

Where are you on the sustainability ladder?



Asks Steve Isaac, Assistant Director of Golf Course Management at The R&A.

WHAT IS SUSTAINABILITY?

The R&A Golf Course Committee has defined sustainable development and management as: Optimising the playing quality of the golf course, in harmony with the conservation of its natural environment under economically sound and socially responsible management. Achieving this is a constant challenge for everyone and there is always the opportunity to become increasingly sustainable. In other words, it is possible to keep climbing the sustainability ladder.

TAKING THE FIRST STEP

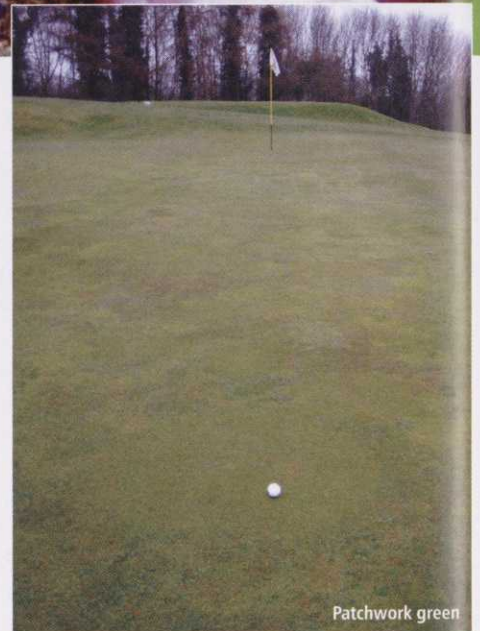
In these terms, the foot of the ladder represents surfaces on the verge of being unsustainable. These will be, for example, greens in heavy shade that support soft, water retentive thatch, dominated by annual meadow-grass, which suffer from disease scarring for months on end, seed head production for months on end and closure over much of the winter - even on occasion through the summer, after heavy precipitation.

Thatch and shade create a poor environment for growing any type of turf

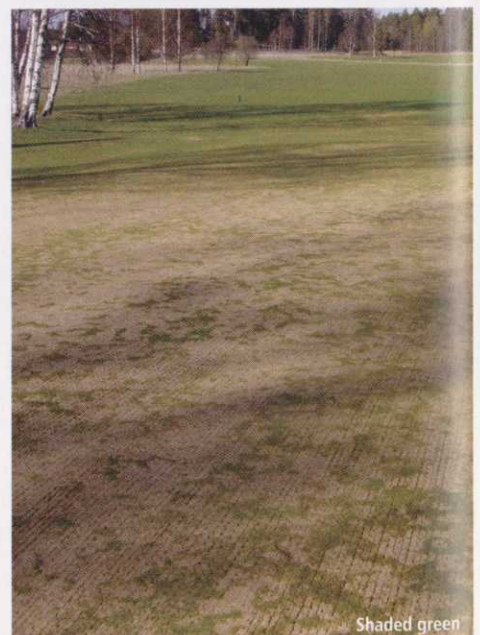
In such a scenario, reconstruction might be considered the only option and a relatively quick way to clamber up a few rungs of the ladder. For those unable to afford this approach, maintenance operations such as coring, deep scarification and top dressing can develop firmer and drier turf, which will be able to take play for more of the year.

Even when you have firmed up the green, if severe shade remains then unhealthy, turf will prevail - prone to disease, heat stress, frost retention and winterkill. Removing trees, even limbs, is rarely popular but in such instances it is either the green or the timber. It is possible to sensitively thin out to gain sufficient light and air movement without clear felling, retaining an attractive backdrop, but without the shadow of death.

Keep working to produce firmer surfaces and it is likely that browntop bent will start to creep into the green, often from the perimeter in. Many who claim to be managing soil push up greens are in reality, after decades of top dressing, working with modified sand profiles with a water retentive base. A reduction in feeding and watering will help continue the trend towards the finer grasses and overseeding may speed up the process - provided you are able to resist the temptation to shave the grass down in a misguided attempt to gain pace. The only long term



Patchwork green



Shaded green

result of this approach will be weak meadow-grass, prone to more disease, heat and cold stress and moss ingress. As the bent slowly increases, the green may well look like a patchwork quilt before the different grasses begin to blend together, as shown in the image opposite.

BEWARE OF VERTIGO!

