

Dispelling the myth of Donald Ross's greens

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Hang around the game of golf long enough and you will invariably hear someone—a commentator, journalist, even a knowledgeable fan—refer to the green complexes designed by Donald Ross as being ‘crowned’, which is a fancy way of saying his greens are shaped like inverted punch bowls.

The so-called experts describe Ross’s greens this way in order to offer golf fans a more vivid mental picture of the difficulty of stopping a shot safely on a convex putting surface rife with what are commonly considered Ross’s symbolic fall-away edges.

It’s an understandable enough notion given that Pinehurst Number Two, which Ross designed, lived on and nurtured until his death in 1948, has become infamous for

offering up some of the most dramatic, dome-shaped greens in all of golf.

Yet, unfortunately, as exciting and adventuresome as these descriptions sound, they are nothing short of fallacy. Frankly, there’s enough misinformation out there about Donald Ross green types to spoil restoration efforts throughout the country. In fact, today’s turtleback greens at Number Two do not resemble their original identity, nor are they even in the ballpark of what the Scottish-born architect ever intended.

In the beginning

Early historical photographs reveal that Number Two originally manifested large sand greens, which were perfectly square

and relatively flat, compared to their inflated counterparts today. By 1915, these sand greens evolved with rounder dimensions yet still lacked any significant internal contours because of the possibility of erosion and washouts. Sand greens also integrated with their surrounds ‘at grade’ making bump-and-run shots and ‘Texas wedges’ (putts from off the green) a rather simple task from any angle.

In 1935, Ross developed grass greens on all eighteen holes in preparation for the 1936 PGA Championship. Grass enabled Ross to craft greens and their approaches with much more contour without fear of erosion.

Vintage photos of the United North and South Open in 1936 reveal that Ross articu-

OPPOSITE Pinehurst Country Club (Number Two), North Carolina, USA: Taken on the fourth hole during the 1936 United North and South Open, this image reveals a low-profile green with outer spines and edges that turn in toward the interior of the putting surface. (Photograph courtesy of the Tufts Archives.)



ABOVE Pinehurst: Number Two's fourth green in 1910 manifested a flat, square-shaped sand green. Note the wooden box in the foreground, where golfers could wet the sand to assist them to 'build' a tee. (Photograph courtesy of the Tufts Archives.)

OPPOSITE Pinehurst: Captured from the clubhouse in 1932, this photo shows Number Two's eighteenth hole sand green. (Photograph courtesy of the Tufts Archives.)

lated the outer edges of Number Two's greens up-and-down around the perimeter in an irregular fashion. Spines and mounds would, typically, rise out of swales—and then seamlessly roll back into hollows—around the circumference of the entire green.

According to Peter Tufts, the late great-grandson of Pinehurst founder, James W. Tufts, Ross paid as much attention to the green surrounds as he did to the greens themselves. 'Ross wanted to emphasise chipping in a stronger manner around the green', said Tufts.¹

In the *Pinehurst Outlook*, the local newspaper at the time, Ross described the green surrounds as having been 'cunningly devised

in dips and undulations with bunkers and apparent natural divergence in contour' so one would never have the same shot twice. Ross thought that these humps and hollows presented the golfer 'with an infinite variety of nasty short shots that no other form of hazard could provide'.²

In addition to undulations, Ross thought that higher grass cuts would also promote the art of chipping, instead of putting, from around greens. 'Ross stopped the fairway mowing at the edge of the green', said Tufts, who was also Ross's godson. 'If you missed a green, it might roll a little ways off the green surface until the higher grass cuts would stop it, but it would never roll twenty or thirty feet away', said Tufts³ [like it does today]. Ross never intended for his green surrounds to be closely cropped, nor did he envisage putting to be an option from these locations.

The surrounding humps and bumps also helped visually define the green surface from the approach by breaking up the horizon line on such a flat expanse of property. These landforms, however, varied in location around the border of every green.

Sometimes putting surfaces 'flipped-up' toward the zenith of mounds at the green corners, while other times they 'flashed-up' the peak of spines flanking a side or back-centre location. The 'tie-ins' raised the outer edges of his greens at the high points, thus leaning the putting surfaces back toward the centre of the green, instead of tipping them down as we see today.

Also, hundreds of original green sketches indicate that Ross preferred the portion of his greens bordering bunkers to be 'stiffened'—a term Ross commonly used in his notes to specify a slightly raised edge of approximately one to one-and-a-half feet at the top of the bunker face. The rationale, of course, was to deflect surface drainage away from the sand. Once again, the outer edge of the putting surface adjacent to bunkers originally tilted toward the centre of the green, instead of spilling down into these same bunkers as they do today.

