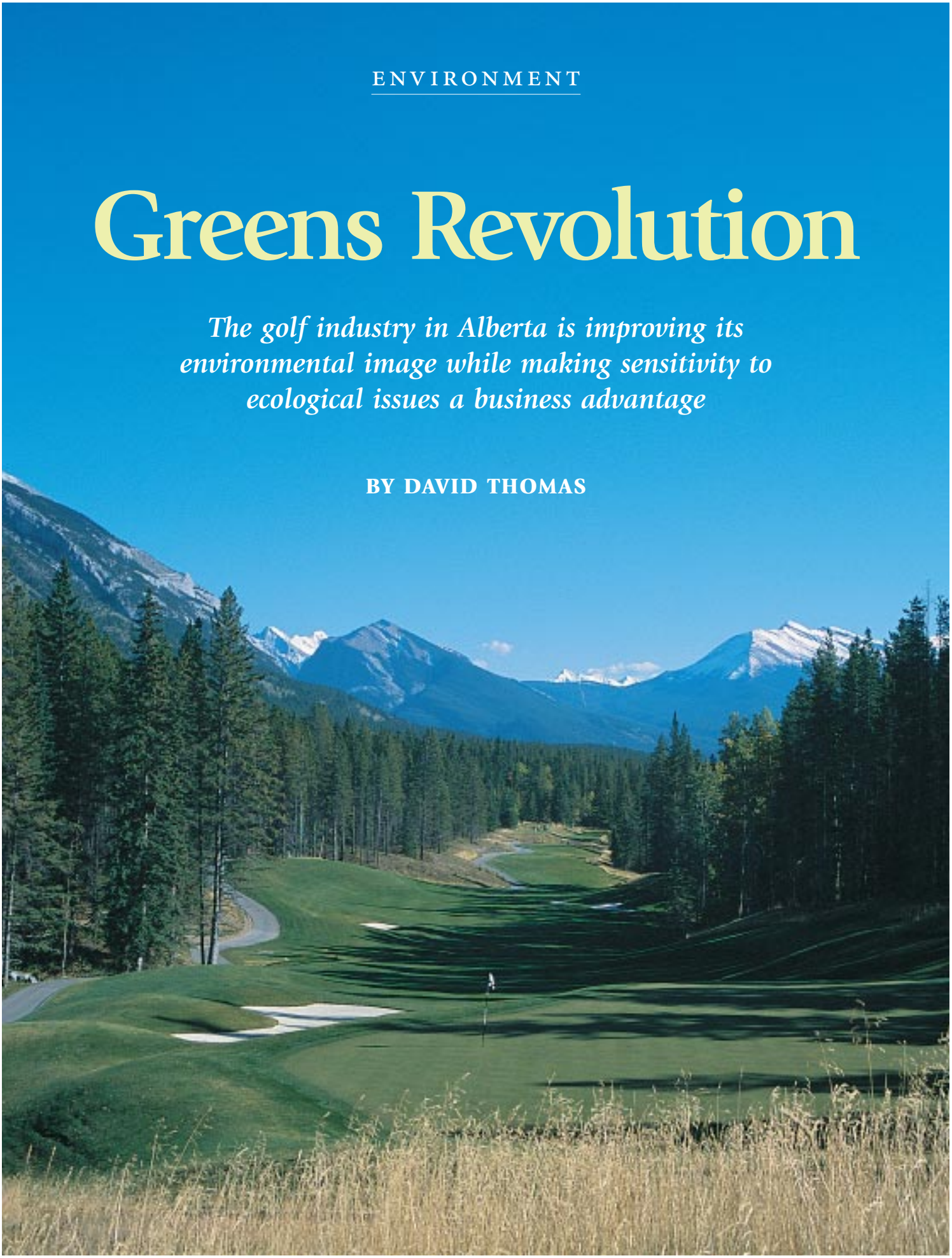
ENVIRONMENT

Greens Revolution

The golf industry in Alberta is improving its environmental image while making sensitivity to ecological issues a business advantage

BY DAVID THOMAS



ROB JOBST

Effortlessly, Les Furber addressed the one big rap against golf and whacked it into the intellectual rough: "The average farm in Alberta pollutes more than any golf course."

Thus did the globally reputed Canadian architect of challenging golf courses deflate the entire intended premise of the interview. Furber has made sensitivity to ecological issues a competitive advantage in his business of designing golf courses from a small office in Canmore. Far from chafing against environmental controls in his home country, he argues they are not restrictive enough.

