PLANNING FOR CITIES THAT LOVE NATURE
THE EMERGING GLOBAL MOVEMENT OF BIOPHILIC CITIES

TIM BEATLEY

Figure 1: Birmingham has declared its intention to be the first Biophilic City in the UK. Not thought of by many as especially natureful, it is a city with one of Europe's largest urban parks, Sutton Park.
Image Credit: City of Birmingham

» An urban future is imagined in which nature is not a distant and occasional destination, where humans are only visitors, but one that defines the very "home" in which we live. The idea that the city is an ecosystem (it is!), and that we might aspire to living in a nature-immersive urban environment, are ideas that are beginning to catch on. «

Figure 2 (left): Wellington is a biophilic city that increasingly recognizes the unique marine nature all around it. Shown here is the rocky edge of the Taputeranga Marine Reserve, closeby to the City's downtown. Wellington is developing a vision of "Blue Belts" to complement its commitment to terrestrial-based Green Belts.
Image credit: Tim Beatley

Zealandia is an impressive experiment in Wellington, New Zealand. Here, native species of birds have been largely decimated by the introduction of non-native species. Zealandia, a large forested wild zone in the middle of the city, encircled by a 2.2 meter tall predator-proof fence, seeks to change that. The tagline for Zealandia is "bringing birdsong back to Wellington," and already it has had considerable success. The numbers of the Kaka parrot have increased from a low of 6, when re-introduced in 2002, to as many as 250 today. Importantly, many of these birds now are being seen in other areas of the city, especially in the so-called "halo" zone surrounding Zealandia. It is an interesting story and a bold goal for the city; the notion that wherever you live in this city, whatever neighborhood you reside in, you ought to be able to hear and enjoy bird song. It is a different way to judge the long term success of the planning and environmental design efforts. It also is a metric to gauge the progress of the city using a target more in line with the goals and vision of a biophilic city.

Wellington has also been working in many other ways to strengthen its connections to nature. There is an abundant network of greenspaces, and an ambitious target of planting two million new trees has been set, with significant progress made towards that goal. It has emphasized the planting of native trees and plants throughout the city, in places like median strips and road verges. There is an extensive network of trails to hike, and nature not far away from where most people live. Recently the Parks department sponsored a Peak Bragging campaign, encouraging residents to hike up to the top of one of the City's twelve peaks and post a creative photo online (with prizes offered for the best pictures). The City has produced a series of online interactive maps to help residents to plan and undertake their urban hiking adventures.

METRICS OF BIOPHILIC CITIES

BIOPHILIC CONDITIONS AND INFRASTRUCTURE

» Proximity to parks and green spaces;
» Percentage of land area covered by trees or other vegetation;
» Number of green design features (e.g. green rooftops, green walls, rain gardens);
» Fair distribution of nature;
» Extent of natural images, shapes, forms employed in architecture, and seen in the city;
» Extent flora and fauna (e.g. species) within the city;

BIOPHILIC BEHAVIORS, PATTERNS, PRACTICES, LIFESTYLES

» Average portion of the day spent outside;
» Visitation rates for city parks;
» Percent of trips made by walking;
» Extent of membership and participation in local nature clubs and organizations;

BIOPHILIC ATTITUDES AND KNOWLEDGE

» Percent of residents who express care and concern for nature;
» Percent of residents who can identify common species of flora and fauna;

BIOPHILIC INSTITUTIONS AND GOVERNANCE

» Percent of municipal budget dedicated to biophilic programs;
» Design and planning regulations that promote biophilic urbanism;
» Presence of institutions that promote education and awareness of nature;
» Number/extent of educational programs in local schools aimed at teaching about nature;
» Nature organizations and clubs of various sorts in the city, from advocacy to social groups;

Figure 3: In Oslo forests are very important, and many citizens regularly visit them. Two-thirds of this city is comprised of protected forest, much of it easily accessible with public transit.
Image credit: Tim Beatley

Perched on the Cook's Strait, the city is increasingly aware of the marine world just beyond the coastal boarder of the city. Already the city boasts a marine protected area, just a few minutes away from downtown. There is a Marine Education Centre, that most children in the city have the chance to visit, and most impressively a new vision of a "blue belt" encompassing the watery realms of the city to complement the city's green belts.

