Lawns and rewilding Economist

<https://www.economist.com/1843/2022/08/16/the-going-gets-turf-do-lawns-have-a-future-in-the-age-of-drought>

**The going gets turf: do lawns have a future in the age of drought?**

**Tom Banham – Economist 1843 Magazine 16 August 2022**

he lawns at Tusmore House, a neo-Palladian mansion 15 miles north of Oxford, are so perfectly flat and exactingly shorn that they induce a kind of vertigo. Unlike familiar grass, with its divots and erupting daisies, the grass here feels as though it might evaporate underfoot in a cloud of pixels. On a sticky afternoon last summer, David Hedges-Gower, a four-decade veteran of the turf industry and grass whisperer to the wealthy, inspected what looked to the layman like flawless green carpet and found it wanting.

Paul Gough, Tusmore’s head gardener and the man responsible for the lawns’ day-to-day upkeep, agreed. Ordinarily, he’d mow the grass down to 12mm, just long enough to withstand seasonal variations in temperature and rainfall. But Tusmore’s owner, Wafic Saïd, a Syrian businessman and philanthropist who once helped arrange a $50bn-and-counting arms deal between Britain and Saudi Arabia, had been in residence, so they’d mown golf-green short. Weeks of [scorching heat](https://www.economist.com/1843/2022/08/16/the-going-gets-turf-do-lawns-have-a-future-in-the-age-of-drought) and relentless rain had bruised the turf. There were spots of fungus and clover, as well as encroaching annual meadow-grass, which is subtly different to the bentgrass and fescue that were sown here at great expense. (The difference is too subtle for herbicides – patches of meadow-grass have to be cut out with a pocket knife.)

Tusmore’s lawns, which cost £100,000 ($120,000) to install, are three concrete bowls filled with a layer of gravel topped with a soil mix that is 80% sand, which has been milled to a specific shape and size, and 20% compost, for optimum drainage. The mix is porous, so water and fertilisers can drain out rather than build up in unpredictable ways, and sterile enough to prevent harmful bacteria from surviving. This method of grass cultivation is vastly more demanding than your average lawn requires, but it affords Gough complete control.

At Tusmore, Gough’s six-person team spends at least 12 hours a week nursing these three lawns, which cover less than 0.1% of the 22-hectare gardens. They mow and water, apply organic fertilisers and winkle out weeds by hand. They scarify the turf with rakes to remove moss and loose grass, and break up thatch – unwanted debris that clot the bottom of each blade. The grass roots are aerated with a hollow coring machine, a trick Hedges-Gower learned as superintendent at Oxfordshire Golf Club, a tired course that he turned into one of the world’s best. “When it’s near its premium”, Hedges-Gower said, caressing the turf, “this would be one of the best lawns in Europe.”

**There are around 12,000 different species of grass, making it the fifth-largest family of flowering plant**

The perfect lawn is always perfect in the same way: verdant grass of even length with stripes maintained by regular mowing. The most desirable garden looks like the pitch at Wembley or the greens at Augusta.

Yet from another angle, a lawn is gardening as totalitarianism. We spray herbicides to kill weeds, then layer on fertilisers to provide the nutrients they would have supplied. We water liberally so grass can thrive, then spend hours every Sunday negating that hard work, mowing a few centimetres off a plant that grows a few centimetres each week. This seems like madness, especially at a time when drought has been declared across large stretches of Britain and much of the rest of Europe, and hosepipe bans have come into force. Surely there is a better way?

rassland is vital to the planet’s existence. Excluding Antarctica and Greenland, over 40% of the planet’s terrestrial surface is home to grassy biomes – Africa’s savannahs, America’s prairies, Eurasia’s steppes. As well as supporting animal life from elephants to insects, they hold around a fifth of global carbon stocks.

