

Issue 5 | Winter 2010

BY DESIGN



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Everybody in the golf business understands that golf courses contribute greatly to their surrounding communities. But in an environment where golf is still too often criticised by outsiders, it's vital for those of us in the industry to be able to demonstrate just how much value golf courses actually have.

That's why Larry Hirsh's cover story article in this issue of *By Design* is so important. It's not necessary to go to St Andrews, or Bandon, or even Myrtle Beach—towns and regions where golf is the mainstay of the economy—to find examples of golf courses making a significant contribution to the economic success of their communities. It's happening across America and across the golfing world.

Golf courses are tax-generating businesses whose revenues help support municipalities. They are employers whose staff spend their salaries in every kind of local business. And they are green islands of biodiversity in our towns and cities, which, by virtue of their existence and their beauty, increase the value of homes in their proximity.

Let's all celebrate golf courses, not just as places to play our great game, but as real contributors to the prosperity of our communities.

Yours sincerely,



Rick Robbins
Secretary
American Society of Golf Course Architects

BY DESIGN

Editor: Adam Lawrence; News: Karen McCandless; Design: Paul Robinson; Bruce Graham; Publisher: Toby Ingleton; Editorial contributors: Stuart Hackwell; Larry Hirsh; Derf Soller; ASGCA Staff: Chad Ritterbusch; Therese Johnston; Mike Sheffy; Aileen Smith, Marc Whitney; Photography: Mark Alexander; Aidan Bradley; Paul Chojnacky; USGA/Mike Ehrmann
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COVER



North Berwick in Scotland is an example of a golf club that brings substantial economic benefit to its community. Photograph by Mark Alexander (www.markalexanderphotography.co.uk)



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Golf growth

New ways to grow golf

A selection of tools for attracting new players to golf were revealed at the recent European Golf Course Owners Association annual conference in London. Five presenters explained the programs their organizations have put in place to grow golf, competing for a special award voted by the conference delegates.

Christian Kohler of German firm GolfCity won the prize. GolfCity, owned by German course operator Clubhaus, opened its first facility in Cologne in 2008, and aims to create a group of nine hole courses in urban locations around Germany, with centers planned for cities including Munich, Berlin and Stuttgart. The original Cologne facility has achieved startling results in its first two years, training 486 new golfers up to press in 2010, against a German average of 180. Market surveys, Kohler told the conference, show there are 600,000 regular club golfers in Germany, 2.2 million casual 'free'

golfers, looking for the right offer, and 4.1 million Germans actively interested in playing golf. GolfCity, he said, hoped to reduce the barriers preventing these latter groups becoming more deeply involved with the game.

GolfCity may have taken the prize, but other presenters had interesting ideas too. Paul Keeling of the English Golf Union shared the successes of junior development in English schools. In the last six years, EGU programs such as TriGolf and GolfExtreme have upped the proportion of schools in which golf is delivered from 14 percent to 42 percent. 66 percent of all English secondary schools deliver golf programs.

And Nick Moran of Crown Golf, the UK's largest owner and operator of golf courses, presented his firm's new Discover Golf scheme. Discover Golf is a three month minimum program that, for £50 (\$80) per month, gives would-be golfers unlimited group coaching and free range balls

and access to the golf course during sessions, plus a ten percent discount on food and beverages in the clubhouse. Discover Golf, Moran said, is serving a twofold purpose: making the process of learning to play golf more open and affordable, but in doing so giving new golfers a ready-made circle of potential playing partners once they graduate from the program. Crown's facilities around the UK are attracting large numbers of participants for Discover Golf, he said, and the company expects the scheme to keep growing.



Christian Kohler of Clubhaus describes the GolfCity concept

Trails at the Tribute

The Tribute golf community in Texas has teamed up with a group of local bodies plus the US Army Corps of Engineers to develop a set of nature trails, which will be open to the public for recreation on foot or by bike.

Develop Matthews Southwest and the city of The Colony have created the three mile Wynnewood Peninsula Nature Trail system to enable residents to enjoy the area's natural beauty while also getting exercise. Green building materials have been used during construction. The Tribute features two golf courses designed by Tripp Davis, ASGCA.

2018 Ryder Cup bids take shape

Competition to host the 2018 Ryder Cup is heating up. Five countries remain in the race, with the Portuguese bid, based around the new Herdade da Comporta resort development on the coast of the Alentejo region, south of Lisbon, the latest to launch. Comporta is planned to be a case study for the Golf Environment Organization's Legacy sustainable development programme.

The French bid is centred around Le Golf National, the home of the country's golf federation. Germany plans a course in Munich, while the Netherlands wants to hold the event at The Dutch, a new complex in the centre of the country. The Spanish bid involves the construction of a new course at Tres Cantos north of Madrid. A decision is expected in the new year.

Development

Dutch developer plans Cuban resort

Amsterdam-based firm Romar Finance is planning a golf resort project to the east of the Cuban capital, Havana. The Tarará site, originally founded in the 1920s, was developed as a resort community by American Royal Webster. The property includes 400 homes, a motel, a beach that was formerly regarded as one of Cuba's best, and other facilities.