Wellington already is a biophilic city in many ways, and an early partner city in the new global Biophilic Cities Network (see the text box for more information about this project). Cities like Wellington are at the forefront of crafting a new vision of urban living where nature is the key to a quality of life and to a healthy, meaningful life. This city is on the leading edge of a global movement that understands that nature and cities can and must go together; that the dichotomy of nature v. cities is wrong. While it may be premature to call this a movement, there are several positive trends and an undeniable growing awareness that more nature in cities can help address many, perhaps most of the challenges we are facing today.

Nature is uniquely suited to developing important resilience and ecosystem services and benefits, at the same time that it helps us cope with the stresses of modern life. Unlike important sustainability goals which define how we must change or how much we must conserve, it can be argued that biophilic cities provide a vision of the kinds of sustainable places we actually want to live in and love. And there is much productive overlap between biophilic cities, and urban resilience and sustainability. Many of the important ways that cities can be more natureful, from planting trees to installing vertical gardens, will, in turn, help to address rising urban temperatures, adaptation to climate change, and will reduce energy consumption and greenhouse gas

emissions. It is a vision of the future of cities that emphasizes the profound importance of cities as flourishing, both for the human species and for the many other species that either co-occupy urban environments and spaces around us or that are profoundly impacted by the ecological footprints associated with urban life.

THE POWER OF NATURE IN CITIES

That nature is an unusually potent elixir is no longer a bold premise, but widely accepted. While the word "biophilia" was first used by social psychologist Erich Fromm, it was Harvard biologist E.O. Wilson who popularized it and given it widespread currency. Wilson defines "biophilia" as "...the innately emotional affiliation of human beings to other living organisms. Innate means hereditary and hence part of ultimate human nature" (Wilson, 1984).

Much research has bolstered the basic insight that we have co-evolved with nature and are likely to be happiest and healthiest in, and among, the natural world. Japanese researchers speak of "forest bathing," for instance, and have shown how a walk in a forest or natural area reduces stress hormone levels and helps to boost our immune systems (e.g. Africa, Tsunetsugn, and Wang, 2015). Walking and spending time in nature changes our mood for the better, to be sure, and helps reduce long term chronic stress. There is considerable evidence that investing in urban nature, for instance trees and urban forests, deliver considerable benefits, such as reductions in crime and gun violence, as several studies have shown (e.g. Weinstein et al 2015). These positive impacts have not been lost on the medical and public health communities, and now doctors are prescribing time outside, time spent in nature as at least a partial antidote to the ills of modern times. Trees and nature, moreover, help to foster social cohesion and social relationships, which in turn provide major help benefits.

Nature in and around cities can help make cities more resilient in the face of climate change, and mitigate other economic and social shocks that cities around the world will face[1]. Natural solutions abound in confronting a variety of resource constraints and environmental challenges faced by cities, whether water conservation, air pollution, flooding and stormwater management, and food insecurity, among others.

Being in nature seems also to hold the promise of making us better human beings. There are now studies that show that we are more likely to be generous in the presence of nature, more likely to think longer term, and more likely to exhibit cooperative behavior (e.g. Zelenski, Dopko, and Capaldi, 2015).

WHAT IS A BIOPHILIC CITY?

What precisely a biophilic city is, or could be, remains an open question and a point of discussion; but this much is agreed.[2]. A biophilic city is a city of abundant nature, a natureful city, to be sure, and a city that seeks to put nature in all its forms at the center of its design and planning. It is a city that seeks to conserve and celebrate its biodiversity (the flora, fauna and fungi) and to integrate many forms of new nature into the design of new buildings and built environments. From living rooftops to vertical gardens to vegetated terraces, there are many ways that even very dense urban settings can accommodate greater biodiversity and nature. In these ways a biophilic city seeks to blend more traditional land and nature conservation efforts with ecological design and green building. Efforts at expanding food production in the city are also part of the biophilic cities agenda, whether rooftop beekeeping, or urban orchard planting, as some cities are doing. The following are attributes which define a Biophilic City.