Before our ancestors became farmers, they relied on grasslands to feed the herbivores they hunted. The advent of agriculture in around 9000bc may have begun the destruction of these environments but, paradoxically, many crops are also grasses. Wheat is a grass, as is rice. So are barley, maize and oats. The histories of humanity and grass are so entwined that it’s now impossible to distinguish between man-made and natural grassy habitats.

There are around 12,000 different species of grass, making it the fifth-largest family of plants. Grasses commonly used for lawns will grow close to a metre high, if left untended in friendly weather, such as that usually found in the north-east of America and northern Europe. The blades thrive in nutrient-rich environments, which is why they typically grow alongside nitrogen-fixers such as clover, which return to the soil what the grass draws out. Their flowers support pollinators and their shoots insects, which provide food for mammals and birds.

“There is almost no life force in a mown lawn,” says Dave Goulson, a professor of biology at the University of Sussex in Britain. The health of an ecosystem can be measured in its biodiversity. By that metric, lawns that comprise a single type of grass are dead. “You’re not going to support many insects, which means you’re not going to support many insect-eating birds or anything else,” he said.

In his book “Silent Earth: Averting the Insect Apocalypse”, Goulson warns that the rapid decline of insect populations over recent decades might cause food production to collapse, with society following soon after. Lawns didn’t get us to this pass – blame intensive agriculture, among other causes, with its 40-hectare fields and dependence on invertebrate-killing chemicals – but they might offer a means of escape. If gardens, parks and verges were returned to their natural state then they would become more hospitable to insects. “One small garden is not going to make much difference,” said Goulson. But there are almost 23m private gardens in Britain, covering more than 400,000 hectares, an area almost five times larger than all Britain’s national nature reserves combined. (By comparison, more than 4.5m hectares are given over to arable crops.) “We can all do our bit in our own little patch,” he said.

In 2018 Plantlife, a conservation charity, launched No Mow May to encourage people to let their grass grow in late spring so wildflowers could bloom and provide pollen for insects. During last year’s campaign, participants discovered more than 250 different species of wildflowers in their lawns, including eyebright and meadow saxifrage, once the quintessential plants of Britain’s rural landscape.

The environmentalists face a tough battle to drive us off our lawns. Tradition is a powerful counterweight. But the simplicity of their solution is in their favour: stop mowing, stop spraying, stop worrying about perfect stripes and precise edges. “We don’t need flat areas of mown grass,” says Goulson. “If we have to pay an environmental price to have them, what the hell are we doing?”

**T**he modern lawn was invented in France and perfected in England. The *tapis vert*, or green carpet, was an innovation of André Le Notre, whose gardens at Versailles were an expression of Louis XIV’s absolute power over the natural world as well as his subjects. When run at full tilt, the estate’s fountains consumed more water each day than the population of Paris. To conserve water, engineers devised a system of whistles to warn each other when the Sun King was approaching, so fountains could be switched on and off as he passed.

Lawns were not unknown in Britain, but Charles II gave them the royal seal of approval. He was so enthralled with Louis’s gardens that when he returned from European exile in 1660 after the death of his adversary, Oliver Cromwell, he commissioned another Frenchman, André Mollet, to redesign St James’s Park in London in the same style. By the early 18th century, English tastes had shifted. The gentry and newly wealthy industrialists wanted their country houses to sit in the kind of sprawling Italian landscapes found in paintings, with grottos, lakes, the odd Roman ruin and endless lawns.

The length of grass on these estates depended on its proximity to the main house. At the farthest reaches, the grass grew untouched into wilderness. Closer in, mowing was delegated to sheep and cattle. But animals don’t munch uniformly and leave hazardous deposits for unwary feet. So teams of scythemen were employed to trim the recreational lawns nearest to the house.

These lawns spoke of wealth as eloquently as the mansions they ringed. They were not just expensive to maintain but also a signal that the owner was willing to sacrifice perfectly good farmland for a manicured view. They served no purpose beyond the occasional game of pall-mall – an early form of croquet – or bowls.

