



overall average over England and Wales up to 92 millimetres - nearly four inches - or some 50% above normal. The first twelve days of July were terrible especially in central and southern parts of England. Heavy thundery showers were a daily occurrence. These are notoriously difficult to forecast for any one spot as they are very hit or miss, and made for a very wet period, flooding out some courses but missing others altogether.

The third week in July brought a respite from the downpours although it still wasn't wonderful golfing weather and on the 19th and 20th a small depression brought an inch of rain to parts of the Midlands. Following this there was a severe hailstorm at Santon Downham on the 20th and further thundery showers in the east of England. Down in the far southwest of England, on the 25th, there was a lot of hill and coastal fog making play very difficult or impossible on some courses near the sea.

It became very hot in the last week of June, setting off a few thunderstorms and west London reached 33 degrees Celsius - that's over 90 degrees Fahrenheit - on the 29th. And remember that is in the shade.

Northern Ireland had a thoroughly miserable summer with a dull wet June followed by much the same in July. August wasn't quite so bad.

The first couple of weeks of June saw some pleasantly sunny days but the general rule was for cool and, at times, very showery weather. On 13th June, many places across the Province had at least one inch of rain.

The third week was generally unsettled with thunderstorms.

Much of July continued in the same vein with sunny spells and showers dominating the weather on most days with little in the way of prolonged dry warmer weather.

The past year's weather is a reflection of the likelihood of things to come, in that although we do expect more rainfall in wintertime and less in summer, the summer rains will become increasingly thundery with heavy downpours and consequent flooding.



MANAGING WEATHER FOR GOLF

Increasingly, at all levels of business, the decision making process needs to have access to the latest information. The overriding proposition is to produce the best product at the most cost effective price.

Managing golf clubs requires a delicate balance of producing the best possible playing conditions, whilst allowing members and visitors to play at times when it would be better for the course if it were closed.

Greenkeepers have to make decisions involving substantial amounts of money, and which are dependant to a large extent on the weather. It is only right that they have access to the most up to date and accurate information available to them.

In collaboration with BIGGA, Weather Index Ltd has developed a number of weather packages that are specifically designed to aid club Secretaries and Greenkeepers, and priced so as to be affordable to all. Forecasts at the clubs latitude and longitude are delivered daily by email, together with planning indices and vital information such as frost warnings.

Many clubs keep weather records throughout the year, especially for rainfall and temperature. Included in the packages, Weather Index will produce a written report on the previous months conditions and compare them with past records. Your club can submit its data and be included in the monthly summaries, to enable you to build up an invaluable reference library of weather statistics.

The company will also issue regular articles on what to look for in weather patterns and how to interpret the skies.

The aim of the weather packages is to provide a complete weather service, the aim being to enable those responsible for course management to have the best available information on which to make planning decisions.

For further information contact: Bill Giles, Weather Index Ltd,
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Course Feature

THE BEST OF THE WEST

Scott MacCallum visits West Hill Golf Club and learns about the plan to restore the course to classic golfing heathland



A newly built fairway bunker with the heather face

Five years ago West Hill Golf Club, deep in the heart of the stockbroker belt of Surrey, came to a decision. Always known, by those in the know, to have one of the finest heathland layouts in the country, the club felt that it didn't always get the credit it deserved and wanted to do what needed to be done to change that fact. To that end the club, led by its Board of Directors, set itself the goal of getting back to being an outstanding members' club.

Having made this conscious decision, a master plan was put in place with a series of recommendations designed to propel the club back into its rightful place, bracketed alongside the very top heathland courses.

The first was the installation of a state-of-the-art irrigation system; the second, the appointment of a quality Course Manager; the third, the total refurbishment of all the bunkers; the fourth, the implementation of a tree clearing programme designed to assist with the regeneration of heather, and finally, an improvement to the course's drainage system.

Relatively quickly the first element was completed and the club boasted a superb new Toro Sitepro irrigation system. Next, Terry Huntley, previously of Ashford Manor Golf Club, was appointed Course Manager and almost immediately he was heavily involved in the bunker renovation programme.

"As I arrived the irrigation system was being handed over and one of the main things I had to contend with was to become familiar with the system. It's a wall to wall system, all valve in head, and is as good a watering system as there is out there," said Terry.

"Within a month a meeting had been set up with architect Jonathan Gaunt, who'd already been into the club and set out his plan for the bunkers," recalled Terry.

The bunkers had long been a bone of contention for the West Hill members.

