservation projects has been overwhelming. They are able to be a part of this moving, very touching event and it is something that will always be with them.

"They'll always have wildlife conservation on their mind," she says.

An example of this is a story Cañón will always remember. One of the guests at the resort was a young boy who was in a wheelchair.

"He loved turtles," she says. "He had never actually seen a wild turtle."

While the family was staying at the resort, the staff called them down and took them to the beach to see a hatching.

"It was something really amazing to see the light in his eyes when he saw the little tiny turtles," Cañón says. "He was just overwhelmed with happiness. It was something major; it was something amazing." GCI

Katie Tuttle is assistant editor at GCI.



“My root system is better than yours.”



“The secret to my good green looks? Longer roots under drought stress. Research shows that **Honor® Intrinsic™ brand fungicide** has disease control and **plant health benefits** that make me more efficient and better able to withstand stresses like extreme temperatures and aeration. So I'll keep looking good—and so will you.”

Intrinsic brand fungicides don't just fight disease; they give turf the resilience to endure stress. Find out more at IntrinsicPlantHealth.com.



Always read and follow label directions.

Honor is a registered trademark and Intrinsic is a trademark of BASF. © 2013 BASF Corporation. All rights reserved.



BAD WATER?

Good Solutions.



Inject Away Carbonate Problems

- Specifically designed for injection through an irrigation system
- Patented Synergy Technology ensures improved penetration, distribution and availability
- Frees up calcium, magnesium, and other essential nutrients in the soil
- Opens soil pores for better water movement

For more information, contact your Aquatrols distributor today.



Strict BALANCE

Raptor Bay GC features unique and innovative wildlife conservation initiatives. By John Torsiello

WCI Communities and the Hyatt Resorts, developers of Raptor Bay Golf Course in Bonita Springs, Fla., worked hand-in-hand with environmental groups and agencies to create sustainable natural areas for flora and fauna to share the land with golfers.

Raptor Bay GC stands as a shining example of such a partnership. The course, the first resort golf course in the world to receive the designation as a Certified Audubon International Gold Signature Sanctuary, has created a natural environment that thrives unabated despite the construction of a championship golf course. Great care was taken to preserve the habitat of the property's flora and fauna through such measures as an innovative water management plan, the building of bridges from hole to hole that were elevated on pilings at a control elevation over normal rainy season high water marks, and environmentally sensitive best practice turf management, such as the use of slow release fertilizers, no application of solid fertilizers within 25 feet of any water control feature, use of native grasses and aquatic plants to screen storm water control features, and the adoption of an integrated pest management program.



More than 150 acres of land is preserved within the boundaries of Raptor Bay Golf Club. The skies are alive with life, as a series of nest cylinders and purple martin houses were established on the property, while other nest cylinders attract a wide variety of other birds to the site. An indication of the success of the club's ongoing efforts at wildlife preservation, protection and promotion is the fact that after the nesting work was done, 22 species of birds that were not present in a December, 2001 study were on the property a year later.

One unique wildlife conservation feature at Raptor Bay is the presence of an active eagle's nest. The club enforces a protection plan that defines primary and secondary protection zones based on radial distance from the nest site. Outreach efforts to the surrounding community include the establishment of a mile-long walking trail through a portion of the property, re-



Raptor Bay has created an environment that thrives unabated despite the construction of a championship golf course. Over 150 acres of land is preserved within the club's boundaries.

ULTRAPLEX[®] *and* 6 PRODUCTS IN ONE P-K Plus[®] 3-7-18+B, Co, Mo

THE SOLUTIONS FOR SUMMER STRESS



Research driven. Proven results.[™]



For more
information
scan or link.

<http://gri.gg/info1301>

- Grigg Brothers[®] exclusive Elicitor[®] Technology
- A proven component of Nutritional IPM[™]
- Proven to enhance plant defense mechanisms
- Proven to enhance the summer stress tolerance of turfgrasses
- Safe for the environment
- Effective natural biostimulants, amino and organic acids.
- Sea plant extract (*Ascophyllum nodosum*)
- A water buffering agent
- Macro Nutrients (N & K).
- A full organically chelated micronutrient package including Fe, Mg, Mn, Zn, Cu, and Boron.
- A natural, non-ionic and organic surfactant for improved leaf coverage and absorption.



VISIT

<http://griggbros.com>



JOIN

<http://gri.gg/join>



LIKE

<http://gri.gg/fb>



SUBSCRIBE

<http://gri.gg/tv>



plete with signage and verbiage that points out features of interest.

The club has also partnered with the Conservancy of Southwest Florida in assessing aquatic fauna community composition along the water features of the golf course, with funding for the study provided to the Conservancy via a matching grant from the National Fish and Wildlife Foundation's Wildlife Links Program.

