Audubon expands horizons, goes international

SELKIRK, N.Y. — It's official. Audubon International — Center for Sustainable Resource Management (AI) has been formed and is operating, bringing under one umbrella the national and international programs formerly managed by the Audubon Society of New York State (ASN). Citing a mission of improving the quality of the environment through research, education and conservation assistance, AI expects the public to better understand the breadth of the society's programs through its new name-change.

"We have members in countries around the world," said ASN President Ron Dodson, who serves as president and chief executive officer of Audubon International. "Audubon International was created to help deal with 'geographic' limitation issues regarding the name 'New York.' Audubon International's mission is much broader than that of ASN.

It is recognized that much of the transition will be phased in over time for the sake of utilizing program materials already in existence and for the opportunity of educating existing members as to the new structure being established."

Pine Ridge GC undergoes a 'natural' conversion

BY PETER BLAIS

BALTIMORE — With completion of its new cart-storage facility, city-owned Pine Ridge Golf Course converted its 70-vehicle EZ-GO golf cart fleet from gasoline to natural gas in early December, an environmentally friendly move that is meeting with mixed reviews.

"It's really been more show than substance," said Art Susark, public information director with Baltimore Gas and Electric (BGE), which partnered with Baltimore Municipal Golf Corp. (BMGC) in the original pilot program to test four compressed natural gas (CNG) vehicles at Pine Ridge.

"We were looking for highly visible sites to test natural gas units," said Pine Ridge is considered one of the premier public courses in the country and gave us the opportunity to get exposure for natural gas vehicles with the many business people who play the course. We knew they could help us break down some of the barriers to their use. But economically, it's really not a cost-effective system for golf courses, yet. They don't put enough miles on the carts to make it worth putting in the pumping station."

For BMGC, the non-profit entity that operates the city's five courses, the switch to natural gas is more environmentally than economically motivated, according to Executivo Director

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Roberts urges more carbon use in root-zone mixes

BY MARK LESLIE

SPARTA, Tenn. — Saying researchers "haven't begun to explore the use of grasslands as a depository for effluent and other materials," Dr. Elliot Roberts declared: "Anything with carbon in it ought to be processed and mixed into the soil when you build a golf course.

Roberts, retired executive director of The Lawn Institute and former head of turfgrass programs at Iowa State University, said golf course soil systems are aerated and "while carbon would never decompose in a landfill, it would feed microorganisms in a golf course.

"Paper, plastics, animal and plant wastes all have carbon. They can be processed and pulverized to feed soil." Pointing to the 45 quadrillion microorganisms..."
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organisms that live in the root zone of 1,000 square feet of turf, Roberts said: "They have to eat. Carbon is what they eat. The main source of carbon in the soil is the roots of the plants. Why are the best soils in Indiana, Illinois, Iowa? Because the soil there has humus.

"We don't need to wring our hands and say, 'It's too bad we don't have organic matter.' We can add humus, humic acids, or humates. There is concern that there is ink on newspapers. But the turf system will biodegrade all of that.

Any source of carbon to add to soil is helpful, he said, suggesting that superintendents "think about something other than NPK [nitrogen, potassium, magnesium] that feeds grass; think of things that feed the micro-organisms that feed the soil."

Roberts, who operates a turfgrass consulting firm here called Rosehall Associates, lamented the fact that no leading agribusines companies are promoting organic products for this purpose. "They are promoting organic products as pesticides, fertilizers, or any other number of products — but not for building humus for the soil," he said. "So the world's industrial complex isn't behind this concept and it hasn't advanced rapidly.

"It's unfortunate that many of the more 'backward' countries know more about this than the industrialized countries. We get more interested in it as a means to cleaning up and reducing pollution than in recognizing the value of carbon compounds for creating and maintaining a living biological soil."

A natural gas conversion
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William Cook.

"It's costing us more [than gas-powered vehicles], but we're charging golfers the same rate as we would for gas cars," Cook said. "Our leasing cost is about 50 percent higher than gas cars would be. But we're very excited about the conversion."

Pine Ridge is located on the environmentally sensitive Loch Raven watershed. BMGC is seeking permission to invest $4 million to build another 18 holes, 3-hole handicapped facility and nature trail there. BMGC officials hope the use of natural gas cars plus a $300,000 environmental study that showed the golf course has not and will not affect the environment, will sit well with those deciding on the expansion, Slusark said.

While the economic benefits of natural gas cars are few, their environmental advantages are many, to be sure. The government is pushing CNG as one way for companies to comply with federal Clean Air Act requirements that fleets of 10 or more vehicles (golf cars are exempted) begin converting to a clean, alternative fuel by 1998.

According to BGE literature, natural gas cars are cleaner and safer than gasoline-powered cars. CNG produces less ozone-forming hydrocarbons, carbon monoxide and toxic emissions than gasoline. CNG is stored above ground, eliminating the possibility of underground storage tank leaks.

Because it is lighter than air and dissipates rather than pools if it leaks, natural gas reduces the risk of ignition and groundwater contamination. CNG's ignition temperature is twice that of gasoline and storage cylinders are strong enough to withstand bullet, dynamite or high-speed collisions.

BGE claims natural gas performs better because of its higher octane rating, 130 compared to gasoline's 87.

Because CNG is stored in gaseous form and doesn't have to be vaporized before use, CNG vehicles also run better than gasoline vehicles on cold days.

Cook said the CNG golf cars actually have about 10 percent less power, although golfers rarely notice the difference. "And there's no doubt they operate better in cold weather," he added.

E-Z-GO is providing the golf cars at Pine Ridge. According to company Manager of Marketing Services Ron Skenes, gasoline vehicles are easily modified with a natural gas kit that replaces the gasoline tank. All other components — except the carburetor, which is replaced by a mixer — are identical in the gasoline and CNG models.

"We've seen some interest in converting to natural gas cars at other courses around the country," Skenes said. "It's not a huge demand, but we're keeping an eye on it.

The natural gas cars can complete two 18-hole rounds with a single filling, Skenes said. Refueling takes less than a minute. The cost of natural gas versus gasoline varies around the country. In some places natural gas is more economical, in others gasoline is a better buy, he said.

"The only added expense is installing a pumping system for compressed natural gas," Skenes said.