The Victorians fertilised lawns with morality. The rise of rail networks enabled the middle-classes to flee sooty, overcrowded cities for a more bucolic life in the suburbs. These new homes, with their [private gardens](https://www.economist.com/1843/2021/09/19/grassroots-politics-the-secret-symbolism-of-gardens), were miniaturised versions of the country mansions to which their occupants aspired.

**Stop mowing, stop spraying, stop worrying about perfect stripes and precise edges**

Their lodestar was John Claudius Loudon, a Scottish gardener, whose mission in life was not just to “improve gardeners’ knowledge…but also to raise their moral and intellectual character,” as his wife, Jane, put it after his death in 1843. He published voluminously on garden theory, at the centre of which stood the lawn.

“The man who…sows a grass plot in his garden lays a more certain foundation for enjoyment than he who builds a wall and lays down a gravel walk,” Loudon wrote in the “Suburban Gardener and Villa Companion”, published in 1839. By tending a garden, an Englishman would improve his own character. “To labour for the sake of arriving at a result, and to be successful in attaining it, are, as cause and effect, attended by a certain degree of satisfaction to the mind,” he wrote.

Followers of Loudon were aided by a recent invention. In 1830, Edwin Beard Budding, an engineer, built the first lawnmower. His new contraption was perfectly timed for members of the middle class who could not afford a team of scythemen. Lawnmowers revolutionised leisure as well as horticulture. Cricket, golf, tennis and football were all transformed by smooth turf. As the British Empire expanded, lawns sprang up in places where they had no right to exist, from the Australian desert to the Rhodesian savannah. The manicured lawns of the Taj Mahal were installed only at the turn of the 20th century by Lord Curzon, viceroy of India, who decided that Shah Jahan’s masterpiece needed a formal English garden to make it sing.

Lawns were slower to take off in America, perhaps because the landscape was more unforgiving, perhaps because the absence of an aristocracy meant that their tastes didn’t trickle down through society. During a tour of America in 1842, Charles Dickens wrote that “the well-trimmed lawns and green meadows of home are not there”. Homeowners grew food in their yards or let nature take its course.

Turf was popularised first in the public sphere. In the 1850s, after a gardening tour of England during which he visited Birkenhead Park near Liverpool, the world’s first publicly funded park, Frederick Law Olmstead was inspired to create something similar for the people of New York. Central Park, laid out on a 750-acre plot in Manhattan, became the lungs of the city, a place for the poor to escape their tenements and ogle the wealthy in their carriages. It set the model for America’s civic parks as places of leisure rather than formality.

Private lawns became a secular religion only after the second world war. Suburbs spread like crabgrass as veterans were offered low-cost mortgages. Thousands of hectares of orchard and crop-land were ploughed up to build millions of houses joined together by smooth, green grass. Levittown, which was constructed by a property-development company in Long Island between 1947 and 1951, was the archetypal example of these planned communities. Lawns were unfenced to encourage neighbourly mingling and shared responsibility for their upkeep. Abe Levitt, the company’s founder, thought that military discipline should apply in the domestic sphere. “An unkempt creature thinks little of others and less even of himself. It is so with a dwelling house and so with a lawn.”

By the late 1950s, lawn mania had taken hold nationwide. Conformity was America’s buttress against communism and stray weeds were politically suspicious. Chemical companies realised there was a captive market for the herbicides and pesticides they had developed during wartime as weapons. In a few years, these substances transformed lawns rich with clover, buttercups and chamomile into grass deserts. (Clover became a pariah only in the early 1950s because, like dandelions, it could be killed by 2,4-d, an ingredient in the defoliant Agent Orange. Thus went the marketers’ logic: if it was killed by a weedkiller, a weed it must be.) Lawns now cover around 16m hectares of America, which could carpet New York state with enough left over to turf New Hampshire. Lawn grass is by some distance the country’s most extensive irrigated crop (corn is second, with nearly 5m hectares). This is necessary, since the climate in much of the country is unsuitable for cultivating grass. Lawns in Michigan can survive on natural precipitation alone. Those in Yuma in south-west Arizona, which has an annual rainfall of 9cm, need tens of thousands of litres of water per hectare each week to maintain prime condition. Yet zoom into Yuma on Google Earth and you’ll see house after house encircled by lush green grass. A study by nasa from 2005 estimated that, even accounting for rainfall, just under 100trn litres per year was required to keep America’s lawns lush, roughly the same amount of water that irrigated 23m hectares of farmland in the country in 2018.