Immediate plans include the expansion

of Tarará's marina and renovation of the existing motel, but the Dutch firm has ambitious longer-term goals. These include a pier for yachts, new hotels and other resort facilities—and an eighteen hole golf course. A number of international developers are known to be examining potential resort projects in Cuba as the Communist-controlled island seeks to open up its economy to overseas investment.

ASGCA Major Partners and Patrons program

Supporting Education in the Golf Course Industry

ASGCA would like to thank the following companies – Major Partners in golf course renovation, water management and environmental educational programming:



ASGCA Patrons support ASGCA members in their efforts to create golf courses – both new and renovated – that are aesthetically pleasing, technically sound, environmentally sensitive and economically viable. Whether a manufacturer or distributor of golf course products, a golf course builder or provider of a service to support the development and construction process, ASGCA Patrons provide a broad set of solutions useful in many golf course projects. Visit the Resource Directory at www.asgca.org to learn more about how these companies can support your project.

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Sustainability

Pasatiempo turns to goats

The historic Pasatiempo Golf in Santa Cruz, Calif. is going back in time as it seeks to clean up the steep canyons and barrancas on the back nine of the golf course.

The club has used a variety of methods to control the weeds that infest these hard-to-reach areas over the years, but is now opting for a tool more reminiscent of ancient Scottish links courses, as a flock of more than 100 goats has been released onto the property.

Pasatiempo has been engaged in a major project to restore the course to a look more in common with the era in which it was built by famed Scottish architect Alister MacKenzie. One of the features that has been lost over time is the rugged definition of the canyons. Throughout the years, the steep, jagged edges have been



The latest additions to Pasatiempo's maintenance crew

covered up by extensive overgrowth.

The club says the goats offer a range of benefits over using a traditional maintenance crew: they will reduce the need for spraying harmful chemicals, and eliminate the need for heavy

equipment which can cause damage and noise. Goats can easily traverse steep, rocky and difficult terrain that humans can't easily reach, and they break down plant material, whereas work teams would have to drag it out and chip it.

Pace of play

'Unlosable' balls to transform golf?

A Dutch firm reckons it may have created the solution to golf's pace of play problem—a golf ball that will never be lost.

Prazza Group says the average group wastes thirty minutes looking for balls, and that around 500 million golf balls are lost around the world each year. And, in its new Golf Ball Finder system, it thinks it might have the answer.

Prazza's solution is a golf ball with a radio frequency (RFID) chip inside it. The balls are sold along with a smartphone-sized handset, which can sense their location from up to 100 meters away. The

handset beeps or vibrates with increasing frequency as the golfer nears the ball, with a visual display to show the right direction. The chip remains active for 30 minutes after each shot.

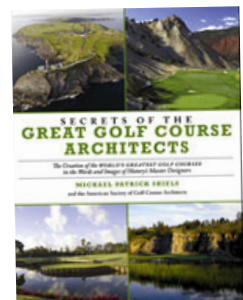
Prazza president Jan de Waard said: "Golf can be a very embarrassing sport for a beginner. Looking for your ball on most holes takes a long time, and holds other golfers up. Plus it is expensive to tee up with a brand new ball, only to see it disappear forever into the long grass or trees!" The equipment went on sale in the UK in November, and is to be rolled out globally in 2011.

Rain Bird launches award program

Rain Bird has launched its Intelligent Use of Water awards, a grants program that will provide more than US\$50,000 to water conservation and sustainability projects that promote green spaces. Participants should visit www.iuowawards.com, choose a funding category, describe the project, upload photos or embed YouTube videos, and convince friends, family and others to vote for them through online social networks using the site's built in sharing functions. Submitters can also use the program's Facebook application to update their status with a reminder to vote for their project each week. Winners will be announced on World Water Day, 22 March 2011.

Christmas 'Secrets'

With the holiday season upon us, ASGCA is reminding golfers that its book, *Secrets of the Great Golf Course Architects* is a great addition to any golf enthusiast's library, and makes a perfect gift. Author Michael Patrick Shiels interviewed 118 ASGCA members for the book (some excerpts are available at ASGCA's web site), which can be ordered by visiting asgca.org, or calling the society on (262) 786-5960.



How Golf Supports its Communities



Value of Golf | Larry Hirsh

Golf courses are more than merely places to enjoy our sport. But just how much hard cash do they contribute to the economies of the communities in which they are located?



In St Andrews, golf is central to the community. But it's not only in Scotland that courses contribute to community success

What does a golf course or club contribute to its community? I am often asked this question, especially nowadays, as some golf courses struggle in the sputtering economy, and owners consider alternative land uses that might cause some courses to close and others to be left neglected due to poor cash flows.

In some cases, especially in relation to municipally owned courses, citizens with little or no interest in golf are questioning the wisdom of government subsidies for a recreational activity that is used on average by less than 12 percent of the population.

But this view dramatically understates the impact that golf courses have on their surrounding communities. According to a 2009 study carried out by South Carolina state tourism economist Julie Flowers, the average annual gross revenue of a golf course in South Carolina was approximately \$1.844 million (making the total revenue for all courses in the state an impressive \$710 million).

