



The Jubilee Greenkeeping Centre under construction last year: Staff facilities and administration wing are laid out on two floors at the southern end of the building

Sheds heaven

It was a day for celebration when the greenkeeping staff looking after St Andrews' Old, New and Jubilee Courses moved from their 40-year old sheds into the new Jubilee greenkeeping centre during the first week of April 1997.

Fourteen months earlier, the staff responsible for the Eden, Straththyrum and Balgove Courses at St Andrews had said goodbye to their colleagues prior to moving across the links to the new £525,000 Eden greenkeeping centre, described then as the best facility in Europe.

While it continues to set a very high standard, the Eden has been joined on St Andrews Links by a greenkeeping centre which can claim to be the equal of any in the world providing combined greenkeeper accommodation, equipment storage and workshop maintenance facilities.

Costing almost £885,000 for its site works and construction, the Jubilee sheds and associated parking area and roadways, soil, fuel and chemical stores and wash bays cover almost 1.5 acres (0.58 ha).

The main building comprises a



long span portal frame structure measuring 220ft by 84ft (67m by 25.5m) and topped by a shallow curved roof clad in double skin insulated aluminium sheeting. By combining a low eaves height, a soft roofline and a light green colour for the exterior of the building, architect Fraser Smart has minimised the sheer mass of the construction which covers an area of 21,268 sq ft (2,014 sq metres).

Surrounded by high soil embankments which have now been seeded, the complex is barely visible from the town and the three courses it serves, minimising the effect on the natural landscape and fulfilling the initial requirements of the St Andrews Links Trust.

Contained within the building is 11,774 sq ft (1,115 sq m) of storage for greenkeeping equipment and buggies, a 6,463 sq ft (612 sq m) staff, administration and storage wing and a 3,031 sq ft (287 sq m) workshop and store.

Although work benches are provided within the main part of the building for use by greenkeepers for the setting up of cutting units and other daily maintenance, the workshop within the Jubilee building is equipped to carry out all of the major service and repair work on the tractors, mowers and other course machinery used across the whole of St Andrews Links.

Managed by George McLaren with a team of three engineers, the workshop is responsible also for the irrigation equipment installed on the single nine hole and five 18 hole courses administered by St Andrews Links Trust.

With 28 years experience behind him, George knew exactly what he needed in his new workshop and worked closely with the architect on its internal design. "Health and safety considerations were a primary factor behind the

layout of the workshop," he explained. "The area is sufficient to allow each engineer to have his own portable hydraulic bench for working on engines and smaller items of equipment. Although there is no wasted space, there is no clutter either. If a machine is waiting for a part then we have the room to work around it or park it in another part of the building."

Originally, the workshop was planned around two hydraulic lifts – a four poster for four-wheeled vehicles and a Heftee unit for the three-wheeled mowers and Cushman turf maintenance vehicles. Space considerations and the discovery of a 4 tonne scissor jack unit capable of lifting all wheeled machines apart from the digger provided a valuable cost-saving investment.

"In the past, we had to use axle stands if we needed to get beneath a tractor or mower," commented George. "The scissor lift is proving a great piece of kit, lifting to full standing height and folding flush with the floor when not in use."

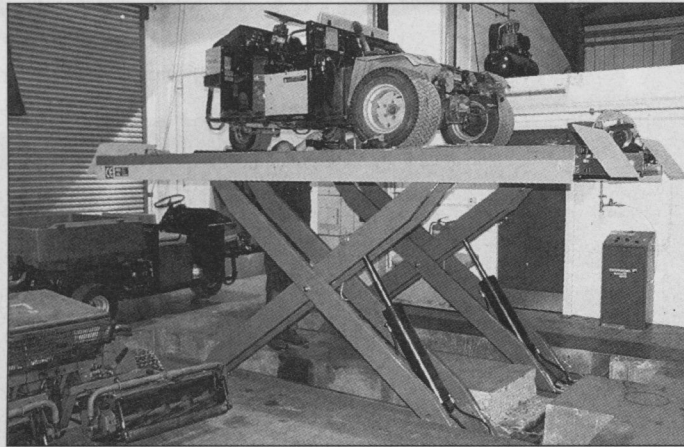
Apart from the main workshop, ➔

“The aim was to create a modern workshop incorporating a level of skills and facilities capable of maintaining to a high standard all of the machines used on St Andrews’ five and a half golf courses’

→ George and his team have separate areas for machine cleaning, cylinder grinding, welding and parts storage. They also have their own lockable store for hydraulic fluids and special oils. “If someone other than the workshop needs hydraulic fluid then it means that the machine has a leak and we need to know about it,” pointed out George.

