



Jeffrey D. Brauer is a licensed golf course architect and president of GolfScapes, a golf course design firm in Arlington, Texas. Brauer, a past president of the American Society of Golf Course Architects, can be reached at jeff@jeffreydbrauer.com.

Introducing native areas

Using native areas to save money and be environmentally friendly is becoming more popular. While native areas aren't maintenance free, the savings are substantial enough, according to Pizzo and Associates. (See chart below.)

In theory, a 10-acre turf reduction could save \$46,000 annually and benefit the environment by filtering golf course inputs; increasing wildlife population; and reducing irrigation, mowing and fuel consumption. Often, the contrast of colorful natives compared to green turf enhances course aesthetics.

However, there are practical considerations when adding natives to a course, including the trade-off between less turf and slower play. So, where do you reduce turf without increasing the time it takes to play a round of golf?

Native planting savings

Year	Turf	Native	Savings %
Planting year	\$14,190	\$5,330	62.4%
Years one through three	\$42,480 \$14,160 annually	\$31,236 \$10,412 annually	26.5%
Year four and beyond	\$5,160	\$546	89%
Total	\$61,830	\$37,112	40% over four years

Presumably, reducing turf areas increases the time it takes to look for lost balls. However, a recent USGA-sponsored study about lengths and dispersions of tee shots provides clues to minimize that time. The study was conducted on a public course in New Jersey on a 323-yard par 4 that has a bunkerless, 35-yard-wide fairway. Of 200 players, 20 used the back tee, 30 used the forward tee, but the 150 players who used the middle tee were the only ones measured. (See chart below right.)

Twenty-two percent of tee shots didn't make the chart because they were hit shorter than 130 yards. Presuming most drives are 90-percent carry and allowing some cushion, it takes a maximum carry of only 120 yards to achieve a 75-percent success rate. Every extra tee shot and/or the time it takes to look for a lost ball will slow play, so the shortest possible carry is strongly recommended.

In his book "Pace of Play" published by the National Golf Course Owners Association, Bill Yates determines the expected playing time of individual courses, rather

than automatically accepting the four-hour round, which, for many courses, isn't practical. The time it takes to play a round is affected most directly by starting intervals. A nine-minute interval between tee times puts the same amount of golfers on the course as seven-minute-interval tee times. A good starter who can say "no" to additional tee times also is important. However, course length and difficulty, travel time between holes, and golf car policy also impact play.

If it takes the typical four hours and 30 minutes to play a round on a course, then:

- 90 shots are taken, each taking one minute;
- Travel time to each of those shots is 1.5 minutes;
- Travel time between each hole is two minutes; and
- The average time it takes to look for two lost balls is nine minutes.

With nominal, 120-yard forced carries on every hole, the average player would take another four to five shots per round, which adds 4.5 shots and 20.3 minutes to search for lost balls, or 25 minutes added per round.

The time added by a tee shot landing in a nonplay area varies. With wetlands or lakes, there will only be the added time to play the provisional ball. A loosely grassed prairie might encourage looking for the ball for five minutes, while a dense prairie might encourage golfers to cease looking. Nonetheless, leaving playable turf between the middle tee and landing area is a significant time advantage. Having native carries only on par 3s or offsetting back tees to have larger carries over native areas wouldn't affect play as much.

Tee shot dispersion also is a concern. The same USGA study shows dispersion off the intended centerline.

Here, the picture looks rosier: 80-yard play corridors keep four of five tee shots in play, 70-yard corridors are acceptable, and 60-yard corridors or narrower cause

too many lost balls. If you're retrofitting a course, the corridor width should be tailored to your irrigation system. A double-row system covers about 45 to 55 yards, a triple-row system 65 to 70 yards, and a quadruple-row system 90 yards or wider. If you're using native grasses, part circles are recommended on the edges because watering natives often creates a weedy mess in the area nearest the fairway, while outer areas are thinner, helping golfers who go further off line. And the maintenance of additional weeds caused by irrigation might eat up any cost savings.

Other considerations – soils, sunlight, traffic and drainage – are typical of any crop. Selecting the right plant mixture for your conditions is imperative. Most areas have a native seed nursery that will have a practical plant list and mixes to consider.

On an existing course, it's wise to start small and carefully introduce natives to test establishment, maintenance and acceptability from golfers before implementing the complete program. Perhaps keeping corridors wider at the 190- to 240-yard range and narrowing beyond this might be the best.

Each course should examine the savings – \$46,000 seems high and would most likely be allocated to other worthy maintenance needs. You can estimate, based on play levels, what the extra half-hour might cost you in tee times and revenue to determine whether adding native areas helps or hurts you financially.

Losing a half hour of tee times every weekend day could easily be 12 golfers a day or about 1,000 golfers a year directly through slower play and others indirectly because your course is less fun to play. If you average \$46 per golfer, you lose the maintenance savings, and perhaps some golfer goodwill. That's why a careful study of how a native grass planting program would impact your facility is critical before you take the leap. GCN

USGA one-day driving distance study – distribution

Total yards															
130	140	150	160	170	180	190	200	210	220	230	240	250	260	270	280
Carry yards															
117	126	135	144	153	162	171	180	189	198	207	216	225	235	243	252
Percent of tee shots successfully making the forced carry															
78	75	71	68	66	62	52	43	36	30	28	19	12	8	2	1