Once the quantity of bentgrass has developed to produce an even mix of the two grasses, achieved on drier and leaner greens, you may even start to see the odd patch of fine fescue appear to local high spots and drier bunker sand splash zones. This is the signal to start heavy overseeding and to make a further, perhaps more dramatic, cut in fertiliser input. The success of such a programme will also rely on raising the routine cutting height to at least 5 mm - a move which often deters this step towards the top of the sustainability ladder but, if the process is achieved gradually over several years, it can be done without disrupting the quality of the putting surface you present. Indeed, as the proportion of browntop bent and fescue increases, excellent pace can be achieved at a higher cut.

The one thing you must avoid if you manage to reach the heady reaches of the upper rungs, is a return to the environment from which you have come. Pumping on fertiliser and water and lowering the cutter blades, will only result in a much more rapid descent down the ladder. And remember to keep those trees under control.

Remember, the further down the ladder you are, the more reliant you will be on fungicides and irrigation water. Given the uncertainty over future supplies of both, this is not the way to guarantee a sustainable future for the course.

So, the seven steps up the sustainability ladder can be summarised thus:

It is possible to take a breather as you make the climb. Rungs might be missing - blocking further progress if the environment you are trying to grow a better green in cannot be improved. After decades of low inputs and intensive cultural management promoting thatch reduction and compaction regulation, there will be understandable grief if your greens continue to sit towards the bottom rung of the ladder. In this regard it is vitally important that you make some assessment of the potential of each green at the outset of the programme. Steps one to three are, probably, the most disruptive in terms of affecting the quality of the playing surface - thatch removal cannot be achieved without impacting surfaces. For many, this process is not the easy option. Set realistic goals over a sensible period of time and regularly reassess where you are on the ladder and whether it is feasible to continue the climb.

From annual meadow-grass, through a mixed sward to fescue/browntop bent

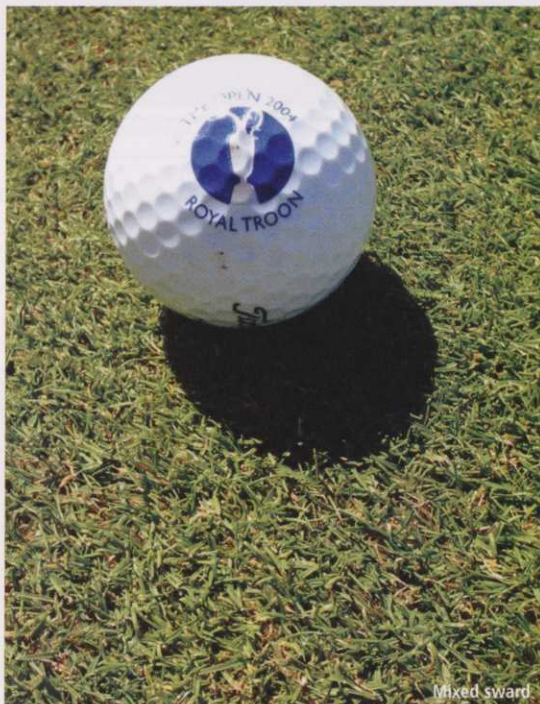
Virtually pure fescue stands, may only be possible from a new construction. Fescue/browntop bent greens may not be attainable by all who care for more mature greens - though these should be the target for those managing links and heathland courses where these species dominate through the green. However, soft, disease-prone annual meadow-grass greens should not be tolerated and everyone should be able to make progress from the bottom rung. It may not be possible to eliminate annual meadow-grass, but the ideal is to reduce it to insignificant levels.

Measuring progress can be achieved through recording changes in species composition, reduction in playing days lost to frost or rain, decreasing fertiliser, water and pesticide inputs. The R&A is in the process of developing tools to quickly and accurately assess the proportion of each grass in the sward, the firmness and resilience of the putting surface and its smoothness. It is all very well bringing about a change in grasses and reducing costs (both economic and environmental) but there has to be the added value of better playing condition over the year and you need the means to measure these. Developing firmer and smoother greens through 12 months will provide this desirable result and we are working to produce tools to assess these aspects of performance.

Climbing the sustainability ladder is all about improving the golfing experience - providing better value for money, better year round playing surfaces and, at the same time, reducing the environmental impact of course management. However, it requires the commitment and support of the club so as not to shake the ladder as you attempt your ascent.



Fescue bent



Mixed sward



Seeding Poa