"The faces had deteriorated, they didn't drain, so that every time it rained they filled with water and stayed filled for two or three days. The playing characteristics had also been lost and the shaping was wrong."

Under the watchful eye of Alistair Lawson, the then Chairman of

Green, Jonathan's brief was to look at improving the challenge of the golf courses and create more consistency with the bunkers and he achieved this by pulling some bunkers in, pushing others back and basically tightening up the entire course.

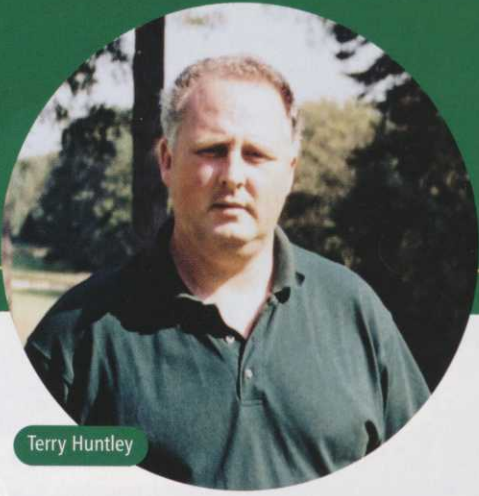
"Everyone was concerned that he didn't change the heathland characteristics of the course and it was paramount that we didn't Americanise West Hill. That was the big concern for the members and the traditionalists. It was an exceptionally difficult brief given that Jonathan is a modern golf course architect but he has done an excellent job."

The plan, covering some 80 plus bunkers, all individually designed, or redesigned, and rebuilt, was carried out in three phases, the first in the winter of '99-2000.

"It was decided that for the first phase we would go out to tender, which was won by Kestrel Golf, but that we would lay all the turf and heather in-house. It was a cost related decision but I felt it would be good for the staff to have an input into the project.

"That was a big decision for me, being new to the job, and knowing that I had other important jobs to tackle at the same time," admitted Terry.

As it turned out the team, or at least five of them, laid 4000 turfs in an intensive four week period. Although we got there it was extremely arduous and it meant that we got nothing else done in that period so we decided that for the last two phases Kestrel would take over completely."



Terry Huntley



Terry and his team

That said, the first phase went extremely well, starting in the last week in September with 31 bunkers done by December 1, drained and ready to go.

They were kept out of play for the rest of the winter with the sand being added in the first week in March, four weeks before the club's famous Father and Sons' Tournament which is played in the first week in April.

"It was always the goal to have the bunkers in play for the Father and Sons," explained Terry.

If they thought having got phase one out of the way it could only get easier they were to be sadly mistaken, and those who can remember the winter of 2000-2001 will not have been surprised to learn that fact.

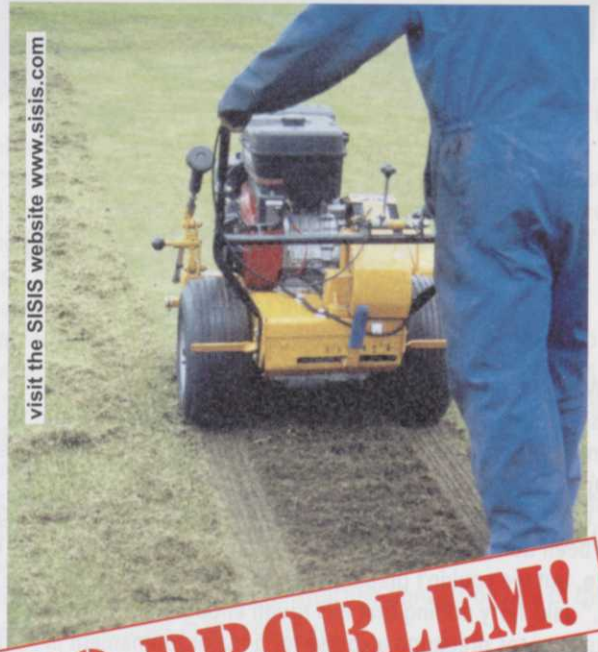
"Because of the weather we only completed 17 bunkers in phase two when the intention was to do 29 and the remaining three holes, the 7th, 8th and 10th had to be moved to the third phase making it the biggest phase of them all."

Ironically phase two has started very well but within two weeks the skies had opened and in Terry's own words "it didn't stop raining until the end of March".