Two external covered washbays are located adjacent to the rear door of the workshop. One is connected to a grass interceptor, the other to an oil and diesel interceptor, providing totally separate cleaning facilities to suit the machine and its condition. There is also an internal wash area linked to the oil and diesel interceptor for cleaning engines and related components.

The grinding room is located behind a lockable internal door and contains two machines – a combination cylinder and bottom blade grinder and a sole-purpose bottom blade grinder. Although quiet during the summer, this



The scissors lift can accommodate machines weighing up to four tonnes

area will be in constant use during the winter months restoring a keen edge to the many greens, tees and fairway mowers responsible for maintaining the 99 holes of golf and golf practice centre laid out on the links at St Andrews.

Gas, MIG and electric arc welding equipment are housed in a separate bay adjacent to the main workshop, together with an electric saw, pillar drill and hand and pillar grinders.

Having been able to design the area literally from the ground up, George was keen to include a number of important elements within the finished workshop. These include ample electrical sockets (10 double sockets at 3m spacings) and compressed air outlets (nine), good lighting (a combination of sodium and tungsten elements), efficient ventilation (four piped exhaust extractors plus three wall fans) and a floor-standing mobile hydraulic crane.

The parts store is divided into two sections – one for course maintenance machinery, the other for the irrigation equipment looked after by George McLaren’s assistant, irrigation engineer, William Redpath. Within the two stores are held sufficient parts for all scheduled service requirements as well as emergency replacement items to cope with breakage or wear. The workshop can also make up its own hydraulic pipes and has pressure test equipment for diesel fuel injectors, radiators and hydraulic circuits.

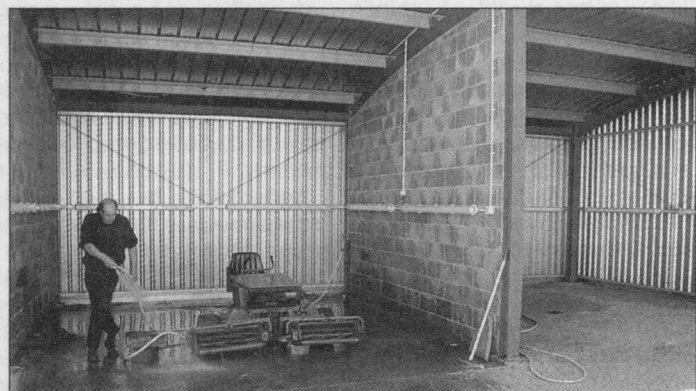
“The aim was to create a modern workshop incorporating a level of skills and facilities capable of maintaining to a high standard all of the machines used on

St Andrews’ five and a half golf courses,” pointed out George McLaren. “We will call on the dealer or manufacturer for specific training, advice or help but the principal contact comes when ordering parts for routine servicing or repairs.”

The day to day operation of the workshop and the machinery passing through it relies on close liaison between George and the greenkeeping staff, with priority being given to breakdowns or urgent repairs. When a regular service has been completed, a sticker is placed on the machine stating when the next service is due. It is then the greenkeepers’ responsibility to let the workshop know when the item is approaching the designated service time.

Because each of the courses at St Andrews has its own fleet of machines, it is a relatively simple matter to apportion the workshop labour and parts costs for every machine to its specific course. In addition to enabling a close eye to be kept on overall machinery costs on each course, the completion of a log book for every major piece of equipment ensures that recurring problems or high running costs (and vice versa) are noted and acted upon.

The improvement provided by the new workshop over the previous facility is, says George, like comparing day with night. He particularly appreciates the high level of security and the fact that the two roller shutter doors can be opened only from the inside of the building. Initial entry to the workshop is gained through a personnel door leading from the main machinery store – and that door is located adjacent to his office window from where George can keep a close eye on the daily comings and goings of people and machines.

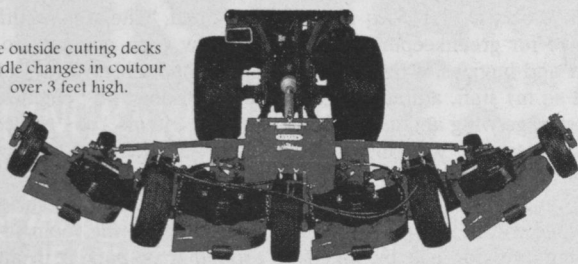


Separate wash bays are provided for cleaning course maintenance machinery



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BIGGA at The Open



The famous claret jug and a nice big cheque may have gone to new Open Champion, Justin Leonard, but the greenkeepers who attended the Championship, both from Royal Troon's own team and the BIGGA Greenkeeping Support Team were also basking in glory at the end of the week.

