Urban Wildscapes is one of the first edited collections of writings about urban 'wilderness' landscapes. Evolved, rather than designed or planned, these derelict, abandoned and marginal spaces are frequently overgrown with vegetation and host to a wide range of human activities. They include former industrial sites, landfill, allotments, cemeteries, woods, infrastructural corridors, vacant lots and a whole array of urban wastelands at a variety of different scales. Frequently maligned in the media, these landscapes have recently been re-evaluated and this collection assembles these fresh perspectives in one volume.

Combining theory with illustrated examples and case studies, the book demonstrates that urban wildscapes have far greater significance, meaning and utility than is commonly thought, and that an appreciation of their particular qualities can inform a far more sustainable approach to the planning, design and management of the wider urban landscape.

The wildscapes under investigation in this book are found in diverse locations throughout the UK, Europe, China and the US. They vary in scale from small sites to entire cities or regions, and from discrete locations to the imaginary wildscapes of children's literature. Many different themes are addressed including the natural history of wildscapes, their significance as a location for all kinds of playful activity, the wildscape as 'commons' and the implications for landscape architectural practice, ranging from planting interventions in wildscapes to the design of the urban public realm on wildscape principles.

Background information on Urban Wildscapes can be found at www.urbanwildscapes.org

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Chapter 9: The River Don as a linear urban wildscapec

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INTRODUCTION

South Yorkshire's River Don runs from its Pennine source through Sheffield to the great River Humber, which pours into the North Sea through one of the largest estuaries in Europe, emptying a river basin covering much of the UK's East Midlands. The river arises as a clean acidic stream, gushing from peat bog and heather moorland, to arrive in the urban catchment of Sheffield. Then, it heads eastwards to cut through the Don Gorge, and pours out onto what was once the great wetland of the South Yorkshire Fen (Figure 9.1). During its journey the Don passes through some of the formerly most industrial and degraded landscapes in western Europe (Walton 1948); a complete contrast with its historical origins as a river forming part of a wildlife-rich landscape of meandering channels and floodland (Bownes et al. 1991). Two hundred years of urbanization, manufacturing and agri-industry had constrained its flow and gutted its ecological soul, so by the 1970s I witnessed the river and many of its tributaries biologically dead, detergent foam laced with raw sewage blowing across their filthy banks. Once naturally meandering, the urban river was now trapped inside fixed banks of brick and concrete, and the rural watercourse was canalized in levees of clay and rubble. Today, its ecology transformed, the Don has re-emerged as a central feature in the region's urban ecology and even in the new lifestyles of city dwellers (Firth 1997; Gilbert 1992a).

As the region's main river, a newly emergent and vibrant artery for wildlife and people, the Don presents many dilemmas in its relationships with nature and local residents. In 2007, the normally placid river turned into a torrent and swept destructively through the region, causing massive damage for 80 to 90 kilometres or more (Figure 9.2). This abruptly reawakened a greater awareness of the Don, as the river in spate responded to major land-use changes in its catchment over many decades (Rotherham 2008a; 2008b). Now clean, but once badly polluted, how can we celebrate the river and engage the public in planning and nurturing its future? In 2010, the Don Catchment Trust was launched to do exactly this. The river is symbolic of the region's post-industrial renaissance, but suffers both from a vision of a preconceived politically correct ecology that is often at odds
with its exotic nature, and of a lasting image as dirty and polluted. For much of
the last two centuries the riverside was deliberately closed to the public as factory
owners sought to hide their discharges and to protect their premises from
thieves. A major catalyst for recovery has been the development of the Five Weirs
Walk since the 1980s that again provides open access to the public. This raises
awareness of the river and fosters custodianship and conservation (Firth 1997).

