

Everybody needs beauty as well as bread, places to play in and pray in, where Nature may heal and cheer and give strength to body and soul alike.

—John Muir

### INTRODUCTION

rbanization is a global trend.

More than 80% of the U.S.

population and over 50% of
the world's population lives in
cities. Urban lifestyles can bring
on stress, and even a sense that life is out of
balance. Many people recognize that nature
experiences can heal and provide respite, but
assume that one must leave the city and travel
to wild places to restore and regain a sense
of calm.

The Nature Sacred Principle asserts that exposure to outdoor environments, particularly in cities, can deliver transformational benefits to users and surrounding communities. The experience of nearby nature can offer sanctuary, solace, and places for mindful reflection. The term sacred is a notion that is complex, and may be perceived as a connection to religious and spiritual institutions. Some community leaders may not recognize its importance when planning for public green space within their cities.

This report is designed to introduce vocabulary, understanding, and research evidence that supports the idea of small 's', or *civic sacred* in communities. Though many people appreciate spiritual experiences that are enjoyed in both secular settings or as part of faith-based organizations, there can be limited interpretations of the notion of sacred and its role in the city. Meanwhile both

historic and contemporary U.S. literature and traditions remind us of the importance of nature in personal realizations of inspiration, deeper thinking, and mindfulness, as well as meaningful social connections.

In this report we offer an extended set of ideas and language of the sacred in everyday nature encounters. The sources of this information are the Nature Sacred projects (sponsored by the TKF Foundation), scholarly and scientific literature, and focused interviews with public officials. Using the ideas presented here, local planners and managers, civic leaders, and engaged citizens may be able to build support for parks, gardens, and open spaces in their communities as places that are open, valued, and provide many benefits for diverse users.

Civic sacred refers to the everyday encounters with nature in cities that have the potential to promote inspiration, deeper thinking, mindfulness, and social and cultural connections, and may be transformational.

# **TABLE OF CONTENTS**

Introduction					
Ta	Table of Contents				
1.	1. The Nature Sacred Principle				
2.	Everyday, Civic Sacred	6			
3.	Expressions and Experiences of Sacred	9			
	3.a. Interpreting Texts, Studies & Interviews	10			
	3.b. Building Understanding	12			
	Design, Nature & Space	13			
	Pleasant Sensations	14			
	Experiences or Behaviors Within	14			
	Initial Restorative Affects	15			
	Enduring Change	16			
	Community and Culture	17			
	3.c. A Civic Sacred Vocabulary	18			
	Table 1: A civic sacred vocabulary	18			
	3.d. The Sacred Immersion	21			
	Quiet Contemplation	21			
	Connecting to Faith	22			
	Social Connections	23			

4. Concept and Process	24		
4.a. Civic Appropriateness	25		
4.b. Philosophical Traditions	26		
4.c. The Role of Nature	29		
4.d. Social Construction	32		
4.e. Place Attachment	34		
4.f. Creating Place	35		
5. Science and the Sacred Experience	39		
5.a. Importance of Nature Encounters	40		
5.b. Importance of Quiet	42		
5.c. Importance of Mindfulness	44		
6. Sacred in Your Community	46		
6.a. A Vision	47		
6.b. Design Discovery	48		
6.c. Bigger Needs and a Grander Vision	50		
6.d. The Biophilic City	53		
7. Conclusions	54		
8. References	56		
9. Acknowledgements	56		
10. Photo Credits			



# 1. THE NATURE SACRED PRINCIPLE

he Nature Sacred Principle is sponsored by the TKF Foundation, a family foundation, which has funded intimate, open, urban green spaces in the mid-Atlantic region of the U.S. for more than 20 years. The Principle asserts that exposure to nearby nature environments, particularly in cities, can offer sanctuary, solace, reflection, and mindful interaction. These transformational encounters benefit users and surrounding communities. The mission of the TKF Foundation is to provide the opportunity for a deeper human experience by inspiring and supporting the creation of public greenspaces that offer a temporary place of sanctuary, encourage reflection, provide solace, and engender peace and well-being. Such nearby nature spaces provide users with opportunities for respite, restoration, contemplation, and connection in busy cities.

The TKF Foundation funded national projects that integrate design and research to better understand community-based, public sacred spaces.