Billy McLachlan and his team fully deserved the fulsome praise which was heaped on the course and its condition by everyone – including the players who usually are notoriously slow at giving greenkeepers plaudits.

None more so than the new Champion himself who spend a sizable chunk of his Champion's speech praising the work of the Royal Troon greenkeepers and that of the Support Team.

The team itself was drawn from 52 greenkeepers all over Britain – from as far north as Royal Dornoch and as far south as St Enodoc on Cornwall – with three from Sweden and two from Augusta National.

The team assisted by Billy, Jim



History of Bunker Data

	St Andrews ('95) (117 bunkers)	Lytham ('96) (185 bunkers)	Royal Troon ('97) (84 bunkers)
Rd 1.....	214	501	344
Rd 2.....	201	577	272
Rd 3.....	130	269	107
Rd 4.....	156	271	136
Total.....	701	1618	859

Devlin and the Royal Troon team with post round divotting and pre-round bunker raking while each match was accompanied by a member of the team to rake any bunkers which were found during the course of the round.

For the third consecutive year the team produced the statistics for the Great BIGGA Bunker Competition run for the Media during the week. Each day every

bunker which was found was marked producing a daily total of bunkers hit as well as a cumulative figure. This provided some excellent statistics for the press, television and radio as well as the race for the final prize. Each daily winner received a bottle of whisky while the overall winner receives a Hayter Harrier 48 lawn mower, worth over £600, kindly donated by Kim Mcfie, Sales and

Marketing Director of Hayters.

The total of bunkers found over the week was 859 and the person who won the top prize was Sally Abell, of the Coventry Evening Telegraph, who estimated 857. She will be presented with the mower at a later date. Sally collected the first of the daily prizes and was joined for the other three days by representatives of the three biggest golf magazines, Colin Callander, Editor of *Golf Monthly*, Neil Pope, Editor of *Today's Golfer* and Peter Masters, Features Editor of *Golf World*.

The in-house competition, run for members of the Team, was won by David Cuthbertson with the daily prizes going to Jimmy Neilson, Steve Mitchell, Billy Merritt and Steve Wenlock.

The members of the Support Team were at their smartest during the week as a result of wearing shirts supplied by Lyle and Scott, shoes supplied by Spaldings (Etonic) and waterproofs supplied by Walrus. BIGGA would like to thank those companies for their support.

BIGGA at The Open

◆ The Paul Broadhurst, Justin Leonard, Wayne Riley match interrupted a family on the 12th hole. As the players stood on the tee they could see the family sitting in the middle of the fairway about 30 yards in front of the tee tucking into their lunch. Riley called out: "Are we disturbing you?" and apologised for having to move them when the three had played off.

Information supplied by Steve Johnstone of the BIGGA Greenkeeping Support Team.

◆ Darren Clarke was interrupted by Mark James' ball running on to the 9th green before he had holed out. Darren wrote a note and pinned it with a tee beside Mark's ball. Content of the note is not known but everyone concerned had a laugh.

Information supplied by Iain MacLeod of the BIGGA Greenkeeping Support Team.

◆ Ian Woosnam holed his bunker shot at the 18th on day one and promptly presented the ball to the man who raked his bunkers – Sam Morrison, Head Greenkeeping at Royal Aberdeen Golf Club and Chairman of the Scottish Region of BIGGA.

◆ Wayne Riley hit a spectator on the head at the 5th hole on the second day and saw the ball bounce into a bunker. Wayne made par and a message was sent to him at the 7th to say that the spectator was OK.

Information supplied by Stig Persson of the BIGGA Greenkeeping Support Team.

◆ Mark Roe and his caddy couldn't wait to finish their second round and ended up eating fish and chips walking down the 13th fairway.

Information supplied by Billy Merritt of the BIGGA Greenkeeping Support Team.

◆ The cut mark could have been affected by the very last match. American qualifier John Kernohan, standing at three over par on the 11th tee, saw his drive heading out of bounds. He hit a provisional but Gavin Kyle of the BIGGA Greenkeeping Support Team had seen the original bounce off the top of the wall and remain in bounds and got a message back to Kernohan. He ended up dropping only one shot and qualify on 4 over par and those on six over missed out.

Information supplied by Gavin Kyle of the BIGGA Greenkeeping Support Team.