A CONTEXT FOR SHEFFIELD, SOUTH YORKSHIRE AND THE RIVER DON

Sheffield is a remarkable city, growing from around 10,000 people in the early
1700s to over 300,000 by 1900 (Walton 1948; Warman 1969). A city of rivers
and valleys, it extends from the high western ground down to the lowlands in
the east, covering 300 km² of varied landform. These river valleys converge like
the spokes of a wheel on the city centre, forming a network of green corridors
and semi-natural wildlife habitats (Figure 9.1). It has 80 ancient woodlands,
extensive heather moorland and bog, urban relict grasslands, and ecologically-
rich post-industrial sites (Bownes et al. 1991).
THE DON: A RIVER WITH A HISTORY

In the early 1900s a dugout canoe was found in sediments near what is now Meadowhall Shopping Centre; testimony to the wet prehistoric landscape of extensive wet alder and willow woodland, with meandering river channels, pools and marshes, the long-lost ‘Lake Meadowhall’. Place-names such as Holmes Farm at Blackburn Meadows suggest an island settlement in a marsh. The Don is a river with ‘attitude’, and a tendency to flood, but over time, people colonized the area and farming pushed back the water’s edge. By medieval times the river would have been lined by rich, productive waterside meadows and winter floodlands. These provided valuable summer grazing and hay crops, and marsh resources for basket making, peat fuel, reed thatch, fish and wildfowl. In 1546, the ancient chapel at Attercliffe was still in use, and the curate of Rotherham, the major town and main ecclesiastical centre, would come to his flock when it was too wet for them to come to him:

to mynstre to the seke people, as when the waters of the Rothere and Downe [Don] are so urgent that the curate of Rotherham cannot to them repayre, nor the inhabitants unto hym nether on horseback or bote.

(Hunter 1819)

Along the Rivers Don and Rother, until the 1950s, many local people had boats in case the river burst its banks; all part of living near the water.
A lost wetland: the River Don catchment and the great South Yorkshire fens

Oliver Rackham (1986) suggested that 'about a quarter of the British Isles is, or has been, some kind of wetland'. Like many great rivers, the Don draws its life from a vast catchment and watershed. For the most part, the rivers and streams run from the high western land, down to the lowland plains of Doncaster. Across this vast network of streams and rivers, especially to the east where the waters spilled out over the Doncaster plains, were extensive marshes, bogs and reed-beds, forming around 2,000 km² of the great South Yorkshire Fens. In Yorkshire, south of the confluence of the Ouse and the Trent, 284 km² of Hatfield Chase were constantly inundated before Vermuyden and his fellow Dutch undertakers started to drain it in 1626. At its heart was Thorne Mere, almost a kilometre and a half across. Close by, the 16 km² of wetland at Potterick Carr near Doncaster fell to John Smeaton and his engineers after a private Act of Parliament in 1764 (Rotherham 2010). This was one of the Yorkshire Carrs, famous with local people for its bitterns (Botaurus stellaris) or 'butter bumps'. By the early 1900s, around 99 per cent of this rich wetland resource had been destroyed (Rotherham 2010). Indeed, as I describe elsewhere (Rotherham 2010), for most Yorkshire people, all memory of these wetlands has gone. Smout (2000) states that 'it is surprising how ... Yorkshire ... fenlands have evaporated from general memory'.

The main rivers were also comprehensively straightened and canalized, and once tortuous sluggish meanders converted to clinical drains for speedy removal.
of water. Many smaller streams and even sections of major Sheffield rivers such as the Sheaf and Porter were lost underground to culverts. The straightjacketed river has huge environmental consequences in the urbanized landscape. Culverted and canalized both upstream and downstream of the city, the river and its tributaries become ‘flashy’, rising and falling quickly and powerfully. Tributary rivers such as the Rother exemplify the impacts, with massive floods in the 1940s and 1950s. In 1991, the Sheffield Nature Conservation Strategy (Bownes et al.) finally established a baseline for a future vision of the rivers, aiming to re-connect the threads of the Don catchment, and some progress to this end has been made.