Voices have been raised against the lawn since the middle of the 20th century, but they have struggled to be heard. Rachel Carson’s 1962 jeremiad against the pesticide industry, “Silent Spring”, revealed the dangers in then-common lawn chemicals, such as chlordane, ddt and 2,4-d. The first two were eventually banned, but 2,4-d is still ubiquitous, despite being considered a potential carcinogen by the World Health Organisation. Farmers around the globe can only use it under certain weather conditions; domestic gardeners can buy it in supermarkets and spray it without even reading the label.

**T**o stripe a lawn, you flatten strips of grass in opposing directions, so it catches the light in different tones. The easiest way is to walk a mower with a revolving drum up and down, but you can achieve the same effect with a broom. The stripes will gradually fade over a couple of weeks, as the grass straightens. If you want to keep them, you have to mow or sweep again.

In 2016, when Keith Chuck, an accountant in Birmingham, won Britain’s Best Lawn, his gardener, Danny Hibbert, mowed it every day all summer. Hibbert, now in his early 40s, was determined that this would be the year he took home the top prize. He had caught the grass bug as a child. His friends played sports, but he fell for the playing fields. When he walked past Burnden Park, where Bolton Wanderers, the local football team, played in those days, he would glimpse the goal posts and the pitch through the gates. “It’d send a feeling of nervousness through my body,” he says. In 1992, the Premier League was broadcast live on television for the first time. Hibbert ignored the action because he was so enthralled by the “chequered carpet” beneath the players’ feet.

**Conformity was America’s buttress against communism and stray weeds were politically suspicious**

Gardening never felt like an option as a career – Hibbert had planned to become a joiner. But his parents separated when he was 14, and he was drafted in to prepare the garden so they could sell the house. He bought moss killer and grass seed with money from his paper round. He raked and sowed and fed. “Before you knew it, I had the best lawn on the street,” he says.

At the age of 18, Hibbert set up on his own as a gardener. In the past decade, Hibbert has become so sought after for his lawn-care expertise that he’s been able to specialise. “I don’t really like gardening any more,” he told me. The expectations of his clients have changed too. They now understand that if they want a lawn as verdant as those on “Match of the Day”, they need someone who knows grass, not begonias. He vets clients to make sure they know how much work – and money – goes into creating and maintaining a beautiful lawn. “I’m spending per square metre what they spend at Wembley and I’m there every day. It’s not that I just turn up and cut once a fortnight. I live there.”

Laying a brand new lawn is simple – you need soil and grass seed, and you must feed and mow it – but also uncommonly complicated. If your lawn needs an overhaul, it’s because of what lies beneath. Compacted soil gets waterlogged and breeds moss. Clay soils hold nutrients but they grow sticky when it rains and crack in [the sun](https://www.economist.com/1843/2022/07/28/the-sun-is-both-our-creator-and-destroyer). Sandy soils have excellent drainage yet all the goodness leaches straight out. Old soil teems with chemicals that have built up over the years. Resetting it is an arduous process of trial and error that can take years to take effect. Easier, then, simply to scrape off the top layer with a digger, which removes the seed bank where weeds lurk, and replace it with new sterile soil.

Every lawn expert has their own preferred blend. Hibbert’s lawns are grown in a soil that contains dust and crushed bricks. “It’s gritty but it doesn’t compact, so you can walk on it straight away and it doesn’t turn to mud,” he says. Before the soil goes down, he tests it in a lab for acidity and nutrient levels.