Ronan McKeown was presented with the ball which won the Championship by the new Champion Justin Leonard as he left the final green



Top: Tiger Woods found more than his fair share of sand on the final day, losing his chance to win but kept our man Andy Sheehan busy

Above: Pat Murphy with Gordon Child, Bob Lupton and Elliott Small who were presented with watches by BIGGA President Viscount Whitelaw on their retirements from the roles of Regional Administrators in the South West and South Wales, Northern and Scottish Regions



Scottish Chairman Sam Morrison with Billy McLachan Head Greenkeeper at Royal Troon

BIGGA at The Open

◆ Tiger Woods hit a young child with his tee shot from the 7th. Tom Lehman, playing in the match in front went into the crowd to find out if the child was OK.

Information supplied by David Spurden of BIGGA's Greenkeeping Support Team.

◆ The Duke of York walked a few holes with Colin Montgomerie and Mark McNulty's pairing as well as that of Fred Couples and Jesper Parnevik during the third round.

Information supplied by Chris Sheehan of BIGGA's Greenkeeping Support Team.

◆ Peter Leonard struck a scorer on the hand at the 15th hole and the ball, which was heading towards the rough, bounced onto the approach. He then birdied the hole, apologised and handed the scorer £5.

Information supplied by Kneale Diamond of BIGGA's Greenkeeping Support Team.

◆ Vijay Singh and his caddie thought they had one of the Championship heroes walking with their match on the last day. The caddie took one look at Steve Johnstone, of the Support team and yelled to his boss, "Look at that, we've got Darren Clarke with us today!" Vijay turned round and said "Gee yes, So it is!"

Information supplied by Darren Clarke lookalike, Steve Johnstone, of BIGGA's Greenkeeping Support Team.

◆ Kim Macfie was able to catch up with a couple of old friends during the Association of Golf Writers' Dinner on the Tuesday evening of the Championship. Kim, a Troon man and member of the host club, gave the vote of thanks at the wedding of another Troon man Colin Montgomerie and his wife Eimear, and the dinner provided the ideal occasion for Kim to catch up with Europe's number one and his good lady.

◆ President of the South Coast Section, Jim Fry, arrived for the final day of the Championship in style – aboard the Orient Express and wearing one of Arnold Palmer's blazers. Jim, pictured left, had met the great man in the United States and Palmer presented Jim with the blazer. Fortunately they were of similar sizes!



Top right: John Berry was the man who got the show on the road in the first match of the first day
Left: Saturday night football. At least that's what they called it
Below: Early morning or late night? You decide



Report and pictures by
SCOTT MacCALLUM

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- Malton & Norton Golf Club
- Mannings Heath Golf Club
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- Mere Golf & Country Club
- Milltown Golf Club (Dublin)
- Mold Golf Club
- Mount Murray Golf Club (IOM)
- Muirfield (Gullane) Golf Club
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- Royston Golf Club
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- Rye Golf Club
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- Sherborne Golf Club
- Slailey Hall Golf & Country Club
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- Sundridge Park Golf Club
- Sunningdale Golf Club
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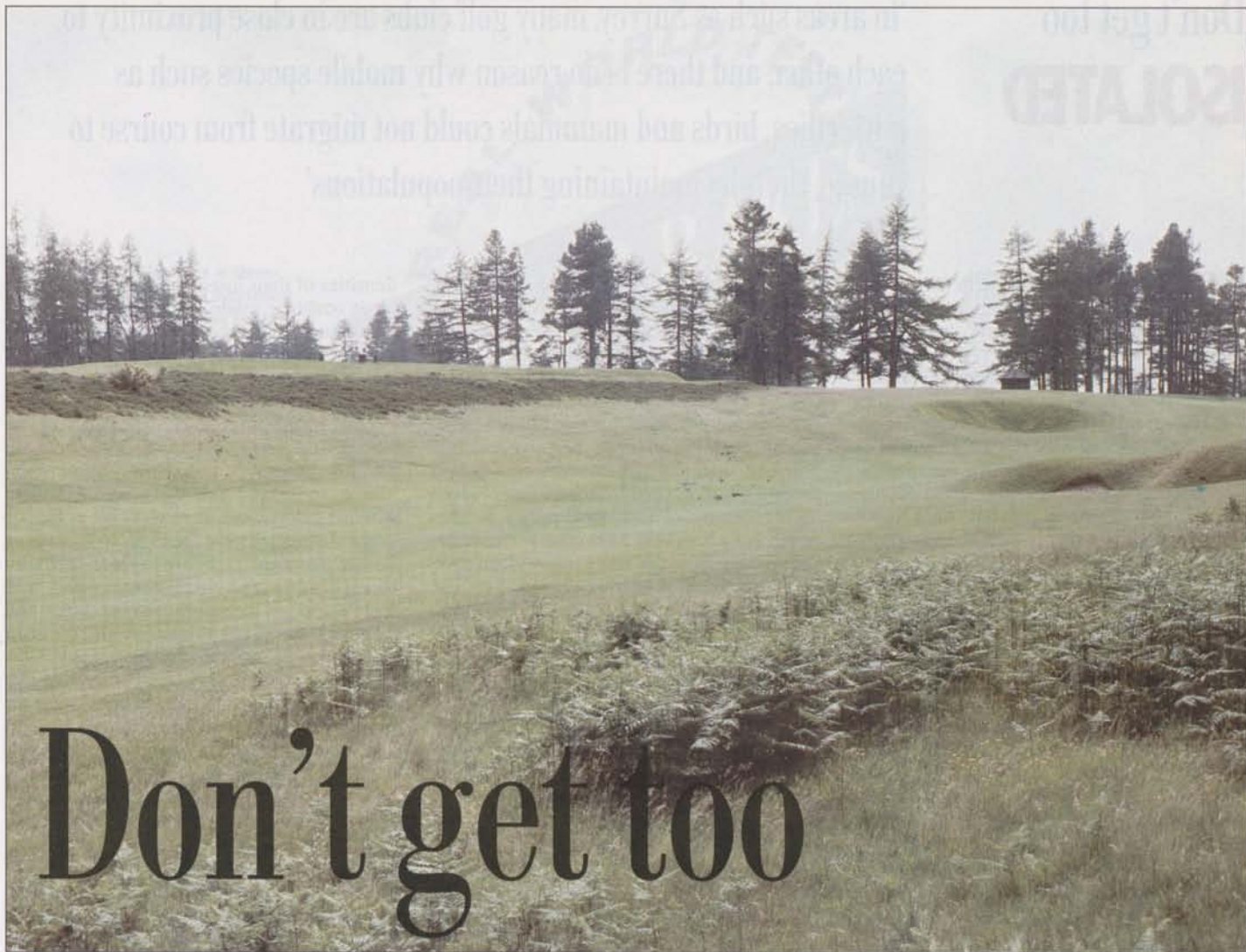
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Don't get too

