

Club's extra steps lead to water, and dollar, conservation

By DOUGLAS PAGE

PORTLAND, Ore. — The Environmental Protection Agency rates "nonpoint source" (NPS) pollution as the number-one threat to the nation's water quality. NPS pollutants enter the ground and water table from other than a single point. Golf courses have a NPS pollution reputation because of the suspected run-off of pesticides and fertilizers used to keep the track green and playable.

Recent studies, however, have shown this reputation may itself be suspect. A three-year U.S. Golf Association-funded environmental study by the University of Florida has demonstrated that most organo-phosphate pesticides sprayed on greens are absorbed into the courses' thick thatch layer — the layer of dead and decaying organic matter at the top of the soil surface and just below the grass.

According to Florida soil scientist George Snyder, "Even less of the pesticide penetrated into the soil and very little seeped into the percolated water." Snyder said the dense root mass of the turfgrass system makes it an ideal "living filter system" for cleansing the water that moves through it.

The thatch layer of the turf holds the pesticides for the soil's microbial organisms to feed on, destroying the toxic organic compounds.

Some course architects have known this all along.

"There's been a lot of misinformation about golf courses and their negative impact on the environment, even though golf courses have been a forerunner in being environmentally sensitive," said golf course architect Pete Dye, who recently offered to redesign Purdue University's North Course to support a turfgrass research center dedicated to further turf management and pesticide application studies.

Even so, some golf course superintendents feel there are extra steps they can take to relieve their courses' impact on the environment.

Riverside Golf and Country Club, an 18-hole private facility here, has implemented operational changes designed to eliminate pesticide runoff into ground water from the course's cart and mower washing stand, which also reduces water consumption through conservation and reuse.

The changes are saving more than the water table; the club estimates it is saving between \$10,000 and \$30,000 a year.

Former course superintendent Tom Christie adapted a system used at car washes to fit the club's golf car and mower washing operation. Riverside's mow-

ers are maintained, washed and adjusted daily, yielding ample opportunity to recycle water and debris. The closed-loop system recycles 45,000 gallons of water a month after a filtering apparatus sifts out grass and other contaminants.

Interim superintendent Greg Smith is carrying on Christie's environmental awareness. "This is our contribution to the clean-water movement," he said. "We're recycling our wash water. We filter it, we clean it and keep using it over and over, rather than just discharging it somewhere."

"We have to be stewards of the land. We can't just dump any excesses we have, whether water or pesticides."

"It's going to get to the point that it may be required that everybody recycles their wash water. We're just trying to stay

ahead of the game and not be a polluter in our environment here."

The wash-water recycling facility (a Water-Maze, manufactured by Landa Corp. in Portland) supplements the overall conservation designed into the course.

Beneath the facility, an extensive drainage system captures naturally cleansed water and returns it to a holding reservoir.

The combination of water from the drainage system and a well fill the reservoir and feed the club's sprinkler system.

The club has also installed a weather station on the grounds that monitors such variables as air temperature, humidity and wind.

The instrument calculates the evapo-transportation rate (the amount of water a plant needs for nourishment each day) of the club's grasses and plants. The station then informs the computerized sprinkler system how much water to deliver from the 800-plus sprinklers.

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