MAINTENANCE

Salmon return to Oregon stream that meanders through 27 holes

WELCHES, Ore. — Thanks to The Resort at The Mountain's "Wee Burn" stream restoration project, fish are now being seen in parts of the stream and ponds that have been inaccessible since 1928, and two crops of wild coho salmon and steelhead trout smolts that spawned in the new

habitat have migrated to the open sea. The Wee Burn wanders through the resort's 27 holes of golf, set at the western base of Mt. Hood.

The Wee Burn (Scottish for small stream), which runs through The Resort's Three Nines golf course, is a minor



Workers restoring Wee Burn

tributary of the Salmon River, a federally designated "wild and scenic river," and is part of the Sandy River Watershed. Since 1995, The Resort has been working closely with the U.S. Forest Service, Mt. Hood National Forest, Wolftree, Trout Unlimited, and others to restore wild fish habitat in the stream. In addition to volunteer work and grants from the

Oregon Governor's Watershed Enhancement Board and the U.S. Fish & Wildlife Service, The Resort has invested over \$200,000 in the project.

"We knew the Wee Burn had the potential to provide excellent fish habitat, and we're encouraged to see the juvenile fish using the prime habitat in the ponds and upper stream

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Audubon survey

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219 have achieved designation as Certified Audubon Cooperative Sanctuaries by implementing and documenting a full slate of conservation activities.

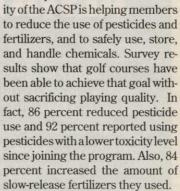
"As we move into our 10th year of the program, we wanted to quantify the results of program participation," said Larry Woolbright, Ph.D., Audubon International's director of research, who spearheaded the survey. "Do courses that participate achieve the goal of enhancing and protecting the environment? The survey gives us some hard numbers about how members have improved on a variety of environmental fronts."

QUANTIFIABLE RESULTS

For example, members reported that, on average, acres devoted to providing wildlife habitatjumped from 40 to 70 per course – a 75-percent increase. Also 79 percent of ACSP members decreased the amount of managed turfgrass, and 64 percent

now monitor wildlife activity, up from 16 percent beforehand.

Another key environmental prior-



ACSP members said that playing conditions and golfer satisfaction remained the same or improved for 99 percent of ACSP courses. Sixty-four percent of participants also reported that their job satisfaction improved after joining the program.

"Golf course superintendents can be excellent stewards of the environment," said Ronald Dodson, Audubon International's president and CEO. "Not only are they contributing to improved quality on the course, they are also spreading the word about environmental responsibility."

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MAINTENANCE

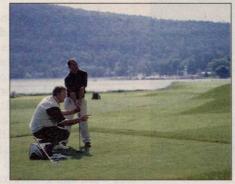
Audubon certifies Leatherstocking

COOPERSTOWN, N.Y. – Audubon International has officially designated the Leatherstocking Golf Course at the Otesaga Resort here a Certified Audubon Cooperative Sanctuary under its Audubon Cooperative Sanctuary System (ACSS), a program endorsed by the U.S. Golf Association.

Designed by Devereux Emmet in 1909, the classic 18-hole championship Leatherstocking Golf Course, which sweeps along the western shore of Lake Otesaga, is considered one of the most scenic courses in the nation. It holds a four-diamond rating from *Golf Digest* for its challenging layout and well-protected greens.

Recently renovated at a cost of more than \$1 million, the Leatherstocking Golf Course joined the ACSS program in 1996. Its participation is consistent with the overall commitment of the surrounding Cooperstown community to protecting its natural legacy.

Leatherstocking is one of only 11 courses in New York State to receive the Audubon International honor, along with other such courses as the Winged Foot



Golfer gets a lesson at Leatherstocking

Golf Club in Mamaroneck and the Westchester Country Club in Rye.

"Gaining certification is not a simple process. Course superintendent Bernard Banas and his staff were completely dedicated to this program for four years, and they deserve a lot of credit," said Eric Straus, president of the Leatherstocking Corp., which owns the course.

"In addition to being one of the prettiest courses you'll ever play, Leatherstocking is home to a variety of indigenous wildlife, including foxes, deer and the Eastern bluebird," said Dan Spooner, director of golf. "We are proud that we can maintain a safe sanctuary for the animals while providing an enjoyable and challenging golf experience."

Fescue breakthrough

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tolerance," said Carrow.