ISOLATED

Successful heather management on courses relies on the distance between areas of habitat, writes Dr Alan Gange, School of Biological Sciences, Royal Holloway University of London.

Heathland has become an internationally rare and endangered habitat and is one which has been focused on by conservationists in the last few years. A precise definition of this habitat is difficult to achieve, because it usually defined in terms of its landscape properties. Thus "heathland" can be used to describe an open landscape, generally on nutrient-poor, acid soils with a vegetation dominated by low, woody shrubs of the heather family. The two commonest plant species are usually Ling heather (*Calluna*) and Cross-leaved heath (*Erica*). Tall shrubs and trees are usually absent, but other species such as Bracken, Gorse and Broom are often present. In Britain, heathland occurs in lowland and upland areas (such as grouse moors)

but this article will concentrate on lowland heaths, because upland areas are in a less perilous condition.

Britain has over 20% of the European heathland, but in Southern England, the area has decreased from 143,250 hectares in 1830 to 39,450 in 1980, a decline of 72%. Much of this land has been used for farming, which elevates the nutrient status of the soil, making it unsuitable for heather growth and this means it is virtually impossible to return the land to its former habitat. Not only has the area of heathland been dramatically reduced, but the habitat has also become greatly fragmented. For example, one has only to read some of the novels by Thomas Hardy to get an idea of the vast tracts of heathland which existed in Dorset during the last century. However, these large areas have now been broken up into about 800 small areas, set in a matrix of forest, farmland and urban land.

Due to the loss and fragmentation of habitat, many animal and plant species which live

on heathland have become very rare in Britain. For example, the Marsh Gentian, Dartford warbler, smooth snake and a host of invertebrates are restricted to this habitat. Others, such as the sand lizard, nightjar and the Silver-Studded Blue butterfly are characteristic of heathland, but do live elsewhere as well. English Nature have produced a Management Handbook for lowland heaths, but it is interesting that this otherwise excellent publication appears to make no mention of the important role golf clubs can play in the conservation of this habitat. For example, in the area of north-east Surrey, often known as Surrey Heath, there is a great concentration of golf clubs and many of these have areas of heathland on the course. These clubs therefore represent a series of heathland islands, amidst a sea of urban areas.