The ryegrass seed mix used by Hibbert is also found at Old Trafford, Manchester United’s stadium. It establishes itself quickly so you can go from sowing to mowing in a few weeks. Among turfies, the debate over which grass is best can get heated. Those who opt for bentgrass and fescue, such as Hedges-Gower, the lawn consultant, think ryegrass is for sports pitches, [not gardens](https://www.economist.com/1843/2016/08/15/how-the-garden-grew), and requires frequent reseeding. Hibbert and his ilk counter that fescue lawns are like an Italian sports car – beautiful, but you’ll spend more time maintaining than enjoying them and they’re completely impractical if you’ve got kids.

Once the soil has been decanted, Hibbert spends days on his hands and knees with a rake and a spirit level, getting it perfectly flat. Others used lasers to guide them but Hibbert rejects techniques that are not available to everyone. He uses peat-based compost despite its environmental cost – peatland stores more carbon than all other vegetation combined, and releases it when it’s disturbed – because it works best. And he sprays glyphosate, a non-selective weedkiller, because it kills any plant that is in the wrong place, even though studies link exposure to an increased risk of cancer. “Until the government says it’s banned, I’m happy to use it,” he says. His goal is the perfect lawn.

Not all enthusiasts share this aim. Hedges-Gower believes that there is a third way between the lawn purists and the militant rewilders. He advocates for eco-conscious lawn care that eschews chemicals, favours electric mowers and prioritises native grasses that grow easily. This makes him a target for what he calls “mental lawn enthusiasts”, who attack him on social media when he criticises their addiction to sprinklers and herbicides. But he also butts heads with anti-lawn activists. “If you’ve got two hectares and you can let rewilding happen then great, but it’s difficult when you’ve only got 100 square metres and a dog.”

Hedges-Gower wants lawn-owners to live at ease with drought-induced brown patches. This grass is dormant, not dead. It will spring back to life at the first rain. His motto is work with nature, not against it. “You can go into the middle of Dartmoor and find a beautiful piece of grass and the only thing maintaining it is a cow or a sheep or a horse,” he says. “If it’s that easy, why do we make it difficult?”

Hibbert, by contrast, loses sleep over the weather, which is becoming more unpredictable. When he started working, he could rely on dry Marches and wet Aprils and Mays. Now, March and April are often dry and the rain doesn’t come until later. Rising temperatures have also extended his work year. “I used to put the mower away in October. Now I’m mowing in December. I think in another decade, I’ll be mowing in January.”

**A**t around 11am on a balmy Monday in early August last year, two shire horses clopped over the bridge at King’s College in Cambridge, where a hundred yards of lawn roll gently from the west end of the college chapel to the banks of the River Cam.

This view was made famous by J.W.M. Turner, who painted it in the 1790s. The vista is largely unchanged with one main exception. In 2019 Steven Coghill, the college’s head gardener, ploughed up a strip of turf nearly 40 metres long and sowed it with a specially blended seed mix. This was the first step in converting the sterile lawn into a glorious wildflower meadow. In 2020, it bloomed in a riot of red poppies, white oxeye daisies and violet cornflowers. Last year, wild carrots exploded, their lacy white flowers wafting between golden kidney vetch and yellow rattle. The meadow offered a multisensory experience. The air was ripe with the smell of blooming life, a vegetal funk punctured with wafts of mint and citrus. The noise was extraordinary: crickets churred and insects hummed. Butterflies swarmed the path and flitted away from the whirling arms of the children who stampeded past.

**Central Park became the lungs of the city, a place for the poor to escape**

A pair of 19th-century mowers awaited the horses. Coghill beamed as he watched them step towards him. He is an avuncular figure, with the thick arms and restless air of a man who’s spent four decades working the land. (When I later requested a sit-down interview, I was told that would be impossible – he was happy to talk, but there was no way he could stay still.)