REIMAGING BUILDINGS

There has been considerable progress in re-imagining building, such as homes, offices, schools, and hospitals, as more natureful structures. Living rooftops and vertical gardens, for example, have become increasingly common biophilic design elements, and offer the possibility of providing significant bird and invertebrate habitat. While not a replacement for more traditional parks and protected areas, they can collectively make the city a habitat for many other forms of life. Mainstream architecture schools are warming up the importance of teaching biophilic design, and certification organizations, like the Living Building Future, have emphasized biophilic design elements.

Figure 4 (top): The ParkRoyale Hotel in Singapore, designed by the firm WOHA, reflects the emphasis in that city on incorporating nature into the vertical realm. The vertical nature included in this hotel is an amount more than twice the area of the lot it is built on.
Image credit: Tim Beatley

Figure 5 (bottom): A Biophilic City is a city that supports the design of living, working and learning spaces that are natureful and include abundant plants and natural light. An exemplary project can be seen in the new Healey Family Center at Georgetown University in Washington, DC.
Image credit: Tim Beatley

ENHANCE THE CONNECTEDNESS BETWEEN NATURE AND URBAN POPULATIONS

Another type of biophilic design are those which offer the opportunity to enhance nature connectedness for the occupants and users in buildings. An example is the new Healey Family Center at Georgetown University, in Washington, DC. It has been designed to maximize natural light, with features such as interior green walls, and visual connections to the Potomac river. The emergence of forms of architectural design that emphasize access to daylight, natural ventilation, indoor plants and greenery, views of nature from office and flat windows--often collectively referred to as biophilic design--is a complementary movement to biophilic cities and urbanism, which tend to focus more on the spaces outside buildings and the larger urban and regional environments in which buildings sit. But the biophilic principles are the same, and aims are complementary. Indeed, a biophilic city is in part defined as a city with many (most) of its buildings are biophilic--that is, a city that through its development codes or through financial incentives or technical support encourages or mandates biophilic design.

Figure 6: One measure of a Biophilic City is the extent to which its residents have opportunities to experience and enjoy the nature around them. Here, a group of college students are on a bird watching hike. Image credit: Tim Beatley.

ESTABLISHES CO-EXISTENCE WITH NATURAL SPECIES

But a biophilic city is more than the sum of its buildings, it is a city that grows nature (or allows nature to grow) between the buildings; a city that worries about how little time its residents spend outside; and a city that seeks to invest in biophilic infrastructure, from trail networks to gardens to river restoration to urban forestry. It is a city that sees those biophilic buildings and projects as profoundly situated in the larger garden or forest or park.

It is a city that acknowledges an obligation to seek humane co-existence with other forms of life, and understands that cities are shared spaces, occupied by many other species. This spirit of co-existence manifests in cities in many different ways[3]. Co-existence can take many forms, such as design for habitat connectivity and wildlife movement. Edmonton, Canada, now requires that wildlife passages be designed into any new road or infrastructure projects, and has now completed 27 such passages. Recently we have been working together with colleagues at the Humane Society of the US to explore methods which recognize the need to treat humanely the urban wildlife that occupy cities and to look for non-lethal ways to resolve human-wildlife conflicts.

ADVANCES A WHOLE-OF-CITY, WHOLE-OF-LIFE APPROACH

Often a biophilic city is described as a place that seeks to advance a whole-of-life approach to fostering connections with nature. As an office worker you ought to experience a work environment that is drenched in daylight and is natureful and healthy. Most of us should find ourselves working in such settings, and evidence suggests that worker productivity goes up significantly in these more natureful environments (something not lost on employers). Nature can and

should be present in the work and living spaces around us, but also at every other urban scale. Abundant nature needs to be present in urban neighborhoods and throughout a city and metropolitan area. Sometimes described as rooftop to region, or room to region, a Biophilic City is characterized by integrated, mutli-scaled, highly connected natural systems and features.