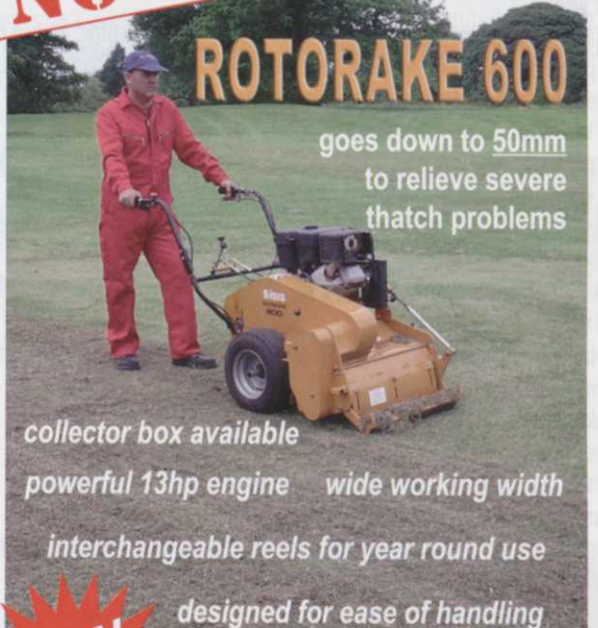
It was also the only occasion in the history of the Father and Sons Tournament - which draws entrants from far and wide- that it nearly got cancelled.

"If it had rained that week it certainly would have been," revealed Terry.

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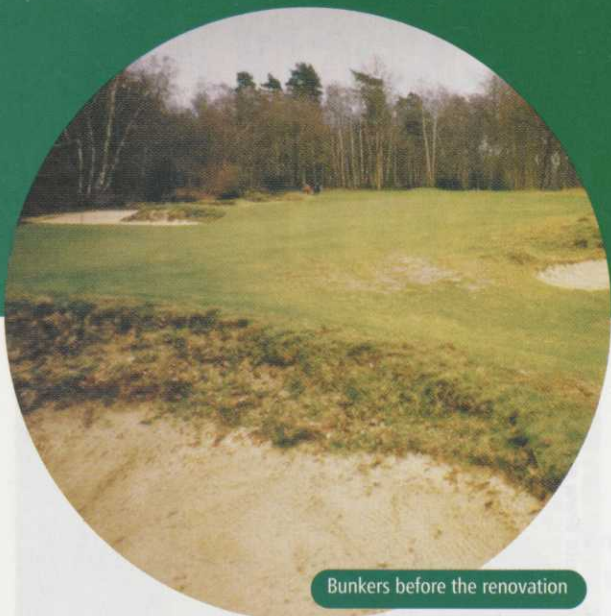
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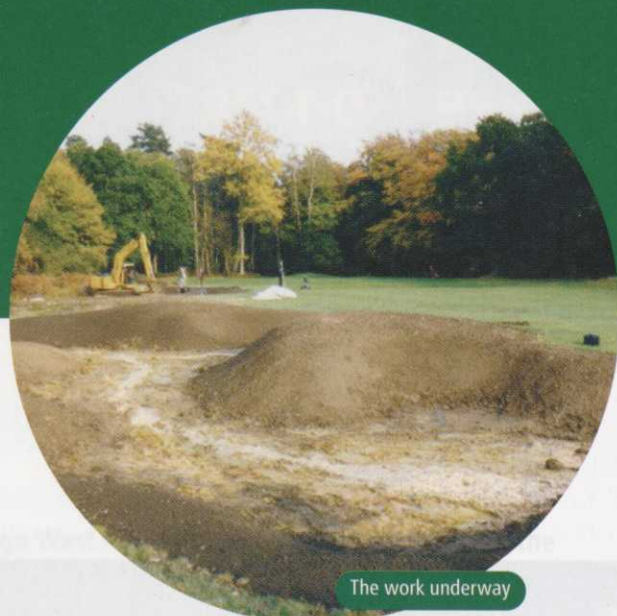
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Bunkers before the renovation



The work underway

With the phase two bunkers not ready the club took the conscious, and difficult, decision two weeks before the event to deem the bunkers out of play rather than try to rush through their completion and perhaps inflict long term damage.

"We'd completed two of the holes but on the rest, the turfing had been done, the heather was planted and the drainage was in place, but we couldn't prepare them properly as the bases were too wet," said Terry adding that it is tough enough under normal circumstances preparing a course for a major tournament in April.

However, he was full of praise for the competitors who played that year.

"They never complained and took it in the right spirit. Many of the players said there would have been no way their courses would have been playable in similar conditions.

"We were hand cutting at four mil and we were leaving footprints on the greens... and our greens aren't particularly thatchy. The ground was just sodden. At the end of the first day the 7th green was black. It was soul destroying, but you accept that is part of the ticket."

