Golf Course Architect Ronald Fream identifies a problem that may have crept up on you and gives some advice on how to counteract it...

Does your course suffer from green creep?

Golf courses experience evolution, alteration, maturation and aging just as all other living things do. Having the benefit of almost 35 years as a golf architect and observing some courses for 25 years or longer, it is quite easy to notice the incremental, and at times, profound changes that occur.

The alterations I refer to are natural and evolutionary. Golf course maintenance crews cause and enhance alteration. Technological advances have accelerated change. Plant physiology, human genetics, nutrition, television and golf publications have expedited the demand or need for alteration. The focus of this article is on those alterations that are more or less naturally occurring as distinguished from greens committee action or periodic remodelling for design sake.

Green creep is a catch-all phrase I use to describe the inevitable alterations which emerge on every course. The rate of emergence, the frequency and the extent are variable in response to the type of course, location, climate, turfgrass varieties, soil conditions, original design and construction methods. Intensity of, and quality of maintenance, volume of play and financial strength of the owner or operator of the golf course.

Green creep begins to emerge as soon as maintenance begns on a new course. However, it increases in prominence the older the course is. Green creep is part of the aging process of almost every course, everywhere. There really is no easy way to avoid some component of green creep. That green creep is so prevalent and yet so unnoticed, is due to the almost glacial rate of occurrence.

At its most basic, Green creep is altered shapes and sizes of putting surfaces, the repositioning of bunker edges and altered tee surfaces due to insidious, little by little, mowing changes and sand edging practices. These changes can become many feet over time.

Maintenance personnel keep their jobs by not killing the grass. As the person mowing the putting surfaces does the job, each day a little uncut collar is left to prevent scalping. The person mowing tends to cut inside yesterday's cut.

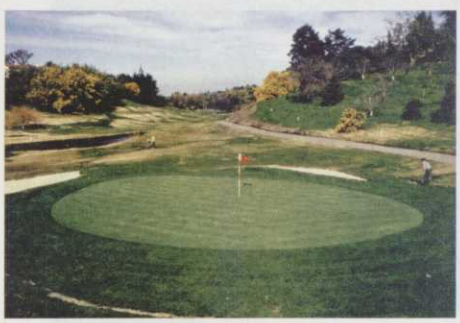
Concurrently, straighter lines or more rounded lines of cut emerge over time. The putting green surface becomes smaller and rounder or oval, more uniform and less visually appealing in shape.

Bunker edging often does not cut back all of the growth that has occurred since the bunker edge was last trimmed. The person doing the edging often overlooks the original outline shape. The grass remaining has grown more onto the sand than before. Continued edging over time tends to cut off or ignore originally designed undulations or irregular outlined shapes. The sand surface area becomes less. What were visible sand surfaces from the tee now are grass. What had been a visible bunker in the fairway is now a slightly visible sand depression or appears from the players view to be only grass. The aesthetic and strategic reason for the bunker has been lost. Now the sand is blind to the player and has become an unfair hazard.

Excessive adding of sand over time tends to flatten and make shallower what originally was a meaningful hazard. Siltation has clogged the drainage system and the bunker is a pond when it rains. In some environments, the action of blowing wind can cause sand to accumulate at one prevailing edge or side of the bunker. Sand accumulates and the grass continues to grow. Now that portion is substantially higher than before. A mound or ridge now obscures what was once visible sand. This same result occurs from the use of mechanised bunker raking machines.

As the green surfaces become smaller and rounder, day by day and year by year, the area for pin placement is reduced. The distance relationship between pin position and adjacent sand bunker is expanded. The golfer's visibility of the sand basin often is

Below: An existing, traditionally shaped green is given a softer and more interesting outline (bottom)



reduced. Topdressing of greens as a normal process of maintenance will, over time smooth out a green surface, remove some original contour and perhaps not make it easier for most golfers, but make the putting surface flatter, less contoured.

Progressively smaller greens, greater distance between pin and sand, less pre shot awareness of bunker locations, all contribute to substantially different playing conditions than the original design possessed.

Changing putting surface shapes do alter what were originally designed-in approach play strategic factors, often lessening the challenge and diversity. Smaller green sites that are more flat and round begin to all look the same. Reductions of 25% or more in pinable green surface is common after 10 or 15 years.