Our partner cities are pushing the vision of a Biophilic City even further, towards the direction of an immersive urban nature condition. Singapore, for instance, has taken the step of changing its motto from "garden city" to "city in a garden," a subtle but important shift. Why live in a city where one needs to travel to visit the garden (or the park, or the forest), when we ideally ought to be able live in the garden. Nature in biophilic cities is necessarily multisensory, and so preserving and designing natural urban soundscapes is important. Research is now suggesting the beneficial value of birdsong, for instance, something every urban neighborhood should be entitled to. The natural soundscape is understood in biophilic cities to represent an important asset, that can help to nurture and heal and enhance meaning and quality of life (see Beatley, 2013).

ENGAGES URBAN POPULATIONS TO CARE ABOUT NATURE

Finally, a biophilic city is not just defined by the presence or absence of nature, but by the many ways that residents are engaged in and with that nature. How much do they care about the nature, how knowledgeable are they about the wondrous nature around them, and in what ways do they celebrate, enjoy, care about, and work on behalf of that nature. We have sought to understand the many opportunities in cities to engage that nature; whether through bird watching, tree planting, community gardening, urban hiking and camping, among the many other possibilities. A biophilic city should be defined by its efforts to amplify and maximize these opportunities for engagement. Some cities, such as New York, now offer summer camping in many of their parks. Others provide direct opportunities for involvement in bush care or urban nature restoration activities. An important measure of a biophilic city is the abundance of programs, organizations, clubs, that provide direct opportunities to connect with local nature, and to work on its behalf.

Support for citizen science has grown in many cities and there are new and creative ways to engage the public; ways that impact knowledge, build emotional connections and connectedness and also increasingly contribute to advancing knowledge about urban nature. Bio-blitzes are increasingly common. Wellington, has even undertaken a marine bio-blitz[4] (the first in the world). Other examples of citizen science programs include Dolphin Watch, in Perth, Australia, which enlisting citizens to monitor and track local indo-Pacific bottlenose dolphins and the Urban Slender Loris Project, in Bangalore, India, where citizens learn about and look for that species in treetops at night.

PROMOTES CURIOSITY

A Biophilic City is a curious city, and a city that helps to foster a culture of curiosity. Nature in cities represents a virtually limitless opportunity to instill wonder and awe. Indeed, a key goal for the cities would be to maximizing of opportunities for awe. Whether a harbor glimpse of an Orca whale (as in Wellington), or watching flocks of migrating Vaux Swifts spectacularly landing in chimneys (as in Portland, OR), or learning about the remarkable diversity of ants in the median strips (as in New York City), the nature of cities can in many ways be awe-inspiring. We increasingly recognize that awe provides meaning to our lives and deeper engagement in our lives. Some research even suggests that experience of awe may alter our perceptions of time, and certainly contribute positively to well-being. Biophilic Cities strengthen the sense of living in a world that is complex, mysterious and vast in many ways that we are only beginning now to comprehend. Awe provides a much-needed sense of humility and perspective to our otherwise hubris-filled lives. How we foster engagement, a culture of curiosity, and maximize the moments of awe and wonder for its residents remains a challenge, but an important goal of a Biophilic City.

How we measure that culture of curiosity is also a challenge. The Biophilic Cities Network is partly about sharing different approaches to metrics, and to tracking and monitoring long

Figure 7 (top): Much of the challenge to city planners today is to imagine dense and compact cities, that are walkable and sustainable, but that also include abundant nature. Singapore, shown here, seeks in many creative ways to grow and extend its nature and aspires to be a "City in a Garden". Image credit: Tim Beatley

Figure 8 (bottom): A biophilic City is a city that seeks to re-connect its residents to nature. Here a child finds a young American toad. Image credit: Tim Beatley

term progress at becoming more biophilic. We have been exploring different categories of indicators and targets. Table 1 illustrates some of those. Each new city joining the Biophilic Cities Network is asked to choose a minimum number of indicators, and to pick ones that are suited to and meaningful for that city.

