



Wetland Protection on Golf Courses *Success Stories*

BY JEAN MACKAY, DIRECTOR OF EDUCATIONAL SERVICES



Golf courses are diverse landscapes that can be managed to showcase natural plant communities and valuable wildlife habitats including *wetlands*. The following Success Stories feature Audubon Signature Program and Audubon Cooperative Sanctuary Program golf members that have done an exemplary job of protecting and enhancing wetlands.

Wetland Restoration Stevinson Ranch Golf Club— Savannah Course, Stevinson, CA

Stevinson Ranch Golf Club— Savannah Course opened in 1995 as the first golf course in California to be certified as an Audubon Signature Sanctuary. Stevinson Ranch is located in the Central Valley of California, a region historically known for its wetlands and grasslands that attract thousands of migratory waterfowl and other birds each year. Agriculture within the Central Valley has



drastically reduced its once vast wetlands, making those that remain especially vital for birds. A locally and regionally significant seasonal wetland known as Lake Honda lies in the southeastern corner of the Stevinson Ranch property and provides prime habitat for migratory waterfowl, including several species of geese, sandhill cranes, cinnamon teal, gadwall, mallards, black-crowned night herons, among others, as well as numerous species of passerine birds. During the construction of the Savannah Course, developers restored 100 acres of wetlands on the property, including 40 acres of wildlife habitat within the Lake Honda, and created 120 acres of new wetlands.

Wetland Exotic Species Removal The Club at Mediterra, North and South Courses, Lee and Collier Counties, FL

The Bonita Bay Group preserved, enhanced, or created approximately 292 acres of wetlands and preserved 60 acres of uplands in Florida's Southern Coastal Plain ecological region to satisfy the permitting requirements of federal and state agencies when constructing The Club at Mediterra, North and South Courses. The two certified Audubon International Silver Signature golf courses weave around these preserved and enhanced wetland systems. A coherent wildlife corridor extends throughout the property via connections made between preserved habitat, native landscaped plantings, and surface water management lakes planted with native species.



Prior to golf course development, Mediterra's wetlands had been invaded by a number of exotic and nuisance plants, including melaleuca and Brazilian pepper. Communities that were once cypress-dominated wetlands had become a monoculture of melaleuca. Various eradication and maintenance activities were completed both during and after construction to facilitate the removal of these undesirable plants. These activities resulted in the transformation of natural communities, including reduced seed source for exotic plants in the vicinity; improved vegetative structure and diversity of wildlife habitat; and enhanced aesthetic value of the Mediterra community.

Specially Designed Wetlands Treat Golf Course Runoff Raptor Bay Golf Club, Estero, FL



In March 2002, Raptor Bay Golf Club won certification as the third Audubon International Gold Signature Sanctuary golf course in the world, meeting Audubon International's highest standards for development in concert with the environment. To protect water quality in the created lakes on-site and the water bodies downstream of the project, including Halfway Creek and Estero Bay on Florida's Gulf Coast, approximately 22 acres of phytozones, or small wetland pockets, were constructed to treat runoff from the golf course. The phytozones are characterized by a wide earthen berm that separates a shallow pool from the main body of the lake. Each is constructed to receive runoff directly from the storm water drainage system or from swales around the lakes. Once the runoff is discharged into a phytozone by pipe or swale, it is detained before flowing into the main body of the lake. The phytozone temporarily stores and slows the movement of the runoff and therefore promotes settling of solids and attached pollutants. Vegetation planted in the phytozone takes up and filters dissolved nutrients. The phytozones at Raptor Bay are sized to treat runoff from smaller, more frequent storm events, which have the greatest potential to degrade water quality. Preliminary water monitoring results have indicated that water quality is good and that the phytozones are functioning effectively. Phytozones also have the added benefit of providing habitat and feeding areas for wading birds and other wildlife. Results from the wildlife monitoring program at Raptor Bay have indicated a substantial increase in the variety of bird species on the property.



Wetland Mitigation Old Brockway Golf Course Kings Beach, CA

When a Safeway grocery in North Lake Tahoe decided to expand its store and parking area, Old Brockway Golf Course, which borders the store, agreed to mitigate some of the land use change. The project involved creating five water treatment ponds on the adjoining ninth and first holes of the nine-hole public golf course. These created wetlands not only treated storm water runoff, they also enhanced the wildlife habitat and playability of the golf course. The success of this project garnered attention from the Tahoe Regional Planning Agency, who named it *Best Commercial Project of the Year*.



Environmentally Sensitive Management Old Marsh Golf Club, Palm Beach Gardens, FL

One hundred-and-twenty acres of wetlands at Old Marsh Golf Club draw more than 80 species of birds, as well as otters, bobcats, deer, and alligators, to the golf course and residential community. Staff of the golf course has worked closely with the Palm Beach Water Management District on wildlife and plant management and aquatic weed control. Five pairs of Sandhill Cranes, a threatened species in Florida, live on the property. Golf management proceeds with environmental sensitivity—especially in terms of fertilizer and pesticide use.

Shoreline Naturalization Robert Trent Jones Golf Club, Gainesville, VA

Robert Trent Jones Golf Club naturalized this slope in front of #11 tee by allowing existing grasses to grow tall and planting hundreds of native perennials. The beautiful result provides an extended buffer along the lake and eliminates the need for intensive maintenance on this slope.



Vegetated Buffers Aspen Golf Club, Carbondale, CO

Aspen Golf Club maintains an extended vegetated buffer and no-spray zone along a stream corridor on the golf course. Higher thresholds for weeds and diseases should be allowed in transition zones near wetlands; weeds may be hand pulled or spot treated to avoid chemical drift or runoff into the water.

Wetland Education WCI's Pelican Preserve, Ft. Myers, FL

A nature preserve and interpretative boardwalk at WCI's Pelican Preserve covers approximately 40 acres. The boardwalk treats visitors to a walk through four distinct plant communities, including Live Oak/Sable Palm, Bay/Gum/Cypress, Freshwater Maidencane, and Emergent Marsh. WCI provides a trail guide, kiosk, and several viewing stations to educate patrons about wildlife and plants of the preserve.



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Audubon International
46 Rarick Road
Selkirk, NY 12158
(518) 767-9051