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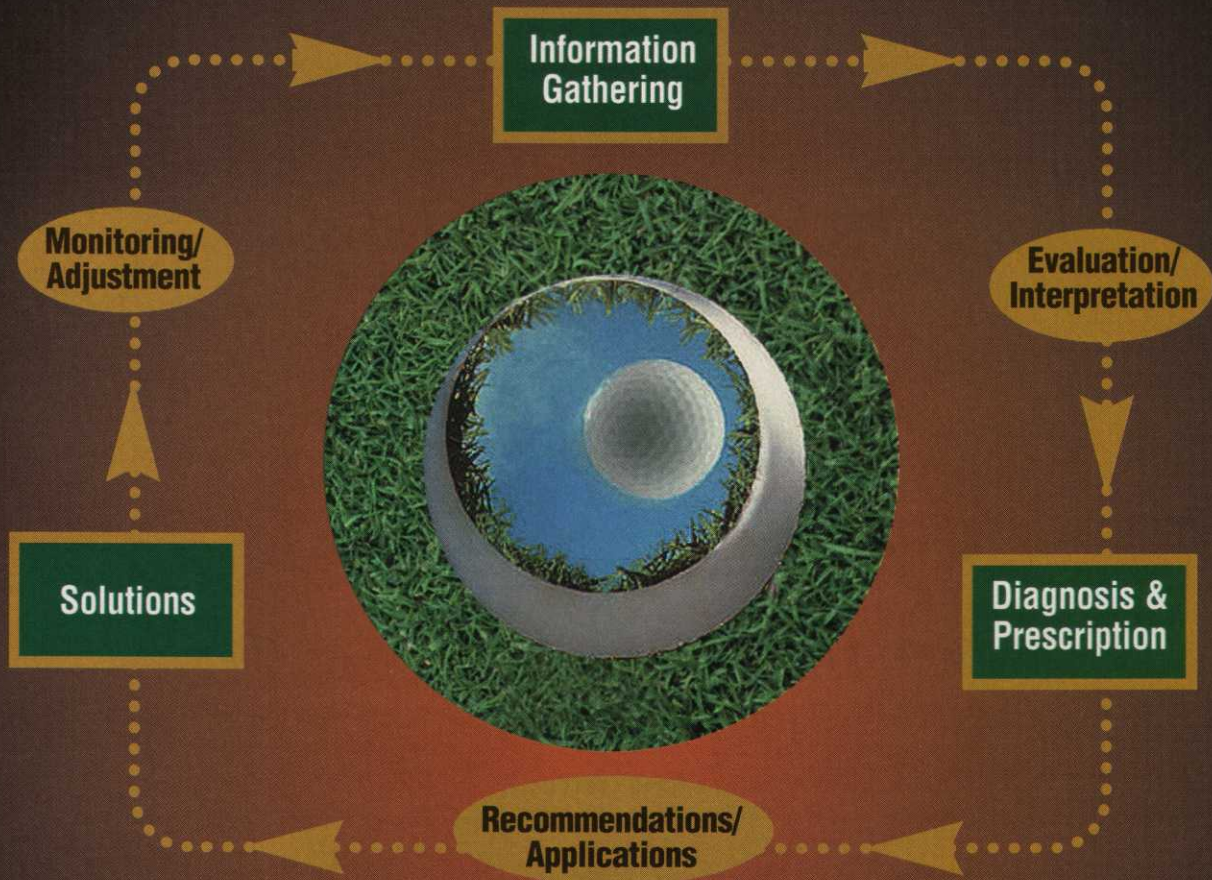
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Circle No 132





The Floating Lab

The buoyed green at Coeur d'Alene Resort is a heck of a hazard — and an excellent testing tool for environmentally sensitive course management

Superintendent John Anderson positions himself at the controls of Coeur d'Alene Resort and GC's famous floating green like a skipper at the wheel of a cruise ship. Anderson jokes that he would love to move the green while golfers are in their backswings and aiming for the pin on the No. 14 hole — as if the island green on the Idaho course wasn't hazardous enough.

Anderson kiddingly boasts that he's the only superintendent in the world with the power to move the 4-million pound green in minutes from 150 yards to 170 yards from the tee. He's right, unless Superman is a superintendent.