As it turned out the rain stayed away for the tournament itself and the course got better as the week wore on."

Having survived their biggest week of the year Terry, his six man team, and the club faced up to the prospect of completing bunkering of the final eight holes in one, larger than expected, phase.

"We'd already decided that if we were faced with similar weather conditions we'd pull the contractor off the site but as it happened we started the work in the last week in October and the major part of the construction was finished by the last week in January.

"Kestrel did the lot including the laying of 3000 metres of heather around the bunkers," said Terry, adding that the heather acts as a superb feature of the fairway bunkers on the course.

What it meant was that everything was completed for this April's Father and Sons tournament.

"It was absolutely magnificent this year," said Terry, with understandable pride.

"The comment we kept hearing was that 'We'd forgotten how beautiful West Hill was'. We were helped by dry conditions and the greens putted really well and we cut the greens daily at three mil."

With the bunker work completed Terry can look forward to

progressing the course in other areas and in particular points four and five of the original master plan.

"The tree work has been on-going and we are looking at clearing more this winter. We've found that everywhere we've cleared trees we are getting heather regeneration. I've never seen the heather so good as it has been this year and members say it's as good as they've seen in 30 years."

The drainage work is also on-going with much of it being carried out in conjunction with the bunker renovation.

"We're picking off broken drains winter by winter and every time we fix one another one pops up. It's a sad fact we'll be doing that for the next three or four years."

Terry has worked to the Acid Theory with regard to his management practice and since arriving three and a half years ago has seen a 60-40 poa bent ratio reverse to 40-60, without resorting to blanket overseeding.

"I have to be a little careful because if the ph comes down too low the moss starts out competing with the poa so it's a balancing act. So the down side of getting the poa back to bent is that from time to time we get this moss invasion. I'm working closely with David Stansfield on this," said Terry adding that his Chairman of Green, David Hargreaves is also very supportive and proactive.

Fulham-born Terry began his greenkeeping career at Fulwell before moving to Foxhills where, at 21, became Deputy Course Manager and worked on six European Tour Qualifying Schools, two British Ladies' Opens and two Tournament Players' Championships.

"Working under someone like John Campbell, who'd come down from St Andrews, was incredible. I learned so much from him about traditional Scottish greenkeeping techniques, revetting bunkers, mixing up fertiliser and top dressing and weighing up dried blood.

"He'd done everything you could in greenkeeping and was the first superstar greenkeeper, without a shadow of a doubt."

From there Terry moved to Laleham to his first Course Manager's job, then Ashford Manor before the chance to come to West Hill came along.

"I remember playing here a few years ago thinking that I'd love to work on a place like this."

Terry has some strong, interesting and common sense opinions on the greenkeeping industry.

"In the past we were cocooned in our golf clubs and they were like safe havens but as clubs have become more business like it has

Course Feature



Jonathan Gaunt

become much more competitive and we've got to be prepared and be able to take criticism," he said.

"I think we worry about stupid things. At my last club we didn't have a watering system and the course was built on a gravel bed which was fantastic in winter but a nightmare in the summer. I used to pace around the bedroom at 2am, keeping my wife awake, praying for rain which was just plain silly.

"With the modern day pressures all we can do is look at ourselves in the mirror and say we are doing our best.

"For example, today I'm three staff down, we've had a hydraulic oil leak, I've got a ladies' medal and we have three temporary greens. But it's not the end of the world. The golf course will still be here next year and the year after that," he said.

He also has some thoughts on greenkeeper accommodation.

"I believe that, wherever possible, every greenkeeper should own his own house. I know that years ago one of the big incentives was tied accommodation but you should be the master of your own destiny and take control of your life. Don't be dependent on someone else whether you have a roof over your head," said Terry, who does have his own home, despite living in one of the most expensive areas in the country.

"I had a choice. I could have gone out and bought a new car or taken out a mortgage," he said.

Although the clubs has completed the vast majority of the club's five point plan they are still aware that there much work still to be done.

"Ultimately it is going to depend upon the quality of the course we are providing and I'm heartened by letters I get from people who have played the course and from positive feedback in magazine articles. One recently said we were a candidate for the most improved course in Surrey, which is nice."

THE ARCHITECT'S VIEW

Jonathan Gaunt's brief was to improve the challenge of the golf course and try to create some consistency in the bunkers.