QUESTIONS AND OBSTACLES REMAIN

Our nascent work at exploring and developing the concept of a Biophilic City, and the emergence of the Biophilic Cities movement is exciting. Many cities are finding new and creative ways to insert nature and to protect and celebrate the nature already present. There is a new vision of the city emerging--one that understands that nature even in dense urban environments can be present, and indeed often is, in many more ways and in many more places than we have imaged. There is a new and different urban future which is possible. An urban future is imagined in which nature is not a distant and occasional destination, where humans are only visitors, but one that defines the very "home" in which we live. The idea that the city is an ecosystem (it is!), and that we might aspire to living in a nature-immersive urban environment, are ideas that are beginning to catch on.

How to bring about this urban nature immersion remains an open question. In leading cities like Singapore it is happening through a set of complementary programs and policies. For instance, as part of its landscape replacement policy new high rise buildings are required to incorporate nature to a remarkable degree. New developments in that city are in friendly competition to see which can design in the most nature. There are financial subsidies for green elements, investments in research and development, and recognition of biophilic design and planning leaders through an annual Skyrise Greenery Award. Not every city will be able to put in place such an impressive complement of policies and regulations, but many will, and many will be inspired by the successes in places like Singapore. What will be necessary to push the biophilic city vision forward will vary from place to place, but it will likely require some combination of citizen engagement, market demand, and strong political leadership.

Biophilic cities are seeking to reform and modify more traditional planning codes to make more room for nature. In Singapore their vertical greening policies turn the traditional metric for massing and density, the floor area ratio[5] (FAR), on its head. They now require a green area ratio. There are other examples in other cities. Such as the new office and retail building 300 Lafayette, in the SOHO neighborhood in New York City. Here, extensive vegetated terraces are included, planted with native plants, with the total area of planting more than replacing or replenishing the pristine ground level nature that existed before there was any development on the site.

There remain open questions about how to best deliver nature in cities, and how to creatively finance these investments. We will need new mechanisms for tapping into revenue from the returns on biophilic investments, recapturing savings from lowered energy costs associated from heat reduction and shading benefits of trees and greenery, and the valuing non-cash benefits such as improved learning environments in schools and reductions in crime. The agenda of biophilic cities is one that must involve a city's formal governance structure, but can involve a variety of public-private partnerships, and the important engagement of community groups and NGO's. In our Biophilic Cities Network we have been collecting and reporting on a variety of organizations and organizational structures for delivering nature in cities.

Moving forward there will be other open questions and challenges. How we bring the vision and practice of biophilic cities to less wealthy parts of the world and how we understand the ways that urban-nature interventions and planning can address daunting problems of urban poverty, the living conditions in informal housing environments, and climate resilience, will remain challenges. I am convinced that biophilia can be a significant part of the answer, and that we can find even more compelling applications, or models, in the developing world. But we need to collect more practical models of how nature can be designed and planned in these places. In the US, there remain important concerns about social justice, and the often profound inequality in access to nature in poor

Figure 9: Here in Bishan-Ang Mo Kio Park, in Singapore, a concrete flood control has been dramatically transformed back into a beautiful, meandering natural streams.
Image credit: Tim Beatley

Figure 10: Singapore has more than 300 kilometers of trails and walkways as part of its Park Connector Network. This is one of the author's favorite segments, the Southern Ridges, where the it is possible to stroll at tree canopy level and to experience breathtaking views of the city.
Image credit: Tim Beatley

Figure 11: Singapore's Super Trees show the development of new and interesting hybrid forms of human-designed nature. These metal structures incorporate thousands of living plants and perform many of the functions as natural trees.
Image credit: Singapore Nparks

and minority communities. Increasingly there is the concern that natureful design interventions (such as the High Line park in New York City) often serve to raise the cost of housing and can displace current residents (something that has been dubbed eco-gentrification; see Dooling, 2009). New planning mechanisms are needed to minimize these potential impacts and to ensure a fair distribution of the benefits that flow from investments in nature.