According to the study, the direct, indirect and induced impact on the state's economy was:

- \$2.721 billion in output or sales
- 33,535 jobs
- \$834 million in personal income
- \$276 million in federal, state and local taxes.

Green fees and club membership dues generated \$12.9 million in admissions tax revenue alone, accounting for more than 39 percent of state admissions tax collections. These figure do not include the impacts of real estate sales in golf communities and off-site purchases of golf equipment by local golfers. We will return to that matter later!

While the direct impacts from things like hotels, restaurants and golf equipment related sales are more widely known, the study also refers to indirect and induced impacts that may not be so widely known. In South Carolina, much of the revenue attributed to the golf

PUBLIC GOLF MANAGERS RECOGNIZE VALUE

More than 90 percent of municipal golf managers recognize golf courses of all types provide economic, environmental and social benefits to their communities, and fewer than half feel their work is hindered by a lack of capital financing. These are two results of a recent survey conducted by the National Recreation and Parks Association (NRPA). The American Society of Golf Course Architects (ASGCA) notes this feedback as continued industry-wide support for the value of golf courses promoting the community benefits afforded by a well-designed and maintained golf course.

The survey builds on a growing relationship between ASGCA and NRPA, which includes information shared in association publications and on websites, and future educational programs designed for members.

“These results are quite encouraging for ASGCA and the entire golf industry,” notes ASGCA President Erik Larsen. “Not only do parks officials oversee thousands of golf courses, but working with this group on the concepts of golf as a community asset and the ways the land on which golf sits can be used for other recreational and green space purposes are a key.”

Another area of focus in the survey was the positive economic impact a golf course has on the community. Allowed to select more than one answer, about 90 percent of respondents said a golf course heightened surrounding property values, while more than 80 percent cited golf’s role in creating jobs and generating sales tax revenue.

From a social standpoint, respondents were nearly unanimous in recognizing the benefit of a golf course providing community residents with recreation, and more than 90 percent also said golf courses help residents lead a healthy lifestyle.

“Those who work in the municipal arena are an important audience for ASGCA and everyone who cares about golf,” Larsen said. “Continuing conversations and getting feedback from them and those who play their courses should prove valuable.”

impact is the result of tourism.

The bottom line is that, according to the study, in 2007 in South Carolina, the average golf course contributed approximately \$7 million to the economy. Without question, a considerable amount of this is the result of tourism and associated revenues, however, even if we eliminate as much as 50 percent of the tourism-related revenues, the average impact per course is still in excess of \$3.5 million.

One particular area of economic impact outside the golf course boundary is real estate. The ‘Proximity Principle’ demonstrates that there is value to being near amenities. In fact, an article by academics David Wyman and Stephen Sperry in the Spring 2010 issue of *The Appraisal Journal* referenced a study analyzing

563 vacant lots. Premiums ranged from 42 percent to 85 percent for golf course views. For years, developers and industry observers alike have recognized lot premiums in golf course communities and properties with golf course frontage, with estimates ranging from as low as ten percent to premiums in the range suggested by the Wyman and Sperry study referenced above, and more. It also should be noted that in many cases, often because of the high investment in lot value, owners often build large and expensive homes, all of which generates additional tax revenue as a result of the existence of the golf course.

If one makes the assumption that a typical daily fee golf course generating \$2 million in revenue can generate an additional \$1 million in economic



Photo: Aidan Bradley

Indigo Run in South Carolina, designed by Jack Nicklaus, ASGCA, is a typical example of a successful US golf community

impact, the value of that course to the community is \$3 million.

Since many courses pay in excess of \$100,000 in real estate taxes and often preserve more than 150 acres of open space, these same courses generate positive tax revenue to the community without additional stress on essential community services (such as police and schools) and by preserving and enhancing the environment with open space, often in developed areas.

Even with relatively few courses now being constructed in the United States, many clubs and courses have realized that now is a good time to upgrade facilities and this creates additional jobs and an infusion of capital expenditures into a community.

One of the challenges of the golf course industry is that it is a very

management intensive business. That is also a benefit to any community. Golf courses routinely employ upwards of 50 people in a variety of jobs ranging from management to skilled and unskilled labor, as well as hospitality and service employees.

The market value of many US golf courses may be depressed right now, but the value of these facilities to communities is significant in many ways. Without question, those courses where development may have been ill-advised to begin with or where market conditions just 'caught up' with them will either close or be repositioned in the market. However, most courses have a positive future and contribute economically to the communities they serve in many ways. ●



Philadelphia's Larry Hirsh is president of Golf Property Analysts, a leading golf property appraisal consulting and brokerage firm. GPA is based in Harrisburg, Pa., with offices also in North Carolina and Florida. He has performed appraisal and consulting assignments on more than 2,500 golf properties in 45 US states and Canada.

MEASURING THE IMPACT OF YOUR FACILITY

Estimate your course's economic impact on its community using this simple checklist, created by ASGCA and the National Golf Course Owners' Association as part of the golf industry's We Are Golf initiative.