"Some bunkers were waterlogged while others drained ok; some had sand and others sand mixed with soil so were contaminated. Some had heather round them when they should have had turf and others turf when they should have had heather," explained Jonathan, as he looked back at the project.

Jonathan worked on the strategy of the course tightening up holes around the landing area and on the approaches to greens.

"It's an old established golf course and a bit of a collector's item so it was a real risk for the club to take such a drastic step. However, they were very fair with me and took me at my word. The first phase was very much the testing block but it went very well and by the third phase it was going even better from my point of view."

So how did he go about reconstructing bunkers on one of the most historic courses in the country?

"I view the original architect's work as an influence and then read up about the course and visit it and surrounding similar courses. It's a history lesson and also an opportunity to make a great golf course even greater... or make it worse. That's the risk involved."

How do the West Hill bunkers differ from Jonathan Gaunt bunkers?

"That is difficult to describe. If you go to three or four of the courses I've designed you will see something different at each as I'd like to say I'm influenced by the site itself. I suppose my bunkers are longer shape and set higher so you see more of the sand. They are probably a little bolder."

Jonathan Gaunt is a member of the IEGCA.



Building the face



ENVIRONMENT AWARDS 2002



Wilmslow Golf Club's recent pond development. Winner of the prize for the best project.

Andrew Wood, of the STRI Environment team, reports on this year's competition and unveils the 2002 winning Club.

R&A SPONSORED BIGGA GOLF ENVIRONMENT COMPETITION 2002.

It is that time of year again when the sealed green envelopes are opened and the results of the R&A sponsored BIGGA Environmental competition are announced. This is the seventh annual competition and although it is somewhat of a cliché it is fair to say that the standard has got stronger year on year throughout this period. Indeed it is likely that the application sent in by Ipswich Golf Club when they won the award in its original guise of Amazone Golf Environment Competition in 1995 would have struggled to progress to the second round of this year's competition. The sheer scale of ecological management going on at the majority of clubs in this year's competition is staggering. Environmental credentials are becoming increasingly polished and important habitats are being conserved, enhanced and created all over the country. What is most encouraging is that not only wildlife is benefiting from this work as the results are being enjoyed and appreciated by the golfer, the greenstaff and the general public are too. There is however just one major negative of all this progress, the competition just keeps getting increasingly difficult to judge!

All of this year's applications were studied by the Ecology team at STRI and scored out of a total of 40 points. Of these 17 clubs achieved a score of 25 or greater and were selected to progress to the regional finals. Those that didn't quite make the grade were given constructive feedback to encourage a stronger entry in future years. The next task was to carry out site visits to the selected clubs with a view to choosing regional finalists, the best individual project and a successor to Broadstone Golf Club who won the overall competition last year.

A summary of the findings from each region is provided below. A review of the criteria that clubs had to meet to be successful will be included in the next edition of the STRI International Turfgrass Bulletin.

SCOTLAND

Organisation is the key word at **St. Andrews Links Trust** where all the five courses were taken into account. The most progressive of these in terms of ecological management was the Eden Course. The former Head Greenkeeper of this course, Gordon Moir, is now Links Superintendent and his strong ecological credentials are prompting action throughout the Trust's courses. With the assistance of Jonathon Smith, of Scottish Wildlife Trust, environmental management plans are being drawn up for all five courses. An environmental working party has been assembled with at least one representative from each course.

Both St. Andrews and **Loch Lomond Golf Club** have spared no expense in terms of waste management and systems to accurately monitor chemical and water usage. Loch Lomond's commitment to conserving and enhancing the valuable habitats on the course is well demonstrated by the employment of two conservation officers who manage the woodlands, wetlands, and waterway areas in a way sympathetic to the golfer and the wildlife. The contribution that the Loch Lomond Invitational competition makes towards promoting golf in a good environmental light should not be underestimated.

Although not as large or illustrious as the three other entries in the Scottish region **Fortrose and Rosemarkie Golf Club** punches well above its weight in terms of environmental credentials and is very much proof that in this competition at least, size doesn't matter. Stuart Hogg, the Course Manager has developed an outstanding management plan that is realistic in terms of the work that can be done. This includes some splendid initiatives to reduce the use of chemicals and water on the course. There is also a rough grassland and gorse management strategy in place that is producing impressive results.