“Raptor Bay’s success can be contributed to the design and focus on **sustainable resource management**. If we were to build this course again we would not change a thing.”

– Jason Brod,
Raptor Bay Golf Course

The purpose of the study is to investigate the community characteristics of water dependent animals, such as aquatic insects, fish and frogs in the ponds and wetlands of the golf course, with an eye on determining how differences in physical characteristics may or may not influence the habitat value of various ponds.

The public and hotel guests are thrilled by the efforts Raptor Bay has taken in regards to habitat preservation, says Superintendent Jason Brod.

“The natural layout and abundance of wildlife are two of the most surveyed answers we get from our resort guests,” Brod says. “Raptor Bay’s success can be contributed to the design and focus on sustainable resource management. If we were to build this course again we would not change a thing.”

Raptor Bay’s success, he says, has led to an increase in similar efforts at courses in the area.

“The fact that there are now many Certified Gold Signature golf courses in Southwest Florida is a testament to the benefits of this program.”

Speaking to water conservation, always a crucial issue for southeastern U.S. courses, Raptor Bay has a remarkably low total, only 60 acres of irrigated turfgrass, compared to a typical golf course that has over 100, Brod says. “This reduction in acreage has had a huge impact on the amount of water required to maintain the golf course,” he says. **GCI**

John Torsiello is a freelance writer based in Torrington, Conn., and a frequent GCI contributor.



Top left: Signage on the course. Top right from top to bottom: A bald eagle at the nest, baby eagles in the nest, and an egret. Bottom: a view of the course, showing the natural layout and abundance of wildlife found at Raptor Bay.

Upgrade Your Turf PGR Program to Legacy.*



- Premiere product for turfgrass enhancement and growth suppression
- Improved turfgrass color and quality
- Extended spray intervals
- Reduced "bronzing"
- Elimination of the "rebound" effect found with trinexapac-ethyl
- Uniform growth regulation on mixed turfgrass species
- Stops and reduces *Poa annua* populations
- Saves labor and fuel associated with mowing

Whether it's for turf enhancement or *Poa* conversion, SePRO has the right turf PGR for your desired objective.



- Selectivity suppresses the growth of *Poa annua* to a greater degree than desirable perennial turfgrasses
- Greater "regrowth" potential on bentgrass vs other growth regulators leading to faster conversion
- *Poa annua* conversion with no disruption to the playability of the turfgrass
- Improved turfgrass quality
- Less impact on bentgrass and Kentucky bluegrass compared to paclobutrazol formulations

Cutless.* The Standard for *Poa annua* Conversion.

For more information about SePRO turf growth regulators, contact your SePRO Technical Specialist or call **1-800-419-7779**. Visit our web site at www.sepro.com.



SePRO Corporation Carmel, IN 46032

*Trademarks of SePRO Corporation. The synergy derived from the combination of Type IIA and Type IIB PGRs is covered under U.S. Patent No. 7,135,435. Always read and follow label directions. ©Copyright 2010 SePRO Corporation.



Now available in a liquid formulation!

**Cutless[®]
MEC**



Birds of a feather

Among its sustainability initiatives, Currituck Golf Club is a temporary home for more than 400 bird species.

By Helen M. Stone

You might say that Currituck Golf Club is for the birds, and you might be right.

The facility's location on the Outer Banks of North Carolina makes it home to a wide array of wildlife, including wild horses, deer, raccoons, river otters, turtles and a huge variety of birds. Currituck even means "the land of the wild goose."

As a member of the ClubCorp network of more than 150 golf and country clubs, the Currituck Golf Club is located in Corolla, N.C., on what was known as one of the premier destinations for waterfowl hunting. Today, that same waterfowl is nurtured and preserved.

"We were one of the first clubs in the region to become an Audubon certified golf course," says Mike Terry, golf course superintendent. "We kind of led the charge for the rest of them, so to speak."

The Currituck Golf Club is also known as a leader in using recycled water for irrigation. "We irrigate 66 acres with effluent water from the subdivision nearby; we have a dedicated treatment plant. We also have a large freshwater lake supplemented by well water that we use for greens, tees and any areas that might run or spray off the course," Terry says. "It's a pretty intensive irrigation system – actually two systems side by side."

During migration season, bird lovers swarm the area. Both fall and spring bring an amazing array of more than 400 reported bird species. But it was a baby owl that captivated the hearts of the golf course crew and the staff at the Audubon Society.

"Our cart master, a 20-year employee, was cruising through the back nine and saw a little puff ball on the ground near the 17th hole," recalls Mike Terry, golf course superintendent at the Currituck Club. "He got a range picker basket and lined it with pine straw and hung it in the tree that was there." The owlet was carefully placed in the "nest."