The foundation has funded a \$5 million national project to support the Nature Sacred Principle by integrating design and research to build evidence for community change. Top designers have created five sites where researchers from universities and organizations (such as the National Institutes of Health, the Forest Service, and Cornell University) are studying the social and therapeutic effects these sites have on people living in cities. Building on past research concerning the benefits of nature experiences, these projects will specifically assess the effects of sacred spaces within a variety of communities and social situations. Overall, the goal is to provide activists, advocates, stakeholders, and influencers with messages and tools that will motivate them to establish accessible, public, intimate urban green space systems that provide city residents the benefits of meaningful experiences with nearby nature.

# 2. EVERYDAY, CIVIC SACRED

esearch evidence points to the health benefits of mindfulness and meditation, focused breathing, time spent in nature, and social engagement.

Lowered stress and anxiety, positive moods, and improved mental function are some of the benefits one can experience from pausing to reflect and relax in nature. And at a community level, urban green spaces contribute to reduced noise and air pollution, more social connections (which may lead to reduced crime), improved property values, and perhaps even reduced health care costs.

Scientific studies of the past few decades have confirmed the connections between human health and the experience of nearby nature in cities. Physical activity, such as running, participating in sports, or play in an urban park can benefit a person's health. But are there measurable benefits from pausing to watch leaves flutter in the wind, to breathe deeply, or to share a moment observing the beauty of nature with a friend?

In certain situations one's experience of being in nature can feel deeply personal

and transformative. Insightful writings and traditions recount the importance of nature in personal experiences of inspiration, deeper connections, mindfulness, and extended social bonding. Some people have described these encounters as a sacred experience.

Based on both scientific evidence and the Nature Sacred Principle, this report explores the meaning of sacred, considered within the



The ultimate sacred space is nature, not the giant cathedrals made by men.

-National Park Service Official

Was sitting here with my family and letting the water from the fountains splash my toes. They ve gotten up and now I am enjoying the sun...letting it sink into my body to the very core of my soul. What a wonderful place for reflection and thought while being able to listen to the sounds of the city I love. (drawing of a heart and three stars)

#### Visitor journal entry at the American Visionary Art Museum garden

everyday experiences of life, particularly in urban settings. The purpose of this report is to provide an expanded understanding and language of the sacred in nature encounters. It focuses on small 's' or *civic sacred* and includes expert perceptions, scholarly history, and the latest scientific evidence to help people recognize and appreciate the sacredness that public nature spaces can bring to our lives. Using these ideas, local planners and managers, civic leaders, and engaged citizens may be able to build support for parks, gardens, and open spaces in their communities as places that are open, meaningful, and provide many benefits for diverse users.

More than eighty percent of the U.S. population now lives in urbanized areas. City living can be challenging - the noise, busy lifestyles, getting around in congested traffic, packed schedules, and interacting with many people in a normal day. A practical expression of sacred in everyday life is increasingly necessary. Open, sacred greenspace can offer temporary sanctuary, encourage reflection, provide solace, and engender peace and well being to counter the mental and physical fatigue of urban life. We invite you to read and think about the accessible, practical expressions of sacred that can be created near your home and in your community.



# 3. EXPRESSIONS AND EXPERIENCES OF SACRED

iscussions in public about the experiences and emotions of the sacred may be challenging. The traditions of 'separation of church and state' in the U.S. can quickly sidetrack any discussions about the role of the sacred in public parks, gardens, and open spaces in cities. Formal interpretations of Sacred are connected to religion and theology, and are interlaced with faith-based organizations.<sup>1</sup> A dictionary definition of the word sacred is: Dedicated, set apart, exclusively appropriated to some person or some special purpose. This is a common interpretation of sacred, though many people appreciate spiritual experiences that are enjoyed in less formal, secular settings.

Our interviews with professionals who plan and manage public green spaces revealed the tensions:

When trying to get sacred spaces [into policy or planning discussions] capitalize on the human element, find the common denominator. See yourself as a conduit for creating spaces. People allow [you] to act if they see the benefit for the community.

-Community Artist

.... with my work colleagues I'll say something, and they hook into it or they don't. That lets me know where to take the idea, or just drop it. Usually I don't use the word 'sacred', but use beauty, serenity, relaxation. They can connect to these words and then we can talk more directly.