"European environmental rules are quite exciting for me. In our Swiss project, for example, we are required to relocate 42 anthills from the fairways. What I've learned over there allows me to promote better ways of doing things in North America."

Les Furber at Canmore's new SilverTip course, which his firm designed.

JOHN MARRIOTT

"The average farm in Alberta pollutes more than any golf course."

Golf was originally carried to North America by immigrants from Scotland, where, in 1457, King James II tried to eradicate it as an effete distraction from archery. The ban failed, and by 1764 at St. Andrews, the game boasted established rules and a standard course layout of 18 holes. Golf was then still confined to the wealthy by the cost of stuffing a hatful of wet goose feathers into a sewn leather shell to make a regulation ball. The golf bug infected the common man in the 19th century when balls began to be made from cheap gutta-percha—a raw rubber delivered to Great Britain as packing material protecting fragile goods shipped from India.

Golf is now the number one participation sport in Canada, surpassing hockey, baseball, football and, yes, even lacrosse. Some 20.5 per cent of Canadians over the age of 11 played golf in 1998, according to a survey by the Royal Canadian Golf Association. Canada, in fact, has the highest golf participation rate in the world, and Alberta's rate of 29.7 per cent is the second highest in the country, just behind Saskatchewan. Golf is growing, in part, because the Alberta Golf Association is shamelessly hooking kids in elementary school. Last year, 7,000 pupils learned to hit a golf ball, either on a course or in a gymnasium. "Golf is so popular here because Albertans are outdoors people and family people. Golf is for both," says Brent Ellenton, executive director of the Alberta Golf Association.

There are more than 300 courses in the province, ranging in topography from verdant mountain valleys to flat forests, grasslands and even desert badlands. Alberta even suspended its usual politics when it dipped into the Heritage Trust Fund to sculpt the stunningly beautiful Kananaskis Country Club, a government-owned course where citizens pay proletarian fees to play on links that surpass the class of Pebble Beach.

Golf in Alberta transcends demography as well as geography and politics. Sit for an hour or so on the patio at Waterton Park's public golf course and witness all of Alberta, and much of the world, take a turn at the first tee. Farmers in John Deere caps and necks dried halfway to jerky by the sun squint at the ball through the rising smoke of cigarettes teetering in pouting lips. Japanese salarymen stretch and bend in Shintoistic warm-up ritual. Elegant city ladies demurely waggle their hips before whacking the ball and then cuss like sailors as they follow its trajectory.

The Golf Patch is taking its place beside energy extraction and agriculture as an economic engine for Alberta. Surprisingly, the province has not undertaken a cost/benefit analysis of the golf industry. But there's plenty of anecdotal evidence that golf is a growth sector. Rural colleges have programs to turn farm boys into turf managers to meet the growing demand for course superintendents in North America, where new courses are opening at the rate of 1.5 per day. Several young Albertans have been rewarded for their obsession with golf scholarships at U.S. universities. Calgary has its own PGA Tour star in Stephen Ames, who last year set a course record of 61 on the fearsome Blue Monster at Miami's Doral Golf Resort. The pastime also drives Alberta's westward colonization of British Columbia's Rocky Mountain playground, where sprawls of new courses, condos and timeshares cater directly to Alberta golfers.

Newest of the Rocky Mountain courses is St. Eugene Mission, which Les Furber coaxed from arid savannah near Cranbrook, B.C. Owned by a consortium of native bands, the course was carefully designed to coexist harmoniously with its dry, delicate natural surroundings. Large, untended buffer zones absorb any chemicals in water runoff before it can reach the adjacent St. Mary's River and its sensitive community of cutthroat trout. Furber has delineated large no-go zones where golfers are not allowed—not even to recover errant balls amid the wildflowers.

Furber's entrée to golf was accidental, during a break from university in 1966. He signed on with a contractor building golf courses in California for Robert Trent Jones, the venerated dean of modern golf course design, who died last year. Under the threat of being press-ganged by the U.S. Army for duty in Vietnam, the young Furber sensibly returned home to Canada in 1967. Soon after, he received a call from Trent Jones, who asked him to continue to work for him, but beyond the reach of the draft board. From a base in Spain, Furber spent 10 years supervising the shaping of Trent Jones courses in Europe, Africa and Mexico. Furber again returned to Canada in 1978, this time to undertake construction of the Kananaskis course for Trent Jones. "I was the Canadian content for the project."