- | | |
|---|---------|
| 1. Facility Operations
Expenses paid through the operation of the golf facility, including salaries benefits, property taxes paid and more | \$..... |
| 2. Capital Investments
Long-term capital improvements to the golf course, clubhouse and more, paid in materials and various services | \$..... |
| 3. Golfer Supplies
Sales taxes paid on golf balls, clubs, apparel and more | \$..... |
| 4. Tournaments/Charities
Annual fund raising for local or national organizations stemming from charitable golf tournaments held at facility | \$..... |
| 5. Real Estate
The impact of your facility on surrounding home values. Nearby homes typically enjoy an increase of at least 15 percent | \$..... |
| 6. Hospitality/Tourism Dollars
Including hotel and restaurant revenue, spent in your community by outsiders coming to play your golf course | \$..... |
| 7. Other Benefits
Including stormwater storage, gray water use, water purification or fire break provision that can save taxpayer dollars | \$..... |

Conditioning | Derf Soller

Championship conditions won't work year-round

Most championships are products of a year or more of preparation. To play and maintain championship conditions is difficult, and trying may not be in the best interests of many golf courses.

There are two aspects to championship conditions—agronomic and player ability. For the former, course management might include aspects such as labor and budget considerations, irrigation, and general maintenance practices for greens (including surrounds and approaches), fairways, tees, roughs, bunkers and course setup. The latter involves understanding who is playing a course.

It is not uncommon to have more than 100 volunteers involved in any major championship to ensure course quality. To meet championship goals for green speeds and firmness, it is necessary to provide precise and uniform irrigation. Areas of a course have different water requirements, demanding separate practices.

Hand watering greens during a week-long championship event is a major commitment. Championship courses benefit from many pairs of trained eyes that can alert the superintendent to declining turf. Golf courses simply cannot afford this year-round.

Planning begins years in advance to bring a golf course to championship condition for one week. Topdressing and fertilizers for all areas are applied carefully, and growth rates are closely

monitored to provide the consistent playing conditions. Pest control and prevention are also carefully timed for optimum conditions. Plant growth regulator applications, weed control, and addition of sand to bunkers are all completed well in advance of the championship week.

Putting greens are finely tuned for championship events. This can be accomplished at most courses, but only for short periods. Plant growth regulators are used to maintain consistent conditions for the week. Green irrigation is typically done by hand. Topdressing for green firmness and smoothness is completed, and firmness and green speeds established weeks before the event.

Approach areas receive almost as much maintenance attention as greens. It is important that shots hitting approaches can bounce forward toward the green and not plug. Improving the playability of approaches requires thatch reduction by core aeration, vertical mowing and topdressing. Fairways also are firmed up. Fairway thatch reduction is an ongoing maintenance program. Fertilizer applications are planned and applied in advance to ensure consistent, minimal turf growth during the event. Divots are filled weeks prior, and plant growth regulators are applied as needed.

Specific teeing grounds (par threes and some short par fours where irons are played) may be reserved for a

championship and taken out of use for weeks. Some golf courses attempt to save one tee for an annual event. Mesh covers or other materials are often installed to selected tees to allow the turf to recover.

Roughs also receive extra attention. Slowly raising the cutting height is just the beginning. Fertility is planned to provide a longer, wispy rough. Golf carts should be kept out of roughs for weeks to encourage recovery and vertical growth of grass. Mowing frequency is increased to reduce clipping dispersal.

Although bunkers are hazards, they do need to be maintained. Championship bunker preparation usually begins a good year in advance. Sand should be added early for it to settle and minimize the chance of plugged lies. Daily preparation via handraking, in conjunction with scarifying bunker bottoms, helps make the bunkers hazards.

Hole locations and tees are decided upon well before an event, taking account of course design, player ability, and likely weather conditions during play, and allowing for changes during unforeseen weather or course damage situations. Properly marking water hazards, ground under repair, and course boundaries is time-consuming, but important.

A look at who is playing an event may give insight as to how a course should be set up. In the case of USGA championships, courses are prepared



Elite playing conditions are only practical for the rare occasions that a course is devoted to elite players

and set up with the very best in mind. Working as a team (superintendent, professional, general manager, Green Committee, course operators), and using tools like Stimpmeter, TruFirm, moisture meter and weather data, you can determine ideal conditions.

USGA GHIN statistics from 1991-2009 tell a story. In 2009 in the United States, the average male handicap was 14.5 and the average female handicap 27.3. There has been a slight decrease in both men's and women's handicaps over time. Average men's handicap has decreased by only 1.8 strokes in the last 19 years, while women's handicap average decreased by 2.4 strokes. Better conditioning, technology, equipment improvements, golfer skill, strength and ability have all likely contributed to this slow and steady descent.

It is important to understand the ability levels of most golfers. Just over 50 percent of men are in the 10-19.9 handicap range. Almost 40 percent of women are in the 20-29.9 handicap range.

The USGA GHIN statistics show that handicap range seems to closely mirror who is actually playing. For example, the percentage of men golfers closely mirrors the percentages of their handicaps as far as who is playing and posting rounds.