Coghill had worked hard for this moment, bureaucratically as much as horticulturally. King’s is one of Cambridge’s oldest colleges, and tradition still weighs heavily. Ask Coghill what it took to make his meadow a reality and he’ll tell you a joke: “How many Cambridge fellows does it take to change a lightbulb?” Answer, in a Lady Bracknell voice: “*Change?!*” He had to win permission from the gardens’ committee, who agreed to a five-year trial only because converting the meadow back into a lawn would be as easy as ploughing it up and reseeding with grass.

The meadow was partly a response to inevitability. In 2018, the eu, supported by the British government, banned neonicotinoids, a class of insecticides linked to colony-collapse disorder, a mysterious phenomenon that has gutted honey-bee populations worldwide. These chemicals were Coghill’s only effective defence against chafer beetles, which thrive in the [hotter summers brought on by climate change](https://www.economist.com/1843/2022/01/31/can-the-winter-olympics-survive-on-a-warming-planet). Their grubs feast on the roots of grass plants, turning the blades yellow and drying up the turf. Within weeks, an infestation can turn a lush lawn into a ploughed field.

This was a “rubbish lawn” even before the beetles arrived, according to Dr Cicely Marshall, a botanist at King’s who has been studying the biodiversity in the meadow. The soil is sandy, so demands huge amounts of fertilisers, pesticides and irrigation, which trickle down to the River Cam. According to Marshall, the meadow reduces emissions as it does not need watering or chemical treatment.

Meadows were once a defining feature of the British landscape. Open fields of grass and wildflowers were left untended and mowed once a year, in early autumn, to produce hay to feed cattle and working horses. But intensive farming methods, and a shift from hay to grain-based feeds, left them obsolete. As a result, 97% of them – 3m hectares – have been lost since the 1930s, mostly to agriculture. Many plants that were once common, including poppies and cornflowers, are now endangered (“weeds, but beautiful weeds,” says Marshall).

Prettiness, however, is not the point. The meadow is a step towards reversing the collapse of fauna and flora in Britain. British ecosystems are half as biodiverse as they were before the Industrial Revolution; in the past decade the country has missed 17 out 20 conservation targets set by the un, according to analysis by the Royal Society for the Protection of Birds. Though the King’s meadow is a mere shoot in the ecological desert, Marshall is staggered by its impact. Last year, her survey found 130 species of moth, including a lunar yellow underwing, once common throughout Britain but now found only in a few locations in south-east England. The number of plant species tripled, and the height of the sward provided a home for insects. These attracted birds and bats, including the western barbastelle, a bat with a squashed face that looks like a tiny, winged pug and is under threat.

Coghill is a philosophical horticulturist and sees himself as the guardian of his patch, indebted to its past and invested in its future. A pragmatic romantic, he recognises the role of the lawns under his care – their historical significance, the way they set off the buildings they flank – but still itches to be creative. He has driven a somewhat more environmentally friendly approach to turf care on the college’s other lawns by phasing out mowers powered by fossil fuels, minimising fertiliser use and irrigating with captured rainwater whenever possible. The meadow, though, is his crowning glory.

Cambridge is a city of sublime lawns and ubiquitous signs warning you to keep off them. Before its transformation, the back lawn was open only to the academics at King’s College – students and tourists had to stay clear. In 2021 Coghill cut paths through the meadow so, for the first time in decades, the great unwashed could step onto the lawn.

On a sunny weekend a few months ago, the meadow was slowly waking up again. The air was thick with pollen and the ankle-high grass speckled with yellow clusters of cowslips. Evidence of Coghill’s evangelism was visible at the edges of the lawn where bales of hay had been deposited. Tourists paused to snap pictures, then continued onto the shorn grass, where they unpacked their picnics, tossed frisbees or basked in the sun. The grass had never looked greener.■