

Salt threatens Southeastern aquifer

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existing courses about switching over to alternatives like surface water, other aquifers, effluent and aquifer storage and recovery," said Bill Frechette, principal geologist for the Water Resources Management Program of the Georgia Environmental Protection Division of DNR.

"Our coastal strategy is still in draft form, and one of the proposals is no new golf courses using the Floridan aquifer. Existing courses will have to switch over eventually... We're trying to work with [the golf community] to develop a means of meeting our objectives without causing too much difficulty. One of the things we've heard is, if you design this stuff in the early stages of development, this isn't a big problem. Of course, the retrofitting will be more difficult."

After holding a series of citizen meetings this spring, the Georgia Environmental Protection Division of DNR had intended to begin implementation of a coordinated interim strategy on July 1. But Frechette indicated a plan probably won't take shape until after the Atlanta Olympics have concluded.

According to a draft of the DNR's Interim Southeast Georgia Ground Water Management Strategy, the problem is serious. "Salt water is moving into the upper Floridan aquifer in the vicinity of Port Royal Sound, immediately north of Hilton Head Island in South Carolina, and toward Savannah," the report states. "Brines have already made a portion of the Floridan aquifer salty in Brunswick and are moving up into the freshwater portion of the aquifer in Brunswick."

"Salt water intrusion in the aquifer is also possibly occurring in the vicinity of Fernandina Beach, Fla./St. Mary's, Ga.," the report continues. "A municipal well at Thunderbolt (Chatham County), Ga. has had to be closed because of saltness from unknown sources."

The U.S. Geological Survey has advanced the idea there may be a salt water wedge in the aquifer near the northern end of Tybee Island. If this is true, Savannah's water supply would be endangered.

"This is a serious, serious problem," said Frechette. "We're trying to keep this clean for drinking water. This report is

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— Bill Frechette, geologist

still in draft form and a lot of stuff needs to be developed. But where we are now, we will not permit any new golf courses in that area.

"Down in Brunswick, golf courses have been permitted for the Miocene aquifer, which is above the Floridan. No problems have been reported so far.

"The Floridan is a limestone aquifer, while the Miocene is sand and runs a little slow. But that's perfect for golf courses. They can turn on the pump at night, fill the lagoons and irrigate from there."

Frechette noted that South Carolina in general, and Hilton Head Island in particular, have already implemented irrigation strategies that don't necessarily rely on the Floridan. The most successful has been aquifer storage and recovery.

"Essentially, on Hilton Head, if you're on effluent during the summer, there aren't enough toilet flushes to irrigate the courses," Frechette explained. "With aquifer storage and recovery, you basically take treated water during the off season, inject it into the ground and store it there. During peak use, you've got whatever people are flushing plus that which has been stored."

"I know this is being done in Myrtle Beach, too; and in Florida. There's no reason we can't do that in Georgia."

Frechette encouraged input from golf industry members interested in providing input on the Interim Southeast Georgia Ground Water Management Strategy. He can be reached at 404-656-3094.



CREEPING BUNKER BOUNDARIES

Bunkers can lose their shape over time, as exhibited by this greenside hazard in transition at Winchester (Mass.) Country Club. Architect Stephen Kay has completed a thorough bunker renovation at this venerable Donald Ross design in suburban Boston. Most of Kay's work involved restoring the traps to the original Ross plans — note the stakes (in photo below) marking the original boundary. Along with major bunker work, the course underwent a complete irrigation upgrade; all this in anticipation of the 1996 Massachusetts Open, which went off without a hitch in June.



Fabrizio refining 4 Palm Coast tracks

PALM COAST, Fla. — Palm Coast Resort has contracted golf course developer Mike Fabrizio to refine its four championship 18-hole golf courses designed by Gary Player and Arnold Palmer — Cypress Knoll, Matanzas Woods Palm Harbor golf clubs and Pine Lakes Country Club.

Fabrizio will also be instrumental in developing Palm Coast Resort's fifth course, a Jack Nicklaus design that will be completed in 1997.

"Mike's unique skills and leadership allowed Wild Dunes Links Course to gain recognition as the 32nd best course in the world by *Golf Digest*. There's no one better to oversee our existing four courses and the development of our new Jack Nicklaus signature course," said Matt Hagler, general manager of Palm Coast Resort.

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