In recent years, scientists have become aware that an important feature of any habitat conservation is the degree of fragmentation into islands, and the amount of interplay

Don't get too **ISOLATED**

'In areas such as Surrey, many golf clubs are in close proximity to each other, and there is no reason why mobile species such as butterflies, birds and mammals could not migrate from course to course, thereby maintaining their populations'

between them. The technical term for this subject is metapopulation dynamics, which is much simpler than its name suggests. A metapopulation is simply a system of local populations, connected by dispersing individuals. It consists of a number of patches (islands) in which populations of a species are found. All patches may not be inhabited at any one time. The main benefit a metapopulation has over a group of unconnected populations is that if one population on a patch becomes extinct, then it may become populated again by migrants from another patch, hence maintaining the numbers. If there is no migration between patches, then sooner or later, it is likely that all the patch populations will become extinct and the species will disappear from the whole area. Therefore, it does not matter too much if a habitat is fragmented, so long as the fragments are large enough to support a population at any one time, and that there is migration between the patches. Clearly, therefore, the two factors which are likely to affect the persistence of the overall population in this scenario are the size and degree of isolation of individual patches.

At Royal Holloway, my research group has been studying the invertebrate populations associated with patches of heather on one course at the Berkshire Golf Club. We have measured the size and degree of isolation (distance to the nearest neighbour) of heather patches on this course and have sampled the invertebrate community on the patches. Our aim was to see how the patch size and isolation affected invertebrate diversity, so that we can suggest some guidelines for management practises which can maximise species diversity.

Over a range in patch size from 20m² to 1200m², there was no relation between invertebrate numbers and the area of the patch. Therefore, in terms of maximising invertebrate abundance, there is no advantage in a heather patch being very large. This is an interesting result, and one that at first appears to be counter-intuitive. However, an explanation is that for the insects which occur on heather patches on this course, all the patches were large enough to support viable populations, and once one gets over a critical threshold of patch size,

there is then no benefit of the patch being large. We hope to perform more detailed sampling to establish just what the critical threshold patch size actually is for different key species.

Perhaps the most critical finding from this study is the relation between invertebrate density and the degree of isolation of a heather patch. There is a clear negative relation between these two measurements, that is patches which are near to others have a much higher density of animals than do patches which are a long way from others. Therefore, the message from this study is that when managing the areas of heather on a golf course, the patches must not become too isolated. From this study, it appears that patches should not be much more than 100m apart if the density of invertebrates is to be maximised. If a patch of heather dies out, then this may not be too critical for species populations if there are others close by, but if the loss of a patch means that others suddenly become very isolated, this could have serious consequences for the invertebrate species living on those patches.

One may ask why we have concentrated on invertebrates in this study. Apart from being relatively easy to measure, they are also very important links in the food chains which support the vertebrates which also live on heathland. For example, in some parts of the country, the Dartford Warbler populations are now on the increase after successful management of the heathland which led to increased

densities of their insect food. A similar argument could be made for nightjars and sand lizards and still further up the food chain, the smooth snake, which is particularly fond of eating lizards!

We hope to extend this study to other courses in the south east of England, to see whether the results found on this course are part of a general pattern. However, our main aim is to extend the work to investigate whether golf courses themselves act as islands in the metapopulation "sea". In areas such as Surrey, many golf clubs are in close proximity to each other, and there is no reason why mobile species such as butterflies, birds and mammals could not migrate from course to course, thereby maintaining their populations. We know that the areas of heather on a course are sufficient to support viable populations of rare species, for example two courses close to our college in Egham, Surrey have populations of the sand lizard. What we now need to do is to establish whether there is a movement of species from course to course. If there is, then this would be a clear way in which the golfing industry can positively benefit the conservation of endangered habitats. As pressure on land usage becomes ever more acute, I believe that we need to show that tying land up for a long period of time in a golf course development can, if managed in the right way, be extremely beneficial to the environment.

Heather on fairway liphook



REAL WORLD TEST BUNKER RAKES GREENKEEPER INTERNATIONAL

Raking the bunkers is a time-consuming chore and anything to make the task easier is to be welcomed. HUGH TILLEY examines just what's available.

Lots has been said – mostly by golfers and unprintable – about bunkers – those sand traps designed to make play more interesting.

However they need maintenance and while for the most part this is only to remove foot and pitching marks it is another chore which can consume a considerable amount of time, especially on those courses which seem to be more sand than grass. However there are a limited number of machines designed to mechanise the task although not all bunkers are suitable for mechanisation. Conventional wisdom is that some 70% can be raked by machines, or higher where the bunkers have been designed or adapted for machinery.

All machines have three wheel configuration, but some have greater power and all wheel drive, while in general the less expensive machines only have rear wheel drive and about 10 hp. Some machines are based on existing mower, or all terrain, technology which may make parts more readily available and obsolescence less likely.