While Coeur d'Alene's 15,000-square-foot island, which includes rough, bunkers and trees in addition to the 7,000-square-foot green, is regarded as one of the most extraordinary and picturesque holes in golf, it's a challenge for Anderson and his crew to maintain for obvious reasons. Remember, you have to haul your equipment along with yourself when you ferry by boat to the green to maintain it.

But Anderson, regarded by his peers as a dedicated and hard-working superintendent, enjoys the challenge of keeping up the green. A devout

USGA and Washington State University are funding a study to determine the amount of nitrates filtering through the green after fertilization.

golf course environmentalist, Anderson also allows the floating green to be used for research purposes. In fact, the USGA and Washington State University are funding a study to determine the amount of nitrates filtering through the green's soil profile after fertilizer applications.

Anderson sits next to a water-sampling machine within the floating hole and explains how it draws water from a plastic membrane lining that captures the moisture draining from the green. The water samples are collected every three weeks and analyzed for nitrates.

While nitrates can't seep from the floating green into Coeur d'Alene Lake because of its self-contained construction, the study is being used to show how nitrates can effect ground water on regular land greens.

"The water is clean," Anderson reports. "It's great to get verification that these programs are working and are environmentally safe."

The study also determines how much water is used on the green.

Continued on page 64



EPIC OF WISCONSIN

Continued from page 63

“Everything that goes through the green is pumped back to shore through an umbilical cord into the monitoring well,” Anderson explains. “A flow meter determines how much water we put on the green, how much water is lost to evaporation and how much water is wasted. We check those readings daily.”

For Anderson, the water sampling program is of great personal interest. He has been at Coeur d’Alene for nearly five years and proudly admits to practicing an en-

vironmentally sound golf course maintenance program.

Anderson says the Audubon Cooperative Sanctuary Program, which he joined about eight years ago, changed the way he manages a golf course. He subscribes to Audubon’s philosophy that courses can co-exist as features of nature, not foes.

Anderson says he only uses a small amount of pesticide on the Coeur d’Alene course. He relies more on frequent and light topdressings to maintain the course.

“You can have a championship course

The floating green is equipped with a flow meter to determine water usage, evaporation and waste.

maintained to the highest quality and still have sound environmental practices,” Anderson contends. ■

Editor’s Note: This article is a print companion to a segment in the latest edition of Golf & Environment videomagazine and is part of a content partnership between Golfdom and EPIC of Wisconsin.

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| 06 <input type="radio"/> 55 Other Golf Courses
(please specify) _____ | (please specify) _____ |

2. Which of the following best describes your title? (fill in ONE only)

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|--|--|
| 13 <input type="radio"/> 10 Golf Course Superintendent | 20 <input type="radio"/> 45 Club President |
| 14 <input type="radio"/> 15 Assistant Superintendent | 21 <input type="radio"/> 75 Builders/Developers |
| 16 <input type="radio"/> 25 Owner/CEO | 22 <input type="radio"/> 55 Architect/Engineer |
| 17 <input type="radio"/> 30 General Manager | 23 <input type="radio"/> 60 Research Professional |
| 18 <input type="radio"/> 35 Director of Golf | 24 <input type="radio"/> 65 Other Titled Personnel |
| 19 <input type="radio"/> 70 Green Chairmen | (please specify) _____ |

3. What are the types of turf on your:

- | | | |
|---|---|---|
| A. GREENS | B. TEES | C. FAIRWAYS |
| 25 <input type="radio"/> 1 Bent | 29 <input type="radio"/> 1 Bent | 34 <input type="radio"/> 1 Bent |
| 26 <input type="radio"/> 2 Bermuda | 30 <input type="radio"/> 2 Bermuda | 35 <input type="radio"/> 2 Bermuda |
| 27 <input type="radio"/> 3 Rye | 31 <input type="radio"/> 3 Rye | 36 <input type="radio"/> 3 Rye |
| 28 <input type="radio"/> 4 Other (please specify) _____ | 32 <input type="radio"/> 4 Fescue | 37 <input type="radio"/> 4 Fescue |
| | 33 <input type="radio"/> 5 Other (please specify) _____ | 38 <input type="radio"/> 5 Zoysia |
| | | 39 <input type="radio"/> 6 Other (please specify) _____ |