Smaller putting surfaces reduce pin placement options. The original variety in pin placement variation now has become lost. Smaller putting surfaces concentrate golfer wear and tear, increase compaction, turf wear and tear. Deteriorating putting surfaces are the result. Increased maintenance costs are a result. Missed putts are also a result.

Similar slow motion changes occur on tees. Day by day mowing can change the shape, reduce the usable surface, alter the outline edge and adversely impact play and wear and tear. Smaller teeing area is the result. Incorrect or inattentive divot repair and inadequate or incorrect tee surface topdressing will, over time, turn a flat comfortable surface into one more crowned, bumpy, or with a surface sloping in several directions. Traffic induced compaction problems increase. Turf quality often deteriorates. Any of these creeping changes can alter how the player addresses the ball. Inattentive mowing can lead to tee surface alignments not focused on the centre of the fairway or par 3 green site. The person setting the tee blocks often then does not orient the markers correctly and perpendicular to the desired line of play. Inattentive golfers often line up their shot on this incorrect orientation hitting inaccurate shots, wasting time, and raising scores. Miss-hit shots result, through no fault of the golfer.

Changes such as these are incremental and very slow. Ten to 15 years after opening is a good time to really begin to see the difference. However, some green and bunker shape changes can often be noted by year five. When visiting older courses, the extent of change can be remarkable. These changes are so glacial that to the Green Committee or Course Manager, the changes may not even be apparent. The players hardly notice, unless turf deterioration becomes obvious.

A new Course Manager, a new pro or General Manager taking over 10 or 20 years after opening, or a first time player, seldom will even be aware of what might have been the original design intent. The golf architect's name may have been lost. The original design drawings often have been lost or discarded. Unfortunately, these creeping changes tend to soften the course and will remove much of the original playing strategy.

Tree growth also creeps upon a course. Too often, greenkeepers budget little for annual tree care, particularly proper pruning. Players seldom notice the annual growth of a free, yet overplanting of new courses in originally open areas. and too gentle a clearing on wooded sites. leave ample tree growth over time. Ongoing general thinning and reshaping of trees is lacking, so excessive growth results. Creeping tree expansion directly influences golf shots on the same hole differently over time if left untouched. Fairways become narrower. The strategy of play around a tree can be significantly altered.

An alert greenkeeper can regularly overcut the green or tee edge apron by a few inches. A yellowish discolouration will be visible for a few days. However, this repositioning of the putting or teeing surface can help retain the original outline shape and surface area.

Fairway mowing patterns and fairway outline shapes often have crept over time. New machinery at least can provide visually attractive patterns even if the width or outline shape of the fairway has changed over the years. Fairways often become narrower.

Maintained or semi-maintained rough closer to the preferred lie. Rough areas tend to creep inward as well.

Bunker creep and technology have overtaken the irrigation system too. A new more versatile and efficient pumping plant may be necessary. Upgrading the irrigation system controls to computer operation may save labour, improve turf quality and help conserve water and electricity. Reshaping of green sites, or repositioning of fairway bunkers can also require sprinkler head replacement repositioning or the addition of heads to assure uniform coverage. Recent improvements in sprinkler head operation, water distribution and water efficiency may encourage sprinkler head replacement. Adapting to the use of sewage effluent irrigation water may be a necessity of the times in some areas.

Few old and older courses are today

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as they were when they first opened. Noted examples, such as Augusta National, Pine Valley and Pebble Beach, bear little resemblance to their early years of operation, even though current owners or members believe they are holders of the original design or original product. Some changes are committee induced, not green creep however, and still result in substantial alteration from the original design.

