



Sticking out like a green thumb: The Bosco Verticale towers in central Milan. Source: *Dimitar Harizanov/Stefano Boeri Architetti*

CityLab | Environment

Cities' Answer to Sprawl? Go Wild.

Urban forests, plant-festooned buildings and other 'rewilding' efforts can help bolster climate resilience, biodiversity, even moods



By Chris Malloy

October 21, 2021 at 9:01 PM MST

Save

Translate

In a neighborhood of right-angled stone, stucco and brick buildings not far from Milan's central train station, two thin towers stand out. Green and shaggy-edged, they look like they're made of trees. In fact, they're merely covered in trees – hundreds of them, growing up from the towers' staggered balconies, along with 11,000 perennial and covering plants, and roughly 5,00 shrubs.

The greenery-festooned towers, called the Bosco Verticale, or Vertical Forest, are residential buildings in a broader-than-usual sense. The 18- and 26-story structures are “a home for trees that also houses humans and birds,” according to the website of architect Stefano Boeri, who has built tree-covered buildings elsewhere and is working on similar projects in Antwerp, Belgium, and Eindhoven in the Netherlands.

The Bosco Verticale is an example of urban rewilding, the growing global trend of introducing nature back into cities. There are consequences to the pace of today's urban growth, which is the fastest in human history, including loss of biodiversity, urban heat islands, climate vulnerability, and human psychological changes. The U.S. Forest Service estimates that some 6,000 acres of open, undeveloped space become developed each day. Globally, past urban planning decisions like the prioritization of the car have given rise to cities that, but for scattered parks, tend to be divorced from nature. Rewilding aims to make cities better and more sustainable for people, plants, and animals.



Staggered balconies at Bosco Verticale allow for trees to grow up, and out. Source: *Giovanni Nardi/Stefano Boeri Architetti*

A relatively recent concept, “rewilding” is amorphous, tending to overlap with adjacent concepts like renaturing. “A lot of people practice urban rewilding in different ways,” says Marie Law Adams, a landscape architect at Landing Studio in Somerville, Massachusetts, and a lecturer with MIT’s Department of Urban Studies and Planning. Still, most definitions agree that rewilded spaces should get little or no maintenance – just like remote forests or swamps.

These spaces can be as small as an outdoor feral cat shelter (like those Adams firm built in a Chelsea, Massachusetts, junkyard). They can be as urban as Manhattan’s High Line, a 1.5-mile park built on an elevated, abandoned railway above city blocks, or Germany’s Mauerpark, constructed along a stretch of what was once the Berlin Wall. They can be as big as a 560-acre native forest, penned in by an 8.6-kilometer mesh fence, in Wellington, New Zealand. More than a dozen native wildlife species have returned to the Wellington forest, Zealandia, since the early rewilding initiative was completed in 1999.



Manhattan’s High Line, a disused elevated railway transformed into a greenery-lined pathway, includes plant varieties that took hold when the tracks were abandoned. *Photographer: Spence Platt/Getty Images*

“Rewilding is maintenance-free compared to highly managed parks and gardens,” according to Steffen Lehmann, an architect, professor, and director

of UNLV's Urban Futures Lab. In March, Lehmann published a study of rewilding drawing on three decades of experience that includes regreening efforts such as a 1990s project in the Potsdamer Platz area in Berlin, on which he was a lead architect.

Read More From CityLab: In Italy, a Streetcar Mistake Becomes Green Space

Lehmann says rewilding can help solve three challenges: loss of biodiversity (“rewilding has become a powerful strategy to bring back butterflies, insects, birds, and wildlife”), urban over-heating (shade and greenery provide coolness), and climate resiliency (treed spaces can serve as carbon sinks, for instance).

Many scholars agree that rewilding's potential to mitigate climate change and its effects is a core benefit. Adams gives one example. “Stormwater systems in cities aren't built with the capacity to keep up with the rain we're seeing today,” she said. To mimic natural processes of managing rainwater, she said, some cities subject to flooding are using different soils and plants for holding and filtering stormwater before it flows to waterways.