#### -Environmental Planner in Public Agency

In today's busy, demanding urban environments, there is increasing need for civic, sacred spaces that provide opportunities for moments of quiet reflection and retreat. What is a vocabulary about civic sacred that might be used in public dialog, planning processes, and decision-making of local communities? How might people find a common language to advocate for the quiet and very meaningful experiences that nature in the city can offer?

There is increasing need for civic, sacred spaces in cities to counter the effects of busy, demanding urban lifestyles. This document explores the language of sacred to help support the development of public, nearby nature and places that provide opportunities for quiet reflection and retreat.

# 3.a. INTERPRETING TEXTS, STUDIES & INTERVIEWS

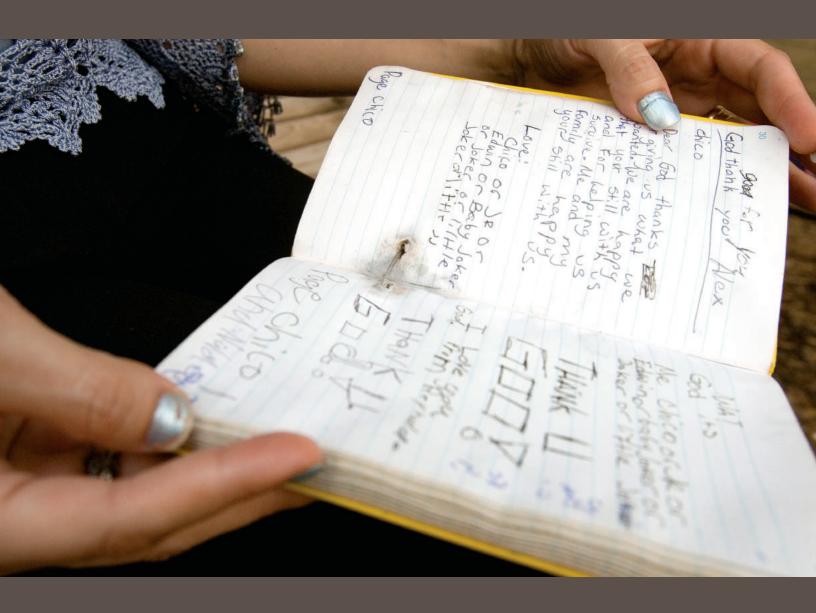
xploring the idea of civic sacred took us down several paths. First we reviewed the projects and experiences of the Nature Sacred program (sponsored by the TKF Foundation). More than 130 gardens have been funded and each has a bench with a journal; a review of thousands of written journal entries provided initial insights. We then reviewed scholarly and scientific literature for terms and concepts related to the notion of sacred. We conducted focused interviews with a dozen experts whose work spans holistic health, public art, parks, city government, and First Nations organizations. The result was a text collection rich with ideas, terms, and impressions about what constitutes sacred.

Multiple methods - similar to study methods used in anthropology, sociology, and psychology - were used to understand the meaning of civic sacred.

Social scientists use both qualitative and quantitative methods to analyze people and their relationship to environments and nature. We selected qualitative methods that are often used by anthropologists, sociologists, and psychologists. Using text materials, the analyst reads words and phrases, then key statements are sorted using a process called *content analysis* to display patterns of ideas. Themes are assembled, compared back to original texts, and a structural framework is generated. In this way conversations, writings, and observations inform meaning and help us to better understand a concept or idea.

[Community leaders should] honor and respect use of multiple terms for sacred; it's not reductionist.

—Community Health Planner



### 3.b. BUILDING UNDERSTANDING

e used qualitative methods to mine the multiple verbal, text, and interview inputs for key themes and ideas about civic sacred. Using content analysis we sorted all of our collected communications. At a general level we interpreted six themes of sacred experiences that one may transition through when entering, being within, and leaving a space (Figure 1). These themes are described in the following pages, and their associated key words are listed in Table 1.

Figure 1 - A Progression of Sacred Experiences in Nature Sites





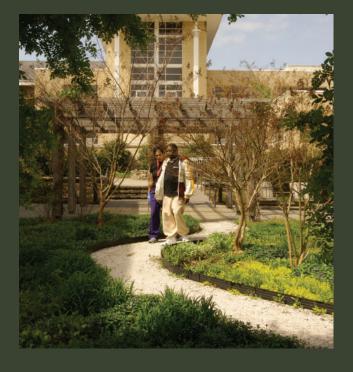
# **Design, Nature & Space**

There are certain physical traits and characteristics that lend themselves to places that elicit a sense of being sacred in an everyday way. Some of the terms are about the actual physical conditions or arrangement of a space. Others describe a sense of space or place that supports a feeling of comfort or security while within a space, making it possible for one to experience other sensations and outcomes.