Perhaps selection depends upon what is expected of the machine, but many clubs expect to use their machines for some landscaping work – and thus have equipped with them with front blades and even centre mounted cultivator rakes to enable them to scarify and push soil and/or sand around. These machines to be used to doze cores off the green and other greens work.

The most important features of a bunker rake is manoeuvrability and this is the main reason for the tricycle format. High clearance and/or short wheelbase also contributes to ease of accessing bunkers. Some machines are fully hydrostatic which should give greater operator convenience and speed of operation – but costs more. Only one operator admitted noticing any lack of power or drive with hydrostatic drive so obviously this is not a problem –

although the sample questioned was small. Mechanical drives incorporate variable speed usually with belt and variable diameter pulleys, and while these will need some maintenance and belt replacement they are relatively inexpensive. Speed between bunkers is also an important factor. With all wheel drive models the front wheel drive may be operator selectable, which is an advantage and generally allows for faster inter-bunker travel.

The tyres most often fitted on bunker rakes are 'knobbles' and although turf patterns are available these probably do not have the grip necessary for pushing sand etc, around. However where the machine is only used for raking and work on greens they may be a best option.

It is generally suggested that mechanical raking is twice as fast as hand raking, furthermore, and

perhaps more important there are important time savings in getting from bunker to bunker.

All the machines are US inspired thus some makes are only available with petrol engines, however, such manufacturers claim that modern fuel efficient engines are not expensive to run and are quieter than a diesel, and this seems to be borne out by greenkeepers with experience of both.

Another important factor for consideration in selection may be sand quality, however this is normally set by the course builder. Bunker rakes – like professional golfers – seem to like the sand firm with just the top layer 'fluffy'. New bunkers with some 100 or 150mm of loose sand can cause some problems for a mechanical rake – and golfers aren't too keen either. Given time, rain and golfers' feet and most firm up.

John Deere 1200 Bunker and Field Rake at Barton on Sea GC

Bought in 1991 and used extensively since then, but backed up by an older smaller machine of another make, Barton's JD1200 is now due to be semi retired and replaced by the newest John Deere 1200A model. However, it has served well and proved totally reliable, according to Course Manager Tony Gadd. Since purchase it has had its 10hp petrol Kawasaki engine re-ringed – in 1995 – and a new clutch installed.

Tony added that a crack in the air cleaner, which was undetected, may have hastened the need to re-ring.

Raking the bunkers is a daily chore, the operator Brian Munden, couldn't remember a day when the rake had not gone out, and the JD1200 is used for virtually all of the 92 bunkers on the two courses – with the minimum of hand work being needed. The machine was also used when the club was resited and extended, particularly for levelling and working the root zone soil over the greens. It has also been used for some other landscaping work with front plough and centre mounted cultivator.

In particular Tony has found the cultivator useful for breaking



Barton on Sea's Brian Munden aboard the John Deere 1200 Bunker and Field Rake

up pans in the bunkers to allow rain through to the underlying drains.

The JD1200 is a two wheel drive non hydrostatic machine with a hand counterbalanced lift of blades and rakes. The new machine will have extra power and Tony admitted that this will be a considerable advantage, however he is still happy with rear wheel traction and hand lift.

Prime of the good points of the machine Tony puts as reliability, and although it is petrol powered the Barton club have found it extremely economic to run, and always a good starter.

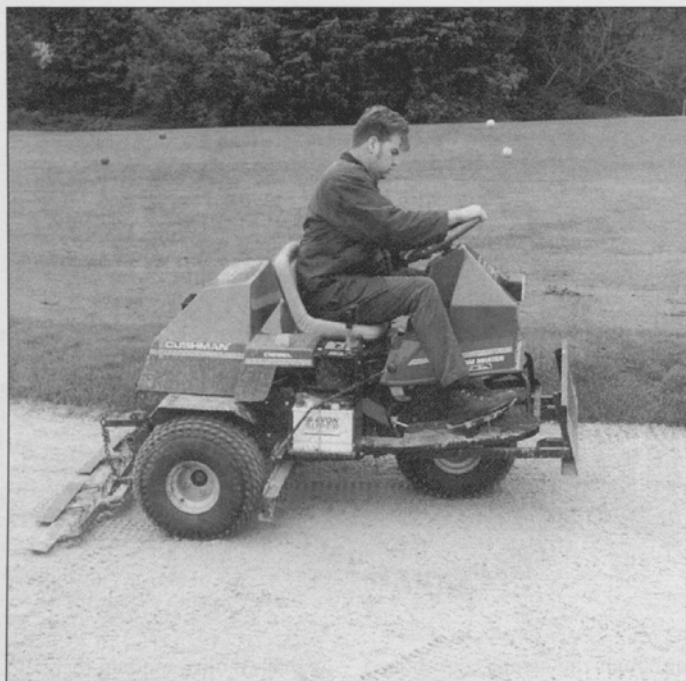
Other vital advantages listed were the JD back-up and the price – which was well within the club's budget. The local JD dealer is about ten miles away but always ready to assist at a moment's notice.