Owen Brown, Course Superintendent at the **Duke's Course**, must be golf's equivalent of Steve Irwin 'crocodile hunter' and not just because of his Australian accent. His knowledge of the wildlife on the course is impressive and his enthusiasm for all that is environmentally sound is infectious. Out on the course, on-going management schemes such as the filtering of drainage



One of two information boards at Bradley Park Golf Club visible to golfers and members of the public

water using newly created wetlands is appreciated by the golfer and ecologist alike. The grassland roughs and woodland plantations have been managed such that the holes have great definition and ecologically valuable corridors are created throughout the course. In an excellent communication initiative a two page hole by hole guide to the ecology of the course has recently been included in the club's course planner.

NORTHERN ENGLAND

The organisation of ecological management at **Kenwick Park Golf Club** sets this club apart from others. The 'Environment Panel' is a committee held in high regard by the club which demonstrates sustainability by raising its own funds for projects through events such as quiz nights, club competitions and night golf. An example of the Environment Panel's input into on-course matters is the way it influenced a change in the design of the Club's new irrigation reservoir from a rectilinear layout to a much less formal looking style. As a result of this input a far greater wildlife habitat will now develop. The reservoir now ensures that in future years the club will be completely self-sufficient for water.

Only 25 years ago, the site at **Bradley Park Golf Club** (a small municipal course) was agricultural land and quite sterile in terms of wildlife. Today, largely through the commitment of Head Greenkeeper, David Brierley, the course has a very natural feel and pockets of great ecological value. One such area is the pond on the second hole that is split into two sections of different depths. This suits a large range of vegetation, which encourages an increased diversity of animal species. The most impressive recent initiative is the creation of two information boards which describe the wildlife present on the course. These are positioned in view of golfers and members of the general public who use a footpath on the course.

Of all the clubs visited during the course of the competition, **Wirral Ladies' Golf Club** is the most progressive in terms of composting. Several grass clippings bays have been constructed in secluded areas around the course. When full, clippings are transported to a central location, mixed with organic material and composted. A tarpaulin is used to keep the heap at the optimum moisture content and prevent any run off occurring.

In terms of habitat management, the club is achieving great success in restoring areas of heather and maintaining woodland and gorse as part of a phased programme. A splendid portfolio of this work is being created that will be of great value as a means of communication with members when displayed in the Clubhouse.

Steve Oultram, Course Manager of **Wilmslow Golf Club** should be highly commended for his sheer dedication and enthusiasm. The management of the rough grasslands is part of a long term improvement programme which is

producing impressive results. The rough is cut annually and a local farmer is engaged to remove haylage from the course, over 50 big bales this year. The major change in the landscape of the course over the past year has been the creation of a pond on the 16th hole. From the design stage through to the marginal planting after construction, everything has been done to a superb standard and the pond is a valuable addition to the other outstanding habitats on the course.

SOUTH EAST ENGLAND

Aldeburgh, Thorpeness Hotel and **Ipswich** were three golf clubs within close proximity to each other that all made it through to the South East regional final. All three are situated upon the Suffolk Sandlings and have large areas of land well out of play. All are responsible custodians of ecologically important, acidic lowland heath. At Aldeburgh, management is carried out that enhances and restores grassland, woodland, gorse and a small amount of heather on the course. The Course Manager and his team have a good understanding of how to manage these areas and control invading vegetation such as bracken, brambles and rank grass species on an impressively large scale.

At Thorpeness Hotel and Golf Course, Course Manager, Ian Willett, has created a solid environmental management plan, with assistance from several ecology-based organisations and a keen member, Ray Hardinge. Ray has produced extensive species lists for the course which includes the red data species Woodlark and Nightjar. The club has shown the commitment to enter into a Countryside Stewardship Award that funds much of the ecological management work. As the club has only six greenkeeping staff, it has sought the services of the Suffolk Sandlings Project to carry out certain schemes including some large scale and highly successful bracken clearance.

Although Ipswich Golf Club has limited resources the club fully supports the Course Manager's appointment of two conservation officers. This manpower has enabled the club to make huge strides in terms of environmental enhancement of a diverse range of habitats. The publicising of past successful management means that the team are not afraid of removing large areas of vegetation such as woodland, gorse and bracken in order to re-instate areas of grassland heath or heather. The flagship area of ecological management at present is a heather stand within the carry of the 13th hole. This was turf stripped in March 2001 following a severe heather beetle infestation. After only 17 months, the area now is almost 100% covered with healthy young heather plants.

Rookwood Golf Club is a five year old municipal club that has outstanding environmental credentials. The development of the golf course was an issue of great contention as it was effectively built on land originally



The reflection of a screen at Warren Golf Club has reduced the disturbance of resting and feeding birds.