4. What is your facility's annual maintenance budget?

- | | |
|--|--|
| 40 <input type="radio"/> A More than \$2 Million | 44 <input type="radio"/> E \$300,001-\$500,000 |
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| 42 <input type="radio"/> C \$750,001-\$1 Million | 46 <input type="radio"/> G Less than \$150,000 |
| 43 <input type="radio"/> D \$500,001-\$750,000 | |

5. If you work for a golf course, how many holes are on your course?

- | | | |
|-------------------------------|--------------------------------|---|
| 47 <input type="radio"/> A 9 | 49 <input type="radio"/> C 27 | 51 <input type="radio"/> E Other (please specify) _____ |
| 48 <input type="radio"/> B 18 | 50 <input type="radio"/> D 36+ | |

6. Are you the person responsible for golf car purchasing/leasing?

- | | |
|--------------------------------|-------------------------------|
| 52 <input type="radio"/> A Yes | 53 <input type="radio"/> B No |
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7. Are you directly involved in purchasing decisions for your facility?

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| 54 <input type="radio"/> A Yes | 55 <input type="radio"/> B No |
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7A. If yes, which of these products do you specify, buy or approve?

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| 56 <input type="radio"/> A Aerators (pond) | 71 <input type="radio"/> P Insecticides | 86 <input type="radio"/> 5 Sod |
| 57 <input type="radio"/> B Architectural Services | 72 <input type="radio"/> Q Irrigation Systems | 87 <input type="radio"/> 6 Soil Analysis |
| 58 <input type="radio"/> C Batteries | 73 <input type="radio"/> R Irrigation Parts | 88 <input type="radio"/> 7 Sprayers |
| 59 <input type="radio"/> D Biostimulants | 74 <input type="radio"/> S Landscaping | 89 <input type="radio"/> 8 Spreaders |
| 60 <input type="radio"/> E Construction Services | 75 <input type="radio"/> T Lubricants | 90 <input type="radio"/> 9 Tanks/USTs |
| 61 <input type="radio"/> F Chain Saws | 76 <input type="radio"/> U Mowers | 91 <input type="radio"/> 10 Tires |
| 62 <input type="radio"/> G Course Accessories | 77 <input type="radio"/> V Nematicides | 92 <input type="radio"/> 11 Tools |
| 63 <input type="radio"/> H Cultivation Equipment | 78 <input type="radio"/> W Pond Management | 93 <input type="radio"/> 12 Tree Care |
| 64 <input type="radio"/> I Drainage Supplies | 79 <input type="radio"/> X Pumps/Stations | 94 <input type="radio"/> 13 Turf Markers |
| 65 <input type="radio"/> J Erosion Control | 80 <input type="radio"/> Y Rakes | 95 <input type="radio"/> 14 Uniforms |
| 66 <input type="radio"/> K Fertilizers | 81 <input type="radio"/> Z Range Supplies | 96 <input type="radio"/> 15 Utility Vehicles |
| 67 <input type="radio"/> L Fungicides | 82 <input type="radio"/> 1 Safety Products | 97 <input type="radio"/> 16 Weather Systems |
| 68 <input type="radio"/> M Generators | 83 <input type="radio"/> 2 Sand | 98 <input type="radio"/> 17 Wetting Agents |
| 69 <input type="radio"/> N Golf Cars | 84 <input type="radio"/> 3 Seed | |
| 70 <input type="radio"/> O Grinders/Sharpeners | 85 <input type="radio"/> 4 Snow Equipment | |