Green creep makes courses more homogeneous, more similar in visual and playing appearance and certainly decreases the playing challenge of the original design. Few professional golf architects of the last half of the 20th century would have designed every green round, every fairway flat and every bunker in the image of a peanut

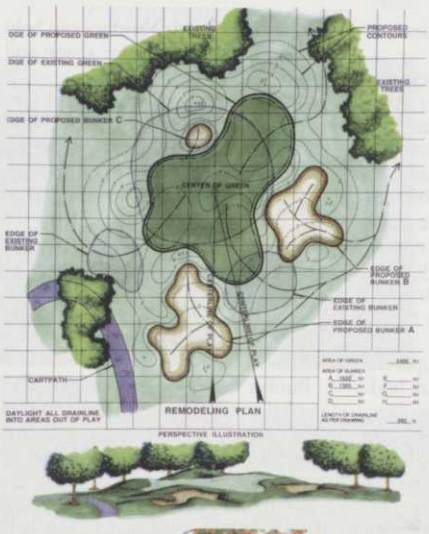
When I am doing bunker and green creep corrections, I feel just like a plastic surgeon. I am doing nip and tuck, wrinkle removal, a little middle-age facelift and enhancement, and a few hair grafts. Pouty lips on a bunker are preferable to thin ones.

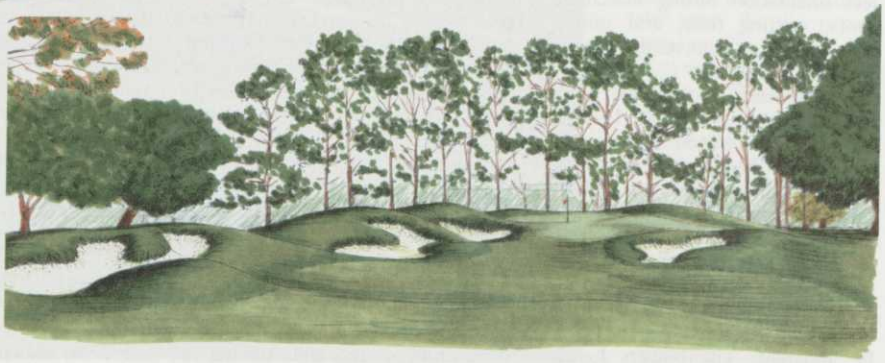
Correcting green creep really becomes a remodelling and modernisation programmeme, even if some effort is devoted to recapturing a long lost glory. Modem volumes of play, enhanced expectations for turfgrass quality, a focus on visual dynamics and who has the toughest course will influence some remodelling efforts. Remodelling to a budget, to meet user market green fees or membership capability is certainly feasible. Revitalising an older course to join today's standards and meet today's expectations while accommodating more play is attainable and can occur in an affordable way. Often corrections can involve only mowing pattern changes or bunker edge re-cutting. A comprehensive master plan should guide more involved elaborate directives. The master plan for a hole or a course should be precise and comprehensive. Accurate working drawings should be utilised. Not only golf design. but also ornamental horticulture and turfgrass agronomics are part of the solution. The corrective effort can occur over an extended period of time, be sequential or priority phased or occur quite quickly over an entire course. Bunker edge corrective changes can occur quickly and have a clear obvious and beneficial result.

To do nothing, and continue with the status quo, is a continuing downward slide. From a competitive viewpoint, the slowly deteriorating course that does nothing in response certainly loses market share to newer courses in the area. Golfers today are highly attuned to the visually dynamic style of golf. Countering years of evolutionary change will have direct and positive economic benefit. To see the problem, to understand there is a problem, is not for everyone to do. Being too close, being there too long, being too new to the situation and not being attuned to the action shields the viewer from the knowledge of what had been and often also what can be. An impartial. experienced eye brings great value.

Much of this article's focus is on easy to implement. relatively inexpensive actions to reclaim what once was there. This must not be confused with the more extensive makeover or upgrade and repositioning that can be very elaborate, involved, costly and very beneficial. An assessment of existing playing conditions, the members desires, analysis of current market competition, user demographics, operational goals, economics, agronomics, local competition and other factors become part of any renovation or modernisation programme.

The restoration or modernisation programme must be carefully planned and correctly implemented. The results can be spectacular, the cost of implementation need not be excessive. Green creep is here to stay and we must deal with it, sooner or later.





Above and right: Extensive planning goes into redesigning existing greens

Ronald Fream has recently joined with Mark James and Andrew Mair to form Golfplan Europe providing source golf course planning, design, construction, turfgrass agronomic, operational and golf academy teaching services.