ENVIRONMENT AWARDS 2002

designated as a nature reserve. Sceptics are now being forced to look at golf courses in a new light, as the increase in ecological value of the site has been outstanding. The club has planted approximately 80,000 mainly native trees and shrubs and developed wild flower areas in roughs which give the course a very natural feel. It has an interactive website:

www.rookwoodgolfcourse.co.uk with a section devoted to nature conservation where golfers can register any wildlife they have identified on the course in a "Nature Log".

A strong emphasis on staff training and the development of a comprehensive environmental management plan has been the foundation for some excellent work carried out at **Gerrards Cross Golf Club**. Recent management includes pond development, the clearing of rides through woodlands and general woodland edge management. All this work has had benefits to the course from both a golf and a wildlife viewpoint. In terms of risk assessment and waste management, the club is now at an excellent standard after recent improvements in its chemical and diesel storage facilities.

SOUTH WEST ENGLAND AND WALES

Bath Golf Club was one of a number in this year's competition that has entered into a Countryside Stewardship Agreement with DEFRA which largely dictates the club's ecological management. This involves the protection and management of many features of historical importance including Iron age field systems and a Roman fort. The club is also committed to the enhancement of the Cotswold grasslands and the protection of its resident populations of Greater and Lesser Horseshoe Bats. The club has initiated grazing out of play which is quickly improving the grassland habitat. The cow dung attracts insects which provide a food source for the bats.

The club has excellent waste management credentials and Course Manager, Guy Woods, has initiated an impressive recycling programme.

The large turnout of members and staff for the visit to **Warren Golf Club** in Dawlish clearly indicated the enthusiasm for environmental issues at this club. The club lies on a sand spit that is one of only two UK sites for the Warren Crocus. Warren has many ecological designations and a large number of organisations have contributed to the club's Site Management Statement. This suits the golf club despite ensuring it abides by strict management policies including minimal use of chemicals on the course.

The 14th tee is adjacent to an important foreshore roosting and nesting site. To reduce disturbance levels, a screen has been placed around one side of the tee and the retrieval of golf balls from this area is prohibited.

The most striking thing about **Parkstone Golf Club** in Poole is the scale of the ecological management that has taken place over the past few years. This has been concentrated on the removal of woodland and scrub areas with the

intention of reinstating grassland heath and especially areas of heather. Opening up such areas has had benefits for golf as well as the wildlife of the course. Increased light and air movement has improved playing surfaces and vastly increased areas of heather where Adders and Sand lizards often bask on the south facing slopes.

A stream and several springs feed two well managed lakes on the course which make the club self sufficient for irrigation water and provide an excellent wildlife habitat.

A diverse range of important habitats were found at **Cardigan Golf Club** including grassland, hedgerows, water bodies and areas of gorse and scrub. All of these habitats are subjected to continual improvement through the following of a comprehensive management plan. A 60m hedge planted last February will eventually provide food, shelter and a nesting site for birds as well as screening the maintenance sheds. A photographic record of the improvements made is a valuable tool for promoting future ecological initiatives. The club is highly committed to composting of grass clippings, hollow tine cores and other organic waste. This is a major part in the Club's push towards sustainability as it is hoped to eventually use the end product as top dressing.

AND THE WINNERS ARE...

In Scotland the size, course type and management structure of the four finalists was unbelievably different for each entrant and this made judging all the more difficult. After much deliberation, Fortrose and Rosemarkie Golf Club were just pipped to the post by the Duke's Course. In Northern England there was almost a four way tie with only one point between all the regional finalists. However, Bradley Park just came out on top. In The South East, Ipswich just edged out Thorpeness Hotel and Golf Course for the second year running. These two competition stalwarts will need to continue improving if they are to keep ahead of first time entrants, Aldeborough, Rookwood and Gerrards Cross in future years. Parkstone took the honours in a hard fought South West and Wales Region though again this club, Warren and Cardigan must be aware of new entrant Bath making impressive progress.

After much deliberation it was decided that Wilmslow would receive the prize for the best individual project during the past year. This was for the pond the club created on its 16th hole which is already proving a resounding success from an ecological viewpoint.

