

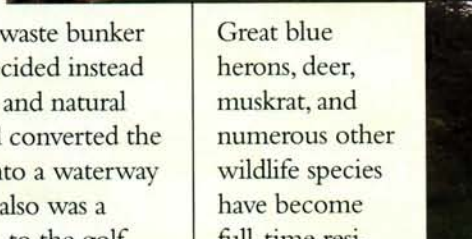
# From Bunker to Biodiversity

The Club at Carlton Woods successfully converts a problematic bunker into an attractive wetland habitat.

BY PETER BRONSKI

**A**t The Club at Carlton Woods (The Woodlands, Texas), a five-acre waste bunker that paralleled the fairway on hole No. 17 was a thorn in the side of an otherwise picturesque golf course and an eyesore that drained club resources. Abutting Bear Branch Lake and Reservoir, as well as several dense natural areas, the bunker was a constant maintenance battle against erosion and the encroachment of vegetation — all for what Superintendent Eric Bauer described as “a drab-looking golf hole.”

Rather than pouring resources into a never-ending cycle of needless waste bunker maintenance, the club decided instead to use the adjoining lake and natural areas to its advantage and converted the five-acre waste bunker into a waterway and wetland habitat that also was a visually pleasing addition to the golf course.



bald cypress, river birch, bull rush, spike rush, pickerel weed, and sagitaria were planted in partially and fully submerged areas.

Just two weeks after the project was completed, wood ducks and black-bellied whistling ducks descended upon the new wetland, and during the summer of 2002,

a pair of black-bellied whistling ducks raised 12 ducklings on the island.

Great blue herons, deer, muskrat, and numerous other wildlife species have become full-time residents or part-time visitors. From a habitat restoration standpoint, the project was a resounding success. Wood duck boxes and other nestboxes will be added to the wetland area in the near future, adding additional nesting sites for the myriad birds that have come to inhabit Carlton Woods’ newest “renovation.”

## GOOD FOR THE ENVIRONMENT, GOOD FOR GOLF

“Golfers absolutely loved the idea,” says Bauer, who communicated weekly with club members via e-mail to pro-

vide updates on the project status. “We have had many positive comments on the aesthetics and the wildlife that have been seen in the area.”

While The Club at Carlton Woods set out with aesthetics and wildlife as the motivating factors for the conversion, there’s a certain fiscal sense to the project as well. The total project cost weighed in at \$70,000, but despite the relatively high sticker price, the club will see a financial return on its investment in fewer than 15 years. The original waste bunker was a sinkhole for club resources, swallowing \$5,600



Looking toward the Number 17 green, before and after pictures show the dramatic conversion of a five-acre waste bunker to wetlands and lake areas planted with a variety of native plant species.

per year — \$3,800 for maintenance and \$1,800

for repair — that can be reallocated to meet other club needs. Now the club is saving 20 man-hours of labor per month.

Arguably, though, the real benefit here is not measured in dollars. For The Club at Carlton Woods, staying true to its environmental commitment and receiving overwhelmingly positive praise from its members and golfers is priceless.

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## THE CONVERSION

The reservoir side of the bunker was excavated and the clay substrate was compacted to create a bank that allowed the former bunker to retain water in the new wetland area. The bank was planted with buffalograss and native bluestem to control erosion and eliminate the need for irrigation. A small island was formed to create a visual and habitat enhancement, and an overflow drain was installed to ensure proper regulation of water levels. Finally, native wetland plants such as