Furber worked another two years for Trent Jones before establishing his own practice as a golf architect. Since then, he has accomplished more than 50 new projects from scratch and remodelled another 40 existing courses. He recently completed a course in the Czech Republic and started another, the one with the anthills, in St. Moritz. Closer to home, he is building a 27-hole course in P.E.I. and three in B.C.—at Kelowna, Sicamous and Kimberley.

Furber's staff, including those in his European office in Zurich, employ computer-assisted design software to model proposed courses. Not all of the design can be done by computer. "We do our preliminary work from the contour maps, but to judge the views, we have to get out there," says Furber. "The [objective] of designing a golf course is to fit the land. If you make it flow with the property, you can be minimalist in the amount of dirt you move. You can work around natural vegetation and be much more environmentally sensitive.

"People are starting to appreciate golf courses that look natural, without a lot of cut and blasted slopes. We want to find a piece of land where we can work around all those things and let the golf course flow with the topography. People like to feel that they are part of the ecology. It's part of why golf in Western Canada is becoming so popular among Europeans and Japanese. We carve our courses out of existing landscapes. These people are coming from places where there is very little ecological beauty left because of the development density. They just find this a wonderful golf experience because of the settings."

Pesticides and chemical fertilizers can end up washing into waterways.

ROB JOBST

Furber refuses to build a course that will not be financially successful. "If the developers are going down a path of no financial return, we don't want to go with them. If we can't build a complete, turnkey golf course for $4-million, then we've got the wrong piece of land. In sunshine destinations, they can afford to subsidize the construction of the course by charging that much more for fairway frontage lots. But here, I think we have to look at golf as a stand-alone business."

Engineering and environmental studies make up about 10 per cent of total course costs and can take far longer than the two years needed to sculpt terrain and cultivate grass. Furber's showcase SilverTip course in Canmore required eight years of environmental studies before the province approved construction. SilverTip is built on a bench above the town, and its 600 feet of vertical elevation between lowest and highest points

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Banff Springs is one of Alberta's three Audubon-certified golf courses.

"People like to feel that they are part of the ecology. We carve our courses out of existing landscapes."

allows it to bill itself as the "Extreme Mountain Golf Experience." With greens fees of $129, it is also an extreme financial experience compared to most other Alberta courses. Kananaskis, for example, charges Alberta residents just $50 for 18 holes. (Eastern bastards and other non-Albertans pay $65.)

Turf management technology has evolved significantly since its start in 1913 when power mowers first began to replace sheep. New golf courses are engineered to minimize the use of chemicals and water to feed and irrigate grasses, although the changes have yet to penetrate popular opinion. "There is a general perception that golf courses use large amounts of chemicals, but chemical use in golf is far lower than in agriculture," Furber says. "In P.E.I., the environmentalists are delighted to have a golf course replace a potato field."

Fertilizers and fungicides containing heavy metals and mercury are now banned. Modern turf management relies on safer chemicals, applied sparingly as part of integrated pest management programs. Golf course fertilizers, fungicides, herbicides and pesticides are designed to be fully consumed by the grass and topsoil before percolating into groundwater. Some fertilizers are injected into irrigation systems so they can be applied in minuscule amounts. Wide buffer zones absorb chemical surpluses in runoff from rain and irrigation.

Scientific turf managers are selecting grass varieties bred for resistance to disease and weeds. "Our cool climate allows us to use dwarf bluegrasses and bentgrasses that can be cut very short and are disease resistant," Furber says. "New grasses are being developed specifically for golf and the interests of the environment."

But some of the newest grasses intended for golf courses are genetically engineered not so much to resist disease as to tolerate the herbicides marketed by their makers. Two of the biggest proponents of genetically modified grasses are Monsanto, which makes the herbicide Roundup, and Scotts Company, which makes Ortho pesticides and Miracle-Gro fertilizer. Genetically altered grasses are considered by their critics to be a potential threat to indigenous vegetation. The fear is that pollen from genetically modified grass would spread uncontrollably beyond the golf properties and cross-fertilize with native grasses, with unpredictable results. Even some within the seed industry are concerned. "It's going to be a huge problem to keep this stuff contained," says Crystal Fricker, president of Pure Seed Testing, Inc., of Oregon. The American Society of Landscape Architects last year petitioned the U.S. agriculture department to suspend field tests by Scotts because, says society president Janice Cervelli Schach, they "could affect the whole ecosystem of native plants."