Certainly handicap level percentage numbers will vary from course to course and throughout the year, but all facilities could benefit from determining who their golfers are.

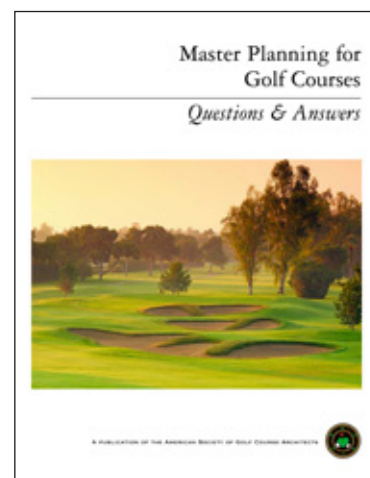
Producing playing conditions to satisfy the majority of golfers should be a primary focus and concern for clubs. According to a US National Golf Foundation study, only 26 percent of golfers regularly break 90, and only five percent break 80. Attempting to achieve championship conditions, even for an individual event, may leave many players out of their element.

A limited number expect challenging conditions. These clubs have a high percentage of low handicappers, and the resources and commitment to achieve challenging conditions on a regular basis. But even they can't pull it off long term.

Championship conditions such as thick, tall rough and low heights of cut on fairways and greens only truly challenge lower-handicap players, while penalizing most golfers. Fast greens day-to-day cause slow play and loss of hole locations. Low mowing heights, frequent grooming, excessive rolling, and decreased fertility can increase disease activity and diminish surface reliability.

Tight fairways favor a minority of the golfing population. Slightly raising the height of cut in fairways appeals to a broader base and should help overall turf health. Superintendents have been pressured to lower mowing heights and increase frequency, which enhances playing conditions but stresses turfgrass. As superintendents try to produce these conditions on a long-term basis, the best interests of courses are not being considered. ●

Derf Soller is a USGA Green Section agronomist. This is an abridged version of an article from the USGA's Green Section Record; the full article is available at <http://turf.lib.msu.edu/gsr/article/soller-play-champ-10-22-10.pdf>



ASGCA

ASGCA's *Master Planning for Golf Courses* document helps clubs, owners and operators address the issues raised by Derf Soller. ASGCA member architects are well placed to draw up comprehensive master plans that can act as a reference when green speeds, rough heights or fairway widths come up for discussion. The document can be downloaded by visiting <http://www.asgca.org/images/stories/publications/qa-master-planning.pdf>

Irrigation | Stuart Hackwell

Water efficiency at Desert Mountain

When you have the challenge of managing playing conditions for six golf courses in one facility—and one built in the desert at that—you had better be serious about water. That's why Shawn Emerson and the team at Desert Mountain in Scottsdale, Arizona, spend a considerable amount of time and effort making sure every aspect of water management is carefully scrutinized.

Desert Mountain is a 2,500 home gated community. Among its amenities are six golf courses built between 1987-2003. Each course is a Jack Nicklaus, ASGCA signature design. The total area under irrigation is 540 acres. Each course has its own superintendent to attend to the specific needs of each facility. As director of agronomy, Emerson oversees the entire operation.

Emerson has been at Desert Mountain for 13 years. The challenge of managing a large facility and growing turfgrass under arid conditions means he's constantly looking for ways to improve water management. With only eight inches of rainfall a year on average, supplemental irrigation is crucial to the success of the property. Actively managing the irrigation run times to conserve even a few percent means that a considerable amount

of water can be saved. Irrigated areas are precisely controlled so that the amount of water applied is specific to the needs of the grass type and the soil growing conditions with a minimum of water and energy use.

Each day the team at Desert Mountain employs a variety of tools to monitor soil and environmental conditions. In addition to computer controlled irrigation systems and weather stations, they have employed a series of cutting edge technologies to optimize turfgrass conditions, manage water and minimize energy use. A soil sensing system has been installed, regular soil and plant issue testing are conducted and pump station energy use has been studied.

The extensive use of soil sensors enables Desert Mountain to monitor soil moisture, temperature and salinity across the facility. Careful monitoring of these parameters during and following irrigation cycles and rainfall events enables Emerson to see how the soil responds to changes in irrigation and temperature. Keeping the soil moisture carefully controlled within a precise range produces optimal playing conditions and consistency while minimizing water use. If soil moisture is at desired levels, irrigation is delayed until key thresholds are observed.

Emerson has used sensors to evaluate changes in soil temperature in greens and was interested to observe that soil hotspots—areas where the soil temperature increases to a point that causes stress to the grass—moved in relation to the growing season. During the summer, when the sun is higher in the sky, the hotspot was in a different part of the green than in winter. Having this information on hand enables Emerson and his crew to better manage these hotspots to control the stress on the grass.

As the six courses were developed over 16 years, Emerson has seen improvements in design, drainage, irrigation system technology, grass types, and construction techniques over that time. As a result of these changes, he has the ability to experience different conditions at the different courses, which enables him to experiment with technology for optimal results.