How a city defines its "nature" is another significant open question. In coastal cities there is a special opportunity and obligation to expand the understanding of nature, as most existing ones are (and new cities will be) located along or near coasts or waterways. These areas have a special opportunity and obligation to expand their understanding of nature to include the marine and fresh water environments nearby, environments and habitats that are largely unseen or unrecognized. In cities like San Francisco and Wellington, the marine realm represents a remarkable biodiversity and wondrous natural realm that urbanites can and must understand and connect with emotionally. Some cities have begun to take steps to expand their perception of, and priority given to, these blue nature realms. In some cities, such as Seattle and Singapore, significant efforts to educate about this marine world, for instance through low-tide walks at city parks. There are innovative marine-based citizen-science initiatives, and efforts to extend and expand city spatial planning to encompass marine environments (such as Wellington's emerging idea of "blue belts"). Singapore has undertaken an impressive comprehensive marine biodiversity inventory, with major public engagement, and leading even to the discovery of some marine species new to science. The agenda of Blue Cities, or Blue Urbanism, seeks to expand biophilic sensibilities and priorities to these biodiverse environments[6]. There is much more to do here, but it is clear that biophilic cities have unusual opportunities to connect with, and steward over, aquatic nature.

Cities have a major impact on the health of oceans, of course, from non-point water pollution, to the prevalence of plastic waste to the overharvesting of fisheries, and can be leaders in addressing all of these problems. This raises the question of a biophilic city being partly defined by concern for extra-local nature. There is the unfortunate paradox that some of our greenest and most natureful cities also exert, through the import of food, wood, energy, materials, a tremendous negative impact on far-away nature, including oceans. This spatially-expanded notion of a biophilic city is an important one, and though perhaps more difficult to put into practice, lends supports for idea such as circular metabolism[7] for cities, developing local sustainable sources for wood, helping to financially underwrite and support sustainable enterprises in other nations. And, to circle back to the marine realm, cities should work to support marine conservation efforts that may occur in distant parts of the world (and of course we are all connected on this small blue marble).

There are other important questions about what constitutes "nature." Nature is to a considerable extent a culturally defined term. In the work of the Biophilic Cities Network we understand it to be quite broadly defined: it is the underlying ecology and remnant nature found in in and around cities, it is the natural systems and hydrology present in cities, and the native (and non-native) flora and fauna and fungi there. But it also includes designed nature, as seen in the integrating of highly artificial forms of nature into buildings and built environments (e.g. living walls, green courtyards, sky gardens). But we also are seeing the emergence of new and interesting hybrid blends of the natural and the built, such as the new Supertrees of the Gardens by the Bay in Singapore-large metal, tree-shaped structures, with many thousands of living, growing plants on them. In the biophilic design community there is also much support for the use of natural shapes, forms and materials, and the strong belief that these are also important elements in creating healthy, uplifting environments. Cities, like Wellington, exhibit to a remarkable degree the presence of shapes from nature in the design of buildings and streetscapes there (for instance, bollards in the shape of fern fronds!). Empirical evidence about the power and import of this kind of nature remains scant, but they do appear to be helpful and beneficial references to nature in cities.

So these are exciting times as we watch the advancement of this new idea about the primary role of nature in global urbanization. Nature is not the only ingredient needed to create resilient, sustainable, flourishing urban environments. But the inclusion of nature is essential to leading healthy, happy, meaningful lives in an increasingly urban world. And there is a growing appreciation for the need to have nature all around us, even in dense cities. The biophilic cities movement, and our nascent but promising new Biophilic Cities Network, are driven by this appreciation, and a growing body of empirical research demonstrating the power of nature.