In contrast, the lower cross-sections of his putting surfaces—between these articulating landforms—would gradually float out through a dip or hollow and tie in with the



OPPOSITE ABOVE Pinehurst: The second hole on Number Two, as photographed during the 1936 United North and South Open, showcases Ross's articulating landforms that encase the green. The putting surface flashes-up these articulations to create a concave profile. (Photograph courtesy of the Tufts Archives.)

OPPOSITE BELOW Pinehurst: This image of the second hole, taken from the same perspective seventy-two years later in 2008, shows how the putting surface looks as if it has grown from the inside-out in a convex manner. (Photograph courtesy of Craig Disher.)

surrounds 'at grade', but seldom rolled over to the extent we see today.

Number Two's green evolution

Between 1936 and 1970, Ross's greens grew over a foot (in height) through countless applications of topdressing. It was difficult to notice this transgression from one season to the next, but over a span of thirty years Pinehurst's greens gradually mushroomed skyward with every application of topdressing.

Throughout the summer months, maintenance crews would routinely spread a thin layer of sand across their grainy Bermuda grass greens. The sand particles would effectively work their way down between the leafy grass blades to offer a smoother, more consistent putting surface for their resort clientele.

Each fall, Pinehurst would overseed their greens with ryegrass in preparation for their 'busy season' each winter. According to Ron Whitten, golf architecture and design editor for *Golf Digest*, records indicate that superintendent, Frank Maples, topsoiled each green

with a quarter of an inch of sand every month during the cool season between 1947 and 1949. Essentially, this meant that more than an inch of sand was applied to the green surfaces each year—just during this three-year timeframe. There's no telling how much more build-up accumulated over the next two decades as the practice continued.

Whitten also notes that aerification—the process of pulling green plugs and refilling them with sand—would have helped counteract this build-up, but Pinehurst didn't begin aerifying until the late 1960s.⁴

Like many other Golden Age venues, Pinehurst, interestingly, would only topdress to the green's edge and never out into the slopes around them. While these green surfaces rose more than a foot, the surrounding contours retained their original profile. Consequently, each green evolved with a sharp drop-off at the collar that no longer tied in with their surrounding landforms. Small saddles or low-area 'birdbaths' then formed between the evolved inner lift and Ross's distinctive scalloped edges.

After Diamondhead purchased Pinehurst

from the Tufts family in 1969, the greens would change forever. In an attempt to integrate the evolved green forms with their surrounds, Diamondhead sliced off the topsoil ledges with a bulldozer and shaved away Ross's authentic articulations. In doing so, they carved away more than perimeter green surfaces. Peter Tufts laments, 'they flattened out Ross's beautiful architecture around the greens'.

In 1987, Jack Nicklaus's design team renovated Number Two's greens using USGA specifications, by coring out directly 'on top' of the existing profile. They also converted the greens from Bermuda to Penncross bent and carefully reproduced the contours with a digital terrain remodelling system. No effort was made to lower their evolved elevations to account for years of top-dressing build-up.

Brad Kocher, who came to Pinehurst with the Club Corp acquisition in 1984, acknowledges that the greens have 'inched-up' somewhat over the years, as was evident from the varying layers of soil, sand and organic matter that he witnessed in the subgrade wall. Kocher, who currently serves as Director of