Desert Mountain overseeds with ryegrass each winter when the bermudas go dormant. Having six courses provides the flexibility to not overseed two courses each year, allowing them to stay dormant and brown. The dormant courses are rotated each year. This saves a considerable amount of water

“The drying-off effect of letting a course go dormant toughens up the desirable bermudagrasses



Desert Mountain has saved both energy and water through careful management of irrigation

with minimal inconvenience to the membership. An added agronomic benefit is that the drying-off effect of letting a course go dormant for the winter months toughens up the desirable bermudagrasses and kills off undesirable grass types, which usually need water to survive, even in the winter.

Emerson employs a variety of irrigation strategies to make sure that irrigation water is efficiently used. Irrigation applications are managed based on infiltration rate of the soils, which minimizes surface runoff. Emerson describes this as “slowing down the application rate, allowing the water to wick into the soil.” If a sprinkler is allowed to run too long in any single area, the water will not infiltrate into the soil and will be wasted. An active maintenance program ensures that sprinklers are properly adjusted and in good working order. An upgrade program ensures that the latest sprinkler nozzle technology is employed to optimize system efficiency.

The courses at Desert Mountain have a variety of design styles, affecting how irrigation is managed. Some fairways are bowled to the center, with raised edges, which tends to keep water on the course. Other fairways are sloped from one side to the other, which can create surface runoff.

Emerson invites teams of turfgrass and irrigation experts to meet at Desert Mountain and review his practices. This ensures that the latest techniques are in use and provides

oversight to ensure that every detail is considered.

Recently, he turned an eye towards energy consumption of the pump stations that supply irrigation water for the golf courses. The Golf Resource Group, headed by architect Andy Staples, ASGCA Associate, conducted a complete evaluation of the energy and water use of the Renegade course at Desert Mountain. Staples assembled a team including an engineer and personnel from Rain Bird to conduct a series of performance tests to evaluate the efficiency of the pumps, central control, water use, and energy demand.

Results of the evaluation demonstrated that energy savings could be obtained in a variety of areas:

- Upgrading key components on the ten-year old pump station to current technology could achieve energy savings of 17 percent
- Additional refinements to control system programming to better align control system operation with optimal pump station efficiency could achieve further energy savings
- Simply reducing pump station capacity during seasonal off-peak use could save 6.75 percent of energy costs by lowering electrical demand. The power company charges based on peak electrical demand, so lowering pump station capacity during the off-season and taking longer to run the irrigation system could reduce electrical costs with minimal inconvenience
- Minimal reductions in turf area and tightening up on irrigation

run times could potentially achieve savings of five percent of water use.

Staples’ report concluded: “Management at Desert Mountain has done an excellent job of managing water on the property. Further, the golf course design fosters the responsible use of water by minimizing turf while providing a player-friendly environment.” Emerson was pleased with the information presented in the report and noted: “Managing water and energy consumption is an ongoing challenge at Desert Mountain. New technologies are introduced every day and the key to our future success is to employ these technologies.” ●



Stuart Hackwell

As Global Specification Manager with Rain Bird Corporation, Stuart Hackwell works with golf course specifiers on water management projects worldwide. Based in Tucson, Arizona, he has been with Rain Bird for 19 years.

“The key is to lower operating expenses in a targeted way

Cost reduction | ASGCA

The cost factor

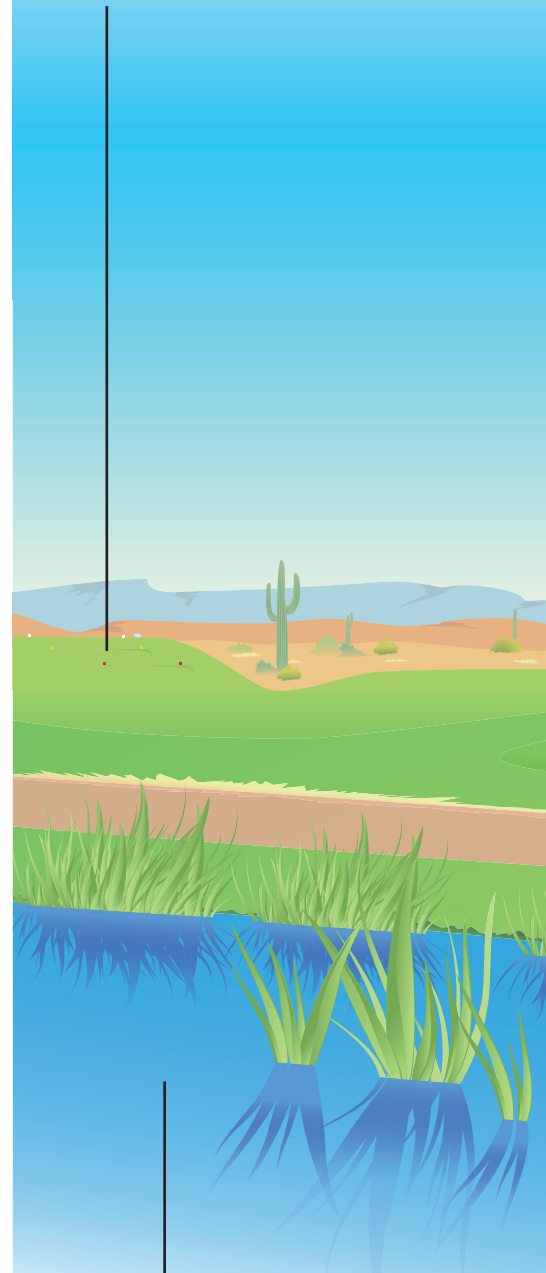
Golf courses everywhere are seeking new ways to reduce operating expenses. In addition to measures by maintenance staff, there are areas to reduce costs that involve design and construction. The key is to lower operating expenses in a targeted way, preserving the positive asset and—at the same time—keeping golfers happy.