For test samples, Duncan collected any tall fescue plants he could find growing within six inches of a paved highway. "That would bring a high heat load to the grass," Carrow said. "Any tall fescue that survived in conditions like that had to produce enough carbohydrates to do so. With that germ plasm base, plus the strains that survived intensive screening, we had enough to begin crossing."

The cross-strains went through another boot camp, which killed at least 95 percent of them. Then Duncan took the top one to five percent and started crossing those, subjecting them to even more rigorous conditions.

"To put on even greater stress," Carrow said, "once he got those initial crosses, he scalped them with a mower to remove all the green tissue, which put a further strain on the carbohydrates. Under these extreme conditions, the heartier plants will turn on their genetic capability to withstand the stresses."

The scientists also made the grass more frugal. Grass usually drinks all the water it can at one time, growing in spurts that can't be maintained. With Southeast Tall Fescue, "even though the water is there in the soil, the grass doesn't use any more than it needs," Carrow said.

Salmon

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for the first time in 70 years," said Ed Hopper, owner of the resort.

The Wee Burn has always had some coho and steelhead in it, but the best spawning portions, including ponds, were inaccessible to fish. A significant amount of work has been done, including adding wetland and alcoves to slow the stream down, restoring some of the stream's natural meander, adding shade plants and trees, adding in-stream structures for spawning and resting areas, and building ladders to allow fish access to the upper ponds on the stream. While most of the work is complete, much is still being done by the resort and its partners to improve, maintain and monitor the changes.

"The Wee Burn's habitat has been improved fourfold, and we expect to see an increase in fish populations in the coming years," said Forest Service fisheries biologist Chris Rossel. "To bring back fish stocks to a level of being delisted from the federal endangered and threatened species list, fish habitat on private lands has to improve. This project is a great example of private and public entities working together to ensure successful stream restoration on private lands." ■

Southern Hills

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of Southern Hills overcame unforeseen obstacles that might have led less committed individuals to tell the U.S. Golf Association (USGA) to look elsewhere for a site to stage its premier annual event.

VANDALS SPARKED RESTORATION

Already faced with considerable work in order to bring Southern Hills up to the USGA Open specifications, the workers at the course were dealt a blow when vandals seriously damaged nine greens in June of 1999. The vandalism was such that the putting surfaces had to be closed and regrassed.

"The club's board of governors saw what happened as an opportunity to undertake extensive restoration work," said Szklinski, who came to Southern Hills in 1998 from Desert Highlands, in Scottsdale, Ariz.

"My initial reaction to the vandalism was one of anger and disappointment," he said. "I knew after a week of watching how the greens would react that we would have to go through the process of regrassing. But I said to myself that we were going to look at this as an opportunity."

In addition to regrassing all the course's greens, work was done to upgrade the club's irrigation system, bunkers were rebuilt, the tall oak and pecan trees that form canopies over the sides of many fairways were trimmed, and longer championship tees built. It was decided that to insure the consistency of the course's putting surfaces the nine greens not affected by the vandalism would also be regrassed.

"The club was established in 1936," said Szklinski, "and we get some pretty heavy thunderstorms during the summer. Erosion over the years can change the face of bunkers and there can be encroachment toward the greens. It's

minute, but on an annual basis it adds up. We took this opportunity to restore the course to its original layout."

Noted golf course architect Keith Foster was hired to assist with the renovations.

"Every time Keith came to the front gate of the club he checked his ego," Szklinski said. "This is a Maxwell course and we needed to continue to be a pure Maxwell design. Keith did a wonderful job."

10-MONTH COURSE SHUTDOWN

In addition to the course maintenance staff, Landscapes Unlimited, of Lincoln, Neb., was hired to help undertake the work. Szklinski maintains a staff of around 35, but as many as 80 to 90 people were working on the restoration project on a daily basis.

The course had to be closed for 10 months, a big sacrifice by the members. "They deserve enormous amounts of praise," Szklinski said. "It was a hard deal for them to give up their club for 10 months to allow the work to be done. They were the ones who endured the most inconvenience."

Szklinski and the Southern Hills staff was thrown another curve ball when the club's maintenance shed was destroyed by an electrical fire in January of this year. A new building had to be constructed. "Once again the club rose to the occasion after the fire, and now we have a new building, which serves all our needs," he said.

Tim Moraghan of the USGA's rules and competition committee, which oversees the preparing of a golf course for a major championship and issues a set of guidelines for clubs to follow to that end, said there was never a thought of moving the 2001 Open.

"We were out there for three or four days after the vandalism, reviewing our options," said Moraghan. "We assured them that the Open was going to be

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