



Maintaining buffer strips around water hazards results in a number of environmental benefits.

A Natural Approach

Reducing soil erosion and nutrient runoff by using natural plant material.

BY BRIAN MALOY

When it comes to golf course hazards, none are more feared than the dreaded water hazard. Defined by red or yellow stakes, water hazards can impose a heavy toll on golfers who stray. So heavy is the price for landing in this no man's land that, at the end of a round, it can mean the difference between one's personal best and just another routine day on the links.

For superintendents, the management of water hazards also can be a frustrating experience. Oftentimes, water hazards have steep banks that are prone to erosion. What's more, golfers typically demand that the grass surrounding a water hazard be kept short so they can

find and retrieve their \$4.00 golf ball with little difficulty. I guess taking a penalty stroke is bad enough, but losing a brand-new golf ball on top of that is an experience no one should have to endure!

To control bank erosion, one can often find retention walls built with a wide variety of materials. The most popular of these are railroad ties, bags of concrete, gabion baskets, and large aggregate rocks. These materials range in price from \$40 to \$80 per linear foot, depending on material costs and the height of the wall.

At Riverbend Country Club in Sugar Land, Texas, George Cincotta faced the problem of stream bank

erosion and decided for a number of reasons that construction of a retention wall was not necessarily the best solution. First and foremost, restricting the channel of a stream with a permanent barrier can increase the velocity of the water and cause it to erode the base of the streambed. As such erosion progresses, it can eventually undermine the foundation wall, causing it to fail in the long run.

As an alternative, George chose to employ a more natural solution. University research has proven that an unmown vegetative strip, a *buffer strip*, will control erosion by anchoring soil in place with a strong network of plant roots. Furthermore, the establishment of tall vegetation along a shoreline helps filter nutrients from runoff that might otherwise pollute the body of water.

George's first attempt at erosion control involved planting pickerelweed along the stream banks. This effort proved futile as the plants were quickly devoured by nutria, a small South American rodent introduced on the Gulf Coast.

His second attempt was to plant yellow flag Louisiana iris (*Iris pseudacorus*). This work was a great success in that the one-gallon containers planted on two-foot centers have completely filled in over the bare soil and stopped the ongoing soil loss in the short span of two years. In addition, the iris provide a stunning spring color display.

While yellow flag iris may not be a perfect fit for every situation, the basic principle of using a natural solution to solve an age-old problem is universal. For assistance in determining what plant will work best in the many different regions of the United States, contact Audubon International for a list of materials.

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