Like all businesses, golf course owners and managers must balance short-term expenses with longer-term expectations. While changes are often easy to justify in the short-term, the long-term effect of change must be fully understood. Proposed changes need to be discussed with players so they appreciate the relationship between cost and maintenance standards.

The ideas on the page are just ideas that will not apply to all facilities. Golf course decision makers are encouraged to explore these and other concepts with the members of the ASGCA, GCBA and GCSAA—golf course architects, builders and superintendents who can help you understand trade-offs and set priorities. ●

PLAYABILITY

Communicate the relationship between higher standards and cost. Increase night time maintenance. Build softer slopes at tees, bunkers and greens



WATER

Specify effective irrigation control to reduce long term water use. Create capture ponds to store rainwater. Invest in drainage that keeps the course open. Prevent grow-in washouts by increasing sprigging/seeding rates.



ASGCA

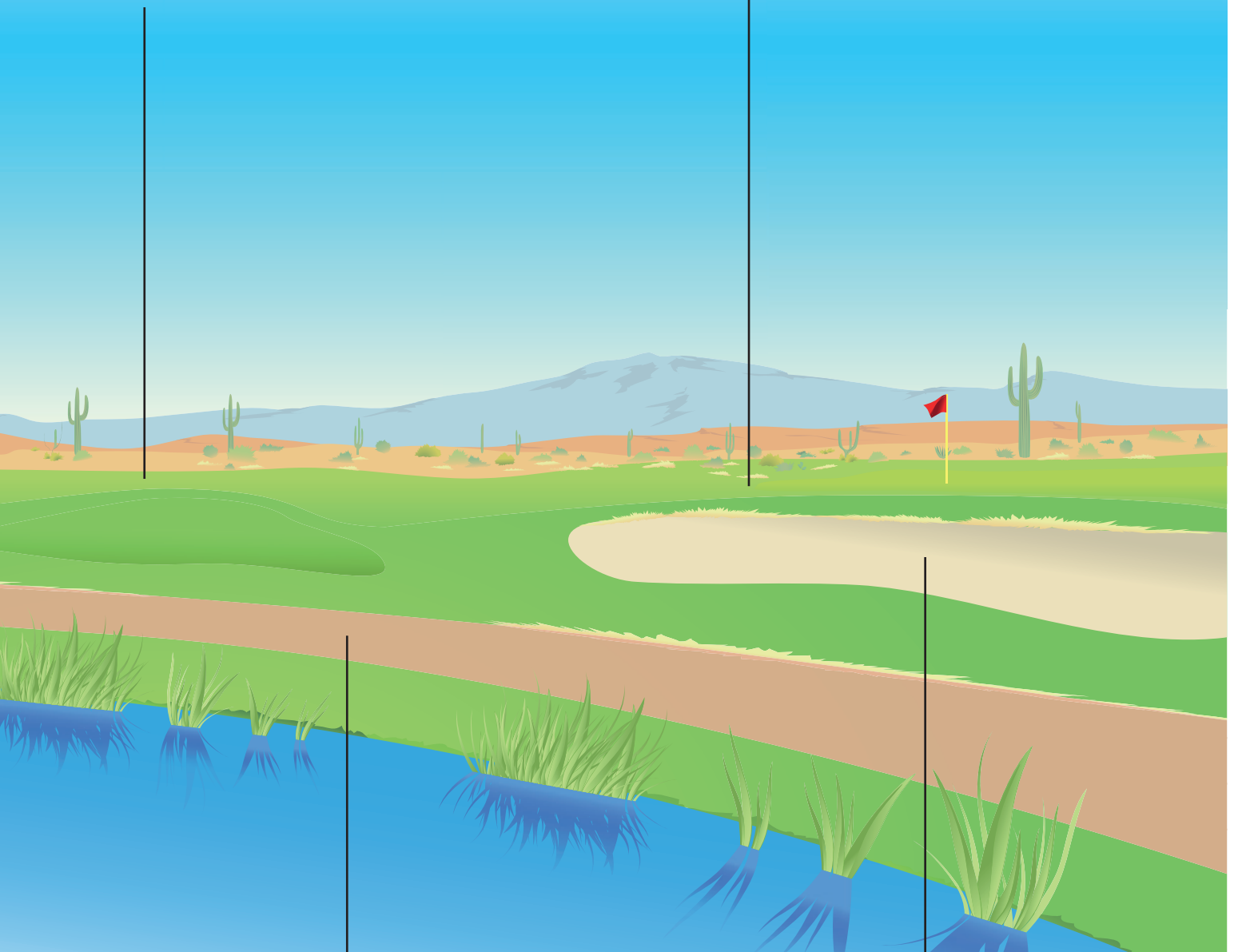
This table is based on ASGCA's new flier entitled *The Cost Factor: Tips and Tricks for Reducing Annual Maintenance Costs*. The flier is available from the ASGCA's website (www.asgca.org) and offers insights that will be helpful to all golf courses.