_Urban expansion, decline of nature, and natural re-colonization_

By the early 1900s, Sheffield had grown from a minor medieval settlement centred on a significant river crossing, with a castle and a manor and one of the greatest deer parks in England, to a thriving industrial centre (Walton 1948). One consequence was that the urban core was biologically dead, with gross levels of pollution of air, water and land (Bownes et al. 1991). Many who lived and worked there would not expect to live beyond their early twenties. The air was heavy with dust, smoke and grime, and sunshine rarely penetrated except when the factories had their Sunday break (Figure 9.3). The rivers, once vibrant with life and famous for salmon (Salmo salar) and eels (Anguilla anguilla), were now devoid of anything living. Used for cooling machinery as well as sewage disposal, they ran at temperatures constantly in the region of 20°C (Walton 1948; Gilbert 1989, 1992a).

From the 1970s onwards, action was taken to control these impacts and create opportunities for the river to recover. At the end of a process of thirty years of change, the River Don has re-emerged as a central feature in regional ecology, and increasingly in the lives of local people. However, even the wildest parts of today's river are not ‘natural’, and its fauna and flora mix native and exotic in equal proportions. It is argued by Gilbert (1992b) and Barker (2000) that this is a new ecology; that of ‘recombinant species’ of exotic plants and animals intimately mixed with natives. This newly emerging recombinant ecology challenges many precepts of nature conservation; though neither wildlife nor local people generally differentiate between native and exotic as species occupy vacant niches in the post-industrial river. Sheffield people have themselves actively contributed to the recombinant ecology by bringing Himalayan balsam (Impatiens glandulifera), Japanese knotweed (Fallopia japonica), and Mediterranean fig (Ficus carica) to the river.

It was in the 1980s that these wild figs were found growing along the River Don by naturalist and industrialist Richard Doncaster, and local botanist Margaret Shaw. Oliver Gilbert followed these observations with detailed fieldwork and experimentation. Thermal pollution of water used for cooling the steel works and the abundance of raw sewage containing fig seeds combined to establish a major, urban fig forest along the River Don (Gilbert 1989). This exotic plant is
recognized and protected as ‘Industrial Heritage’ by Sheffield City Council, in its Sheffield Nature Conservation Strategy (Bownes et al. 1991); the only such case of protection of an exotic plant species in Britain.

Otters play under a canopy of knotweed, sycamore (Acer pseudoplatanus) and balsam with a ground flora of ‘ancient woodland indicator’ flowers, including bluebells (Hyacinthoides non-scripta), wood anemones (Anemone nemorosa) and other woodland flora washed down from upstream. This major green corridor through Sheffield, Rotherham and Doncaster even has red deer (Cervus elaphus) and roe deer (Capreolus capreolus) in most urban areas. After its recovery from gross pollution the River Don had become a rich haven for species such as water voles (Arvicola terrestris), but in recent years, the exotic American mink (Mustela vison) and growing populations of urban brown rats (Rattus norvegicus) now out-compete the voles. All these mammals are frequently seen by local people walking the waterside footpaths.

The remarkable recovery of this major watercourse is the result of changed regulation, planned action and the decline of polluting industries through economic change. Ecological renewal is all the more impressive when the depth of the original decline is realized.

New life, new living: retail therapy for the River Don in the twenty-first century

After 2,000 years of change and decline the River Don is re-emerging in a process driven since the late 1970s and early 1980s by bodies such as the charity, the Five Weirs Walk Trust, and the public good arm of local business, the Sheffield Junior Chamber of Commerce (Firth 1997). As the river became cleaner there was renewed demand for bank-side access for wildlife watching, fishing, walking, cycling and even water-based sports like canoeing. All these helped fuel the cry for an improved waterside environment, and following the dramatic industrial collapse of the 1970s and improved pollution regulation there has been a swift upturn in the river. Also, as industry declined, the renovation of vacant warehouses and other industrial premises, together with new-build on derelict sites, provide offices, apartments, student villages and more as Sheffield seeks to reinvigorate its urban centre; a remarkable turnaround in less than 50 years (figure 9.4). Central to the recovery was the transformation of the Lower Don Valley in the 1980s and 1990s into a new landscape of leisure, sport, and retail with the Tinsley Canal and the River Don forming two key ‘green’ spines. The greening of the valley was a keystone of its rejuvenation, a turning point in its history, and at its core is the massive Meadowhall Shopping Centre with a footprint of about 140,000 m². The river has become a catalyst rather than a hindrance and waterfront dwellings and offices are now premium locations.
BUT HOW SHOULD WE CELEBRATE THE NEW RIVER AND ENGAGE THE COMMUNITY?