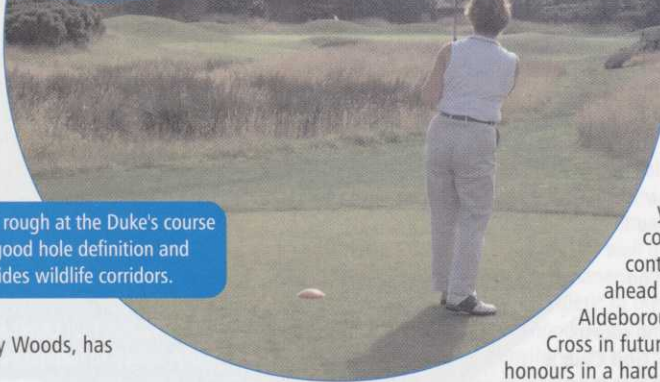
Ironically, it was **Ipswich** who won the overall competition, some seven years after taking the title for the first time. Many congratulations should go to all involved at the Club for their hard work that has had to be put in to become the first two-time winner of the competition. I'm certain that they will be the first to agree that this second success hasn't been easily achieved and that they, like a great many clubs, have come a long way in terms of ecological management in the last seven years.



The Flagship area of regenerated heather on Ipswich Golf Club



The purchase of a self contained washing system has improved Loch Lomond Golf Club's Environmental credentials.



Grassland rough at the Duke's course gives good hole definition and provides wildlife corridors.

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TURFGRASS MANAGEMENT - GETTING THE BALANCE RIGHT

Martyn Jones 1st Class Training

Turfgrass managers are caught in a dilemma between the constraints that nature sets on the growth and development of turfgrass plants and the unnatural demands set by sportsmen and sportswomen in their quest for perfect playing surfaces. A turf manager's role is to:

- provide playing characteristics appropriate to the sport
- maintain healthy turfgrass
- preserve the integrity of the rootzone material

Evolution has not anticipated that turfgrass plants may be continuously defoliated to 5mm or less, as is the case with golf and bowling greens; or the abrasive wear at Centre Court during Wimbledon fortnight. Nor has Mother Nature prepared herself for the upsurge in golf courses or enclosed soccer stadiums. Instead, Mother Nature has, for millions of years, adequately catered for infrequent grazing of animals during the growing season when soils are relatively dry and well aerated. She has provided earthworms to structure our soils; she has allowed grasses to recover from grazing before being subjected to further attack. She has even allowed death from starvation to reduce the grazing population and lessen the demands placed on the grasses.

Our sportsmen and sportswomen are not as considerate as Mother Nature and continue to place greater and greater demands on our turfgrass areas. We may plead for the grasses to be given a chance but our requests will generally fall on deaf ears. Consequently, science has had to come to our rescue. We now accelerate evolution by breeding new grass strains; we have an array of chemical formulae to protect the grasses; we design and create new soil components; we engineer irrigation, drainage, and heating systems to manipulate the climate; and we formulate chemical concoctions to feed our grasses.

But we are still governed by many of Nature's rules and are still at the mercy of our climate. We have created an unnatural environment within the general domain of nature.

The vast array of products nowadays at our disposal sometimes appears to have overshadowed the importance of the essential components for healthy turfgrass growth and development. The products of science, formidably marketed by talented sales staff, receive an enormous amount of media attention. I feel that, under such pressure, turf managers are often distracted from thinking about the ESSENTIAL requirements of growth - water, air and sunlight. Without water, air and sunlight (none of which are the products of scientists or engineers), neither photosynthesis nor respiration can occur and, without these processes, we have no grass plants. These are the basics of life and cannot be taken for granted.

Yes, we can fine tune our surfaces by means of manufactured products but the essential components must first be in adequate supply. It matters not a jot how much any of the manufactured products are used if there is a substantial lack of any of the essential ingredients.

Currently, the lack of sunlight in our northerly location is a restriction that we must accept, although management practices can reduce the detrimental effects of low light intensities. Achieving a balance of the other essential elements can, to some extent, compensate for the natural low light intensities that we experience.

THE AGRONOMY TRIANGLE



Precipitation, whether from natural rainfall or artificially applied irrigation, has a profound effect on rootzone aeration. Water fills soil pores to the exclusion of air, resulting in a decrease in soil aeration. Excessive use of fertilisers, particularly nitrogenous fertilisers, results in the production of organic matter that will clog pore spaces, again to the exclusion of air.



Without adequate soil aeration, the system becomes unstable and turfgrass quality declines. Many turfgrass managers hold the fallacious belief that turfgrasses are maintained in a healthier state by severely restricting water and nutrient input. This is because, in the majority of cases, soil aeration is already restricted. By concentrating on maintaining adequate soil aeration, detrimental effects of judicious irrigation and fertilisation do not occur and the turfgrass plant is kept in a healthier state. Good soil aeration is at the crux of good turfgrass management. However, it is one of the most difficult things to achieve, particularly when a rootzone material is inferior.