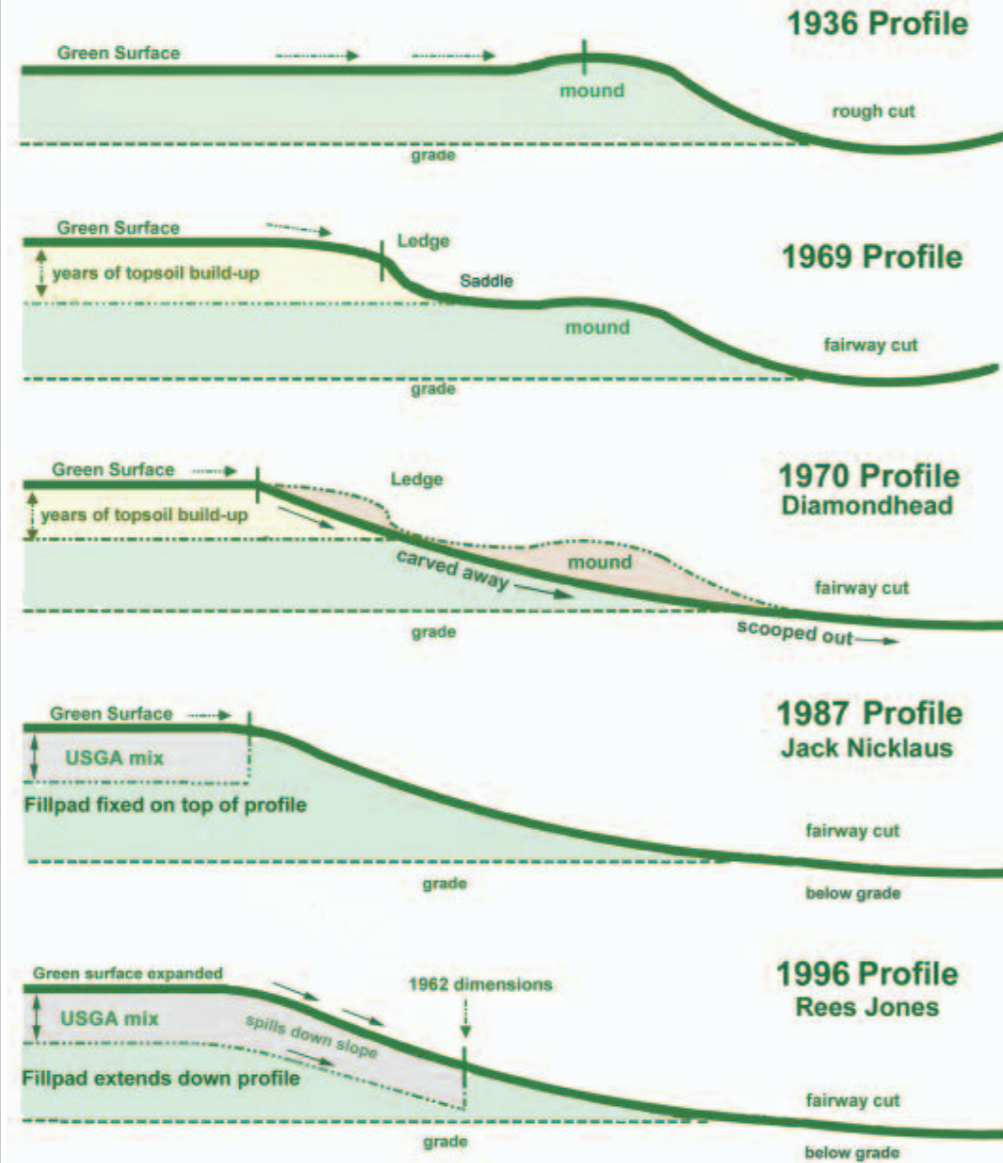




ABOVE Pinehurst: An archival shot of Number Two's eleventh green, showing how it gradually 'floated' out and tied-in with the surrounds (at grade), while the bunker edges were slightly raised or 'stiffened' to divert water from the sand. [Photograph courtesy of the Tufts Archives.]

BELOW Pinehurst: The eleventh green again, this time captured in 2008. Notice how the middle of the green looks bloated and starts tipping over into the bunkers (and the approach) from well within the interior of the putting surface. [Photograph courtesy of Craig Disher.]

Green Evolution Graph of Pinehurst No. 2 (1936 ~ 1997)



Golf Maintenance, isn't convinced that Number Two's greens have risen too drastically though. He offers the following explanation:

When you scoop out all around the surrounds [as Diamondhead did], the height of the green appears accentuated because of the depth of the depressions around it. But if you look at the topography from a remote perspective—to see the fairway level and how it dips before it comes in—then you'll realise the green levels are not that high in comparison.⁵

In 1996, Rees Jones supervised the next green reconstruction in preparation for the 1999 US Open. During construction, a 1962 map was discovered at the Tufts Archives—the Donald Ross repository in the Village of Pinehurst—which indicated that Number

Two's greens were once substantially larger than their 1996 renditions.

In turn, Jones had his construction crew core out and expand the greens mix out to those 1962 dimensions (approximately 60 x 100 feet on every hole). This greatly enlarged the new G2 bentgrass greens, spilling them over the same side-slopes that were carved away by Diamondhead. Yet, once again, there was no attempt to soften the green elevations.

Alas, only the 'slope legends' can put this green metamorphosis into proper light. A case in point: the putting surface on the fifth hole currently occupies 5,897 square feet. Remarkably, only 1,976 square feet (thirty-four per cent) of the green surface slopes less than three per cent and, therefore, can be considered for pin positions given modern green speeds. This, most would agree, is a rather small target-area for a 485-yard par-4.

Even more amazing: fifty-one per cent of the putting surface on the fifth hole slopes in excess of four per cent. A golf ball cannot come to rest in a stationary position on a four per cent plus incline.⁶ Somewhat ironic, these are the roll-away slopes around the perimeter that comprise more than half the green surface today.

However extraordinary and special Pinehurst's greens are—some would even say 'magical'—they don't reflect the craftsmanship of master architect Donald Ross.

OPPOSITE Pinehurst: Depicted from a cross-section perspective, this illustration charts the evolution of the greens at Ross's Number Two. Due to maintenance practices and architectural adjustments, the profiles of the greens have changed over the years—especially, with how they tie-in with their surrounds. (Drawing by W. Dunlop White III.)