Chippenham Golf Club with a Ransomes Groom Master

Chris Sealey, Course Manager at Chippenham, said that it had taken three years to persuade the greens committee of the merits of using a mechanical rake on bunkers, however now the consensus of the players is that it has considerably improved their quality. Chris estimated that mechanising the task has halved the time taken, taking it from being a two man four hour job, to being a one man operation which now allowed one man to work on another job. Alternatively he has the option of letting the operator take the Groom Master round the bunkers with another man following up to 'tidy up', again with overall time saving and getting clear of golfers sooner.

Another advantage which was commented on was that mechanising the task had ensured that no weeds got a chance to grow in the sand.

Although the Groom Master had been on the course for only a month Chris and his assistants were extremely pleased with it. Duncan Harford, the prime operator of the machine, said the club had tried out all makes before deciding on the Ransomes machine, and the only other that came close was the Toro Sand Pro. As far as he was concerned the most important features in



Duncan Harford gets to grips with the Ransomes Groom Master at Chippenham GC

selection were manoeuvrability and ease of operation. He also commented on the greater power that the Ransomes machine seemed to have.

The Groom Master at Chippenham is a fully hydrostatic drive machine with driver selectable front wheel drive and with hydraulic lift. It looks tidy and very compact, but no comment was sought about ease of servicing.

Chris stated that he had found it important that bunkers be made for mechanical raking, i.e. with minimum corners or steep banking. At Chippenham some hand finishing is required, however no doubt the extent of this will be reduced as experience is gained with the Groom Master and the sand traps are further modified.

Some difficulty has been experienced operating the machine when the sand is not consistently wet or dry, for instance with the surface dry but with wet sand below as this has resulted in the machine producing a wavy surface.

The only service problem has been that the brakes have 'stuck on' – and the operator added that he finds the safety switch is 'annoying' – because it stops the engine as soon as he gets off the seat. There was a suggestion that despite the safety implication this may get 'shorted out.'

One of the significant advantages of using the machine is the improved consistency of the sand across the course as all parts are now raked to the same depth. The machine is equipped with blade and cultivator which will allow the club to move sand around. Another feature that Chris has found is that he can operate even if the sand is wet

and this will aid drying out.

Bunkers at Chippenham are laid with 'Terram' geo-textile over the drains, thus it was important that an even layer of sand is kept over them and that the machine is not operated too deep, but to date this has not been a problem.

The diesel engine option comes with three wheel drive as standard and although the engine is relatively noisy until it is warm no one had voiced complaints about it, however the extra power is noticed. This model is significantly more expensive but it does offer more for the money.

Brian's last word on the Groom Master was "it's a brilliant bit of kit". Chippenham has a simple machinery policy – to buy what is right for the course – thus they owe allegiance to no one dealer or maker, although it was admitted that the Ransomes dealer T H White – was perhaps the best of all those in the area. As the club does not have either mechanic nor dedicated workshop the ability of the supplier is particularly critical.

Jacobsen Smithco Easy Ride at Kendleshire GC

This brand new private parkland course just outside Bristol has just opened up its first nine holes with the second nine anticipated to open shortly. The Smithco Easy Ride was bought ten months ago by course constructor, Adrian Stiff, mainly for levelling and working the greens, thus recently appointed Course Manager Kevin Green, had no say in the specification, nor has the machine seen much work on sand, although it had been extensively worked on the site.

Kevin admitted that the Easy Ride had done an excellent job on what it had been asked to do, however, he reserved judgement on its performs elsewhere – and in the sand. Price and simplicity are in favour of the machine which was supplied by local dealer B S Mowers.

The Easy Ride is powered by a Kohler 8h.p petrol engine and has two wheel drive with a variator belt drive. To date it has some 142 hours on the clock and had needed a new variator belt, however Kevin said this was extremely quick and easy to replace without needing any dismantling. Maintenance of the whole machine is simple with very good access to the engine and drive.

The course has a lot of sand but as this had only just been laid it was expecting a lot of the machine to expect it to operate on it, added to which it had been raining just before *Greenkeeper International's* visit, thus getting



Kendleshire GC's Course Manager Kevin Green and the Jacobsen Easy Ride