Although the River Don, its tributaries and its environs have changed almost beyond recognition, they are still the artery of a region and the lifeblood of its ecology. This new vibrant ecology emerged from industrial wasteland and both native and exotic species jostle for position. Finely balanced, the outcome fluctuates as plants and animals come and go. There is no long-term stability, but a dynamic continuum that ebbs and flows like the river. Urban rivers are mirrors to the wider landscape and ecological stresses like global climate change. New species like Buddleia and figs are winners in the re-shuffling of the environmental pack of cards (Figure 9.5). But this need not mean that natives will necessarily lose out; many native plants and animals thrive in this recombinant post-industrial ecology. As Oliver Gilbert (1992a) pointed out so eloquently in the 1980s, these species were in any case entirely removed by the gross pollution and other impacts over 200 years or so of industrialization and urbanization. The new ecosystems are bustling dynamic mixes of old and new; a rich mixture reflecting the dynamic and exciting human populations that now re-colonize the urban heartland. Seen from this perspective, the tale of the River Don, for all its pollution and depression, is one of heartening optimism for the future.

Whilst there are many successes in the story of the Don (Firth 1997) the release of the canalized river back into its dynamic floodplain and its meandering
watercourse is a very long way off. Indeed, recent widespread tree felling along the re-naturalized riverbanks and islands for ‘safety’ reasons, together with scouring and de-silting of the watercourse, suggests that a long-term view of the river as a wild resource remains out of reach. These were a hasty response to the flood events of 2007, but from my personal research it seems that public debate and effective dialogue on this post-flooding response was very limited and most local people were perplexed by these actions and excluded from the
process. Even if the actions were necessary, such drastic works would be better framed by public consensus. Similarly, responses to the spread of invasive alien species remain patchy and uncoordinated; and this is despite long-held views that to be effective, such actions need to be at a catchment level and to be embedded within a realistic strategy (Rotherham 2009). So, in the early twenty-first century it is time to regard this great urban river as an important resource worthy of holistic management plans. With new challenges such as global climate change and the increasing risks of flooding it is sensible to bring together all stakeholders and facets of our great rivers and to address them in coordinated, long-term, publicly accountable ways. It is also clear that current policies and strategies at national and regional levels are uncoordinated and weak. With issues of biodiversity conservation, flood management, access and recreational or sporting use, and riparian ownership, management and development, it is time to take a more robust and visionary approach to the sustainable future of the Don and other rivers. This is why the Don Catchment Trust was launched in 2010.

Above all, it is important to recognize and plan for the bigger role of the rivers. As witnessed in 2007, the way that we manage the landscape and the climate-induced extreme weather conditions mean the river remains central to the region’s environment. It is important to learn the lessons of the floods and consider how best to work with the river and its floodplains to make a more sustainable future for all of us. This is a message that is easily overlooked but a newly-resurgent river offers opportunities for living, for recreation, for business and for conservation. A former publicity officer for Sheffield City Council once touted the image of ‘Sheffield by the Sea’, with candy floss and ice-cream along the Meadowhall waterfront. His plans to dam the River Don to form a lake were flawed, because they neglected the core functions of the river in its landscape, and the impacts on the city’s main trunk sewer. He left shortly afterwards. Any new vision needs to take into account the nature and character and environmental significance of this great river. Will twenty-first-century residents need to take to the boats as often as they once did? Only time will tell, but in the meantime the emergence of new community-based networks and charities like the Don Catchment Trust will help to focus interest, awareness and efforts into more effective and strategic custodianship for the future.

REFERENCES