Then they stood back and held their collective breaths. "It stayed there and we saw

that it stayed alive," Terry said. They began finding bones and other feeding debris at the foot of the tree. Then one day, they actually saw the mother owl. "She was huge and kind of scary!" Terry laughs.



They watched for a couple months as the owlet matured. "We pretty much left it alone," Terry said. "We just kind of kept an eye on the little fella." The young owl ventured from the nest and was "hopping around in the branches" for a bit.

"Then it took off with the mother owl," Terry finishes. He and the crew have seen an owl back in the area and think that it might be the youngster returning home to breed. "It didn't cost us anything but time. It's just one of those great success stories."

"We do a lot to encourage the wildlife on the course," says Terry. "We create brush pile habitat in the natural areas of the course. We try to be as kind as possible."

Some of the wildlife is more of a challenge than an asset. "We have wild pigs that root around on the course," Terry says.

"The deer can be a problem, too. They ate about \$3,000 worth of pansies the first year I was here. I learned not to plant pansies!" he laughs. "The otters get in my ponds and eat up all the fish. But that's okay – you learn to co-exist." **GCI**

Helen M. Stone is a freelance writer on the West Coast and a frequent GCI contributor.



Superintendent Mike Terry: "We do a lot to encourage the wildlife on the course."

SALT SUCKS

PROTECT YOUR
TURF



Na⁺

Na⁺

Na⁺

Na⁺

Na⁺

Na⁺

High concentrations of salt in your soil disrupts osmosis, effectively sucking needed water away from turf roots. This leads to rapid wilting, reduced shoot growth and leaf tip burn.

Aquaplex Amino[®] sprayable osmotic regulator works within the plant to balance osmotic potential, improving water and nutrient uptake and minimizing the impact of stress caused by high EC.

AQUAPLEX amino[®]



Fight back against those evil little suckers.

Aquatrols[®]

www.aquatrols.com



By Jason Stahl

Talkin' Turkey

Paul Carter's efforts to increase the turkey population at The Bear Trace in Harrison got golfers to gobble in delight.

One day, Paul Carter came around the corner on the No. 5 hole at The Bear Trace at Harrison in Harrison, Tenn., and had to rub his eyes to make sure what he was seeing was real: 17 turkeys congregating in the fairway. As superintendent of the course since 2001, he had only seen one or two here or there. But 17? A superintendent with a different mind-set might have looked at them as a nuisance and immediately implemented a strategy to keep them off the course... but not Carter.

"Our attitude was that they were here first," he says. "Our course is on state park property, and we're operated by the Department of Environment and Conservation, so anything we can do for the environment, we do."

After consulting with a local course that also had a large turkey population, Carter decided to purchase some cracked corn and put it down on the property. He didn't want to spread it all over the course, though, so with some good old-fashioned ingenuity, he and his crew built a 6-foot feeder tube out of some leftover 4-inch, double-weld ADS drain tile and ran it up a tree. They drilled a couple holes at the top, with the theory being that as the turkeys ate the cracked corn, gravity would fill up the feeding trough at the bottom.

Unfortunately, all the animals came to the party: birds, squir-



The Bear Trace has become home to a flock of turkeys, and instead of trying to get rid of them, superintendent Paul Carter decided to work with them.



rels, deer, you name it. And the crafty deer figured out if they knocked off the trough with their hoofs, all the corn would come pouring out. So Carter and his crew went back to the drawing board and came up with a different design using four-inch PVC tubes, which has so far thwarted the deer and other creatures and kept the corn for the turkeys.

The cost, says Carter, has basically been zero while the return on the investment has been through the roof.

"It's great for the golfers, who don't normally get to see turkeys," he says. "People stop and

take pictures of the wildlife, and they'll come in the clubhouse and talk more about that than the golf course itself."

Thanks to Carter and his crew's efforts, about three dozen baby turkeys or "poults" have hatched at the course in the last three years. Their work with the turkeys as well as building mallard duck nesting tubes, bluebird and southern wood duck houses, and eliminating 50 acres of highly maintained turf has led to numerous awards: four consecutive GCSAA Environmental Institute for Golf awards, two Tennessee Governor's Environ-

mental Stewardship Awards, and certifications by Audubon International and the Groundwater Foundation.

A lot of Carter's colleagues are now using his plans and designs on their own golf courses. He's proud of what he and his crew have accomplished and is excited to continue down the path of sustainability.

"We've experienced nothing but success out of it, and it didn't hardly take anything to do." GCI

Jason Stahl is a Cleveland-based writer and frequent GCI contributor.