The substantial amount of water needed to maintain golf courses is another issue with environmentalists. The average Alberta golf course uses 136.5-million litres a season—enough to fill 1,000 of the biggest railway tank cars—according to Hugh Lockhart, superintendent of Riverbend Golf and Country Club in Red Deer and president of the provincial golf superintendents association. Many clubs, including his, are considering converting to modern irrigation technology that cuts water consumption by 30 per cent. Even better are courses such as Okotoks's D'Arcy Ranch, which irrigates its greens and fairways with treated effluent from the city sewage system. Clean and odour-free, the effluent is rich in plant nutrients and reduces the use of chemicals, as well as of potable water.

The latest golf course irrigation systems are controlled by computers connected to moisture sensors embedded in the soil beneath the greens and fairways. Instead of drenching the ground with wide-flailing sprinklers, the new systems apply measured amounts of water through smaller, better-targeted jets. Course superintendents can inspect the results and precisely tune irrigation programs on the spot by means of a hand-held wireless controller. Irrigation systems now even adjust their artificial rain automatically as the growing season progresses.

Water conservation starts with course construction. Newer greens are built on a foot-deep bed of sand above an impervious foundation. The sand retains water, attracting grass roots downward and reducing the frequency and volume of irrigation compared to that required by older, soil-based greens. The drier surface of sand-based greens also makes them less susceptible to disease, and consequently, less needy for chemicals.

Greenness is becoming a marketing advantage for golf courses, as well as for designers such as Furber. Environment Canada and the Canadian Tourism Commission subsidize a certification program called "The Greening of Canada's Golf Courses," with the aim of creating a national network of courses that appeal to environmentally concerned golfers. Participating courses are rated with from one to five flags for environmental practices by the private consulting firm GreenLinks Eco-Efficiency Services. The older Audubon Cooperative Sanctuary Program certifies courses that are managed to conserve wildlife habitat. There are 22 Audubon-certified golf courses, including three in Alberta: Priddis Greens, Calgary Golf and Country and Banff Springs, which was reworked by Furber specifically to merit Audubon certification. Another 20 Alberta courses are working towards certification.

One aspirant for the Audubon seal of approval is Waterton Lakes Golf Course, located at the southwestern corner of Alberta in Waterton National Park. Course superintendent Marty Peterson completed the two-year course in turfgrass management technology offered by Fairview College, which maintains its own three-hole golf course as a teaching aid. When Waterton Lakes was built in 1928, the holes were laid out on a decidedly ungreen mixture of sand and oil. Now, the greens are verdant, but in the full heat of summer, the fairways are allowed to yellow. Irrigation water is drawn parsimoniously from a creek that in late summer runs perilously low for its resident bull trout. Peterson and Parks Canada are evaluating whether treated effluent from Wateron townsite could be used instead.

Because of a Parks Canada ban on pesticide use, the occasional infestations of forest tent caterpillars are tolerated. "They are part of the natural cycle," says Peterson. "It's just an aesthetics problem." Chemical companies do pester course superintendents to use more of their products than necessary, he says. "I just tell their salesmen to go away." Waterton Lakes Golf Course does employ fungicides to control snow mould in spring, and herbicides to contain summer weeds, but applications are halted early in the season to ensure all chemical traces have vanished before the local herd of 500 elk appears for easy autumn grazing. The elk pay for their food by freely fertilizing the fairways. Crocuses, lupins, sunflowers, shooting stars and sticky geraniums take turns colouring the roughs. Dead trees are left standing for the birds. Ground squirrels, exterminated at most other courses, are trapped alive and relocated. Bears are allowed to roam the course unmolested. "They are well behaved," Peterson says. "We just avoid them and leave them be."

That may also be the best strategy for the hard-line environmentalists, for whom a golf course will always be less appealing and ecologically correct than virgin wildlands. But for most people, Alberta golf courses can be accepted guiltlessly as more ecologically benign than farms, feedlots, shopping centres and suburban sprawl.

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SilverTip required eight years of environmental studies before the province approved construction.

David Thomas lives in Alberta's colony of southeastern British Columbia, where Mountain Time, oil dollars and year-round sunshine prevail against the Pacific gloom.