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| 103 | 115 | 127 | 139 | 151 | 163 | 175 | 187 | 199 | 211 | 223 | 235 | 247 | 259 | 271 | 283 | 295 | 307 |
| 104 | 116 | 128 | 140 | 152 | 164 | 176 | 188 | 200 | 212 | 224 | 236 | 248 | 260 | 272 | 284 | 296 | 308 |
| 105 | 117 | 129 | 141 | 153 | 165 | 177 | 189 | 201 | 213 | 225 | 237 | 249 | 261 | 273 | 285 | 297 | 309 |
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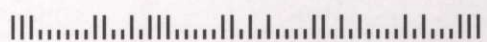
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103	115	127	139	151	163	175	187	199	211	223	235	247	259	271	283	295	307
104	116	128	140	152	164	176	188	200	212	224	236	248	260	272	284	296	308
105	117	129	141	153	165	177	189	201	213	225	237	249	261	273	285	297	309
106	118	130	142	154	166	178	190	202	214	226	238	250	262	274	286	298	310
107	119	131	143	155	167	179	191	203	215	227	239	251	263	275	287	299	311
108	120	132	144	156	168	180	192	204	216	228	240	252	264	276	288	300	312
109	121	133	145	157	169	181	193	205	217	229	241	253	265	277	289	301	313
110	122	134	146	158	170	182	194	206	218	230	242	254	266	278	290	302	314
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112	124	136	148	160	172	184	196	208	220	232	244	256	268	280	292	304	316

Environmental Ecstasy



ROARING FORK CLUB

Roaring Fork's flora and fauna control pests – naturally By James E. Guyette

At first glance, the “bio islands” at the Roaring Fork Club in Basalt, Colo., fly in the face of some of today’s tidy course management standards. These undisturbed land bodies located throughout the course have a scraggly, wild look to them. The wildflowers growing within the bushy islands bloom year round and may seem more suited to the side of a highway than a well-manicured golf course.

But the 27 acres of bio islands are spread throughout the course for a reason — a good reason. They are a breeding ground and natural habitat for many species of birds and insects — critters which happen to feast on the many pests that invade the course. The bio islands and their function en-

able the maintenance staff to cut down on pesticide use.

“We’re highly into integrated pest management, our pesticide use is minimal, and we intend to keep it that way,” says Bob Clarkson, Roaring Fork’s superintendent.

The bio islands are the brainchild of Jerome Osentowski, a permaculture consultant in Basalt, Colo., who believes in integrating plants, animals, landscapes, structures and humans into systems where the product of one element serves the needs of others.

“The idea is to maximize the diversity of the habitat by using plants that have an innate symbiotic relationship with each other, which means they can provide for their own needs,” he

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The colorful bio islands are home to the "good" bugs and birds.

Continued from page 69

says. "As a result, everything is thriving. We're bringing the age-old protective concept of hedgerows onto the golf course."

The bio islands provide shelter, food and nesting habitats for a number of beneficial insects, frogs and small garden snakes that prey on the turf's enemies. For example, a dozen varieties of tiny, beneficial wasps help control pest insects. One of the most active, the trichogramma wasp, attacks the eggs of the cutworm moth as well as 200 other caterpillar pests. Three different types of dragon flies eat mosquitoes. Weevils munch on Plumus and Canadian thistles, while starlings devour cutworms.

The "good" bugs and birds are a welcome addition to a golf course that prides itself on a solid integrated pest management program. "We went through last summer without a pesticide application on the greens," a proud Clarkson says.

Careful consideration was given to the shrubs selected for the bio islands so they would attract desirable birds and insects, but not nuisance wildlife, Clarkson says. Twenty different native species of shrubs were selected, including gooseberries, Nanking cherries, alpine currants and native plums.

Eight thousand shrubs and 2,000 trees line the fairways, while 18 different varieties of annuals and 12 types of perennials create carpets of wildflowers. The club combined the chosen plants with existing plants and shrubs.

The bio islands are designed to provide their own fertility. The diverse plant life includes clovers, birds-foot trefoil and lupin, which provide nitrogen for the cosmos and purple cone-flower. Similarly, on the shrub level, the mountain mahogany and buffaloberry provide nitrogen for surrounding shrubs.

Clarkson says the course also serves as a living laboratory for university researchers interested in examining the potential use of natural methods to control pests.

Golfers will enjoy the bio islands for several reasons, including their function and look. The bio islands also aren't a bad place for a golfer to shank a ball.

"If a golfer hits a ball into the bio islands, he or she can pull some cherries off a tree to munch on," Osentowski says.

Guyette is a free-lance writer from Cleveland.