In China, a landscape architecture firm called Turenscape has been constructing stormwater friendly urban parks for more than a decade, many using soils and plants to act like a sponge. Its “stormwater park” in a developing area on the edge of Harbin, for example, is designed so that mounds and ponds in the area's degraded natural wetlands guide stormwater into a nearby aquifer.

The case for these projects is getting clearer. Between 2000 and 2030, some 290,000 square kilometers of natural habitat are expected to be converted to urban land uses, according to a study in Nature Sustainability. Growing urban sprawl heightens the need to build zones to manage runoff and temperatures and preserve biodiversity. According to the United Nations Development Programme, a loss of biodiversity entwined with climate change presents “a profound, existential planetary emergency, including for the world's cities.”



Berlin's Mauerpark sits along a onetime stretch of the Berlin Wall. *Photographer: Maja Hitij/Getty Images*

The benefits of rewilding extend to humans in ways more direct and internal. Exposure to natural spaces or even greenery have been shown to promote calmness and lift moods, according to several studies. In one, spending more than two hours a week in green spaces was associated with good health and wellbeing. In another, post-op patients in rooms with windows to “a natural scene” were shown to recover faster from surgery.

[Read More From CityLab: Stressed? Lonely? Prague Plant Evangelist Has a Potted Answer](#)

Still, there are obstacles to greater adoption of rewilding. In the Western world, according to Adams, the idea of a “messy nature” is unappealing to those who have the “commonly held cultural aesthetic preferences in landscape maintenance.” Rather than a tangle of wilderness, people tend to prioritize neat garden beds and trimmed lawns – tamed nature.

“Novel landscape designs that improve ecological quality may not be appreciated or maintained,” according to a *Landscape Journal* study, “if

recognizable landscape language that communicates human intention is not part of the landscape.”

Another obstacle is a general lack of policy. Adams and Lehmann both say they aren't aware of policy efforts directly promoting rewilding. An Australian study of an overlapping subject, “bringing nature back into cities,” finds a lack of enthusiasm among policymakers. One of the exceptions is Singapore, whose government has rolled out plans to become a greener and more sustainable city by 2030; plans there include a new district with green architecture, solar powered air conditioning and a 100 meter-wide, 5 kilometer-long corridor of trees running through it.

The Bosco Verticale buildings in Milan, completed in 2014, are part of a broader redevelopment plan that replaced railroad tracks and surrounding wastes. The area, called Porta Nuova, includes commercial spaces, UniCredit SpA's new Cesar Pelli-designed headquarters, a public square and a park. A botanical garden, Biblioteca degli Alberi, or BAM, opened there in 2018, boasting more than 100 species – 500 trees forming 22 circular forests, and 135,000 aromatic plants, hedges, shrubs, bulbs, vines and aquatic plants that have drawn woodpeckers, moor hens, great tits and blue tits, among others.

The park and towers helped transform a once-dilapidated area, said Valeria Vergani, a local resident who was walking her dog nearby on a recent day. “There was little green beforehand,” she said.

The buildings require planning, upkeep and intervention, unlike some of the more extreme rewilding variations. Plants were tested early on against winds. Trees are tethered to safety ropes to keep them suspended, hopefully, should their trunks break. The Bosco Verticale's greenery is irrigated (soil containers are waterproofed), pruned and inspected regularly.



Maintaining greenery at Bosco Verticale, above Milan's rooftops. *Photographer: Laura Cionci/Stefano Boeri Architetti*

Lorena Ricchi, another Milan resident, recalls watching from inside the building as arborists descended on ropes to prune some of the trees. Ricchi spent four months living on the eighth floor of one of the towers several years ago, and credits the project for driving a positive, green transformation of the neighborhood. Living there was like being inside a tree or a tree house, she says, with a view of greenery, clouds and sky that changed by the hour and season.

“Each season has a different shade, so landscapes with autumn foliage alternate with periods full of colors when there are plants in bloom,” she says. “There was no noise, and thanks to the huge windows, it seemed like the woods were in the living room and in the rest of the house.”

“It was like always being on vacation,” she adds. “It was a beautiful feeling.”

– *With assistance from Chiara Remondini and Marco Bertacche*

Contact us:

Provide news feedback or report an error