We look forward to hearing from potential partner cities who would like to join the Network (please visit www.biophiliccities.org), as well as individuals and organizations in cities around the world, who we hope will together help to propel forward this hopeful vision, as a necessary parallel to unbridled global urbanization. ◆

ENDNOTES

1 Peter Newman and I have made the case that "Biophilic Cities Are Sustainable Cities" in a recent issue of the online journal Sustainability (Beatley and Newman, 2013).

2 For more detailed discussions of what a Biophilic City is see Beatley, 2011; and forthcoming

3 We have recently profiled several impressive examples in the US of efforts to understand how cities and wildlife can co-exist, including the Bay Area Puma Project, in the San Francisco Bay Area, and the Coyote Project. For more information see: www.biophiliccities.org

4 A BioBlitz is an intensive biodiversity inventory, usually focused on a specific geographical area within a city, such as a park. It is a form of citizen science in that volunteers do much of the collecting, usually in teams that include trained scientists. The BioBlitz usually occurs within a short, concentrated time, often 24 hours.

5 FAR is a measure of the proportion of the area of the building lot taken up by the area of the building occupying that lot

6 see Beatley, 2014 for a fuller discussion of this aspect of biophilic cities

7 In a city with a circular metabolism there is an emphasis on rethinking the flows of goods and materials that sustains a city: the size of these flows should be reduced, and the supply lines shortened (e.g. cities can produce more food and energy locally). The circular dimension argues that cities must re-define traditional wastes streams as potential productive inputs—for instance, biogas is extracted from sewage and then used as a fuel to produce power. For a more complete discussion of the topic of urban metabolism, and emerging examples of circular urban metabolism, see Beatley, Green Urbanism (Island Press, 2000).

THE BIOPHILIC CITIES NETWORK

About six years ago we started the Biophilic Cities Project at the University of Virginia. It began as a way to study and explore how nature could be incorporated into cities, and how nature could be central to our emerging visions of city life. With initial funding from the Summit Foundation, we set out to study the concept and practice of various cities which exhibited an environmental vision in their city plans. We enlisted the help of a set of partner cities around the US and the world including Wellington, Singapore, Vitoria-Gasteiz in Spain, and, San Francisco, Milwaukee and Portland in the USA. In 2013 we brought these cities together to compare notes and to discuss the many different ways these cities were protecting, growing and connecting residents to nature in their cities. At the end of four days of presentations and conversation, attendees signed a biophilic cities pledge and together we launched the global Biophilic Cities Network.

With the help of an informal steering committee, we have developed a new protocol for future partner cities joining the Network. We have also undertaking many activities aimed at spreading the word about what was already happening in member cities. These have included making documentary films about partner cities (the film about Singapore (please see: https://www.youtube.com/watch?v=XMWOu9xIM_k) has been watched by more than 40,000 views, for example) organizing webinars, publishing an e-newsletter often with a particular urban nature theme (from blue urbanism to urban trails), collecting model codes, actual ordinances, municipal laws and best practices (Insert link here), much of this happening through a newly designed (and still being developed) biophilic cities web site (www.biophiliccities.org).

We are poised, we hope, to add significantly to the Network and the substantially grow the number of cities participating as partner cities. Recently the Washington, DC, city council adopted a biophilic cities resolution, and has now submitted their official application to join the Network, as has Edmonton, Canada. Other cities, from Pittsburgh, Pennsylvania to Melbourne, Australia, have expressed interest in joining and we are hopeful that the Network will expand and build. In several of these cities new grassroots organizations have formed to promote discussion and collaboration around these issues, including groups like Biophilic DC, in Washington, and BioPhilly, in Philadelphia. Community conversations about the vision of biophilic cities have been organized with local partners in a number of places, including Denver and recently Phoenix, Arizona.

How these cities will interact, and in precisely what ways the Network will prove useful in advancing the biophilic cities agenda remains unclear. Together these cities will hopefully be a force on behalf of nature, within and beyond their borders. Hopefully each will learn from the experiences of others, and there will through the Network be an accumulated body of knowledge about how to effectively protect and integrate nature into cities and urban life. Already this is happening.

For more information see www.biophiliccities.org

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