TURF

Minimize irrigated turf for less water, pumping, fertilization and mowing. Utilize native landscape plants and materials in non-irrigated areas to reduce water use. Create large tee decks for reduced wear—and less mowing time with larger equipment. Reduce over-seeding rates and areas. Lessen top-dressing applications. Reduce fertilizer, pesticide and other applications. Opt for less pine straw/mulch during building.

LABOR

Create a volunteer maintenance program. Minimize trees in turf areas to reduce mowing obstacles. Develop softer green contours to facilitate triplex mowers instead of hand mowing. Decrease mowing frequency.



CARTS

Specify path materials that reduce capital repair and replacement. Lessen cart path edging requirements. Provide a path surface and routing that will encourage use.

BUNKERS

Limit formal sand bunkers, and develop surrounds with native grasses. Lessen bunker maintenance standards and delay replacement of sand.

“Academy courses can be created for small sums of money on compact pieces of land; think of the children’s course at North Berwick in Scotland

Subject | Adam Lawrence

The value of practice

Golf, we’re told by lots of researchers, is too expensive and takes too long to play. Those, according to repeated surveys, are the two key barriers to the game’s further growth.

That’s why a variety of voices within golf have suggested that we need to widen what we view as ‘playing golf’ beyond just going to a course and either walking or riding a full eighteen holes. More nine hole courses, short courses, courses with three, six or twelve hole loops are called for.

Be that as it may, no-one can doubt that the golf industry needs to find ways of attracting more players, in its traditional markets of North America and Europe and in developing countries. And more varied facilities must be a central part of achieving that goal.

Lots of golfers, this one included, find beating balls on a range boring. But we shouldn’t assume that the same is true everywhere; if golf is new and exciting, spending an hour at a welcoming and well-designed practice facility could easily play a key role in hooking you on the game, especially if that facility allows for small competitions between players, perhaps in short game areas. No-one

should forget the iconic images of Japanese golf during the boom of the 1980s, with huge two-tier driving ranges packed full of people, happy only to have the chance to hit golf balls somewhere. Those familiar with the Chinese golf business report similar patterns now in that country.

The step from range to course, for many beginners, is incredibly intimidating. But academy courses, clever short game practice areas and the like can be created for relatively small sums of money on compact pieces of land; think of the children’s course at North Berwick in Scotland, where many fine players took their first steps in the game. Par three and executive courses can easily be seen as poor relations, but shouldn’t be; how many of us learned the game on pitch and putt or par three courses? Helping players progress from total beginners, to aspirant golfers, to being comfortable on the big course is a key part of growing the game. Examples of this abound. The Monarch Dunes resort in California, along with its main course, has a twelve hole par three facility designed by Damian Pascuzzo, ASGCA; putting courses, often in homage to St Andrews’ famous Himalayas, are increasingly popular.



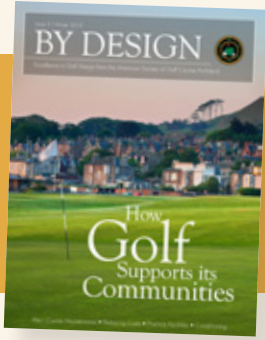
Adam Lawrence

Adam Lawrence is editor of *Golf Course Architecture* and a contributor to *Golf Monthly* and *Golf World* in the UK. Educated at Oxford University, he has been a journalist throughout his professional life.

One might not think that building a practice range needs a great deal of creative input from a golf architect. On one level this is true, if you’re happy with a straightforward facility for bashing balls. But, as recent years have proved, making practice fun demands more than just a flat field and some bays. Not every range needs to be as complex as the facility created by Robert Trent Jones Jr, ASGCA and his firm for the Stanford University golf team, with different grasses on greens so the team can practice the conditions they’ll encounter in their career. But opportunities to make practice fun, challenging and competitive can be realized, if an open mind is applied to the problem.

Given the problems of real estate markets in the US especially, a number of golf courses have been closed and owners have plans to redevelop them for housing or commercial property. Maybe owners should consider, as part of these redevelopment plans, the creation of alternative golf facilities, whether that be practice, par three, executive or academy courses? ●

The next issue of By Design will look in more detail at the design of practice facilities.



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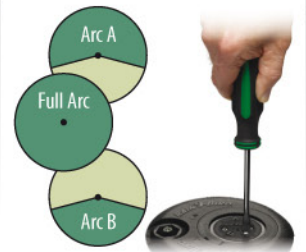
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