#### **Pleasant Sensations**

This theme contained the largest number of responses. The experience of being in the moment and enjoying the basic, simple pleasures that nature provides is striking. Some of the terms are about physical reactions, such as the sun's warmth, bird sounds, the change of seasons, or quiet. Other terms describe one's deep responses to those sensations, using such terms as calm and peaceful. And still others capture a sense of the visitor's engagement with the natural features, of being drawn into the character of the space, such as fascination and stimulating.



### **Experiences or Behaviors Within**

Many accounts of nature and sacred experiences transition from acknowledgment of the physical space and the sensations within. There emerges a consciousness of beneficial experiences and behaviors that initiates a different frame of mind or mood from when one first entered the space. A user's reaction morphs from a reaction to place to a broader mindfulness that the space promotes introspection. Meditation, reflection, and contemplation are examples of the evolution of a sacred encounter. Few other places in cities and urban lifestyles can enable such reactions.

I've often seen autumn as a renewal, when things begin & are reborn. This year, the technicolor leaves around the fountain find me with a new job & an open future, starting today. I fell in love at this fountain, but this fountain is baptizing me into a new life, perhaps with a different me to fall in love with . . . . In any case, days like today serve to remind us all that amid the bad, there is a whole lot of wonderful good that is alive & well in this world. Without the shadows, we'd never appreciate the light.

Visitor journal entry at the Children's Peace Center garden

### **Initial Restorative Affects**

Associated with the shift in experience and behavior is a change of mood and recognition that the space is offering benefit to mind and body. Many studies about nature and restorative experiences note that fairly brief encounters with quality outdoor spaces (just minutes in fact) can reset a sense of satisfaction and perhaps boost mental function. While in the space the visitor experiences a cleansing of mental clutter and body tenseness, that are the residual responses to all demands on one's attention and time that fill contemporary lifestyles. While in the sacred space one transitions to different, calmer, mental, and physical states.

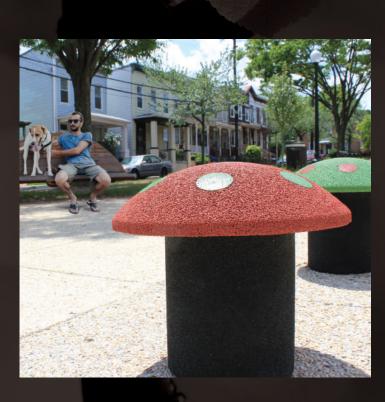


I five near here. The city as a vibrant place is important to me.

Always, every day, I hear and see more and more ugliness-even as I five in a beautiful place. This spot reminds me that we can and we must continue to struggle for the good, the beautiful, and the peaceful in life.

Visitor journal entry at the Children's Peace Center garden





### **Enduring Change**

Many people have noted that if the transformation to restorative effects occurs, brought on by the design and natural sensations of the space, they carry that change beyond the space back into the busyness of their lives. The outcomes of the sacred space experience are portable, and effects continue for some time following. In recognition of this extended benefit, some people will 'self dose' with intentional experiences, seeking to set up a continuous flow of positive outcomes from visit to visit. So while having the occasional, or one-off sacred space in a community may be beneficial, having a system of such spaces where users can enter frequently and recharge or 'fill the tank' is a valuable asset in any city.



### **Community and Culture**

All of the themes to this point describe a rather solitary, or at least individual encounter and outcomes. But many terms indicated the social importance of sacred spaces. This was expressed on two levels. First, comments were about the importance of having loved ones (friends, family, and appreciated neighbors) as partners in the experience of the sacred space. There is a particular satisfaction and pleasure if loved ones and good friends share the beneficial experience. On another level, comments described how the commitment of a community of people (be they nearby neighbors, or members of an organization) that share in stewardship of a site enhanced the experience of the space. Shared land care and activities in the site boost its special character. Friendship, greater closeness, celebrations, and recognitions are all joint experiences of place that promote greater social cohesion, and may facilitate interactions of people who may not normally share interests.

### 3.c. A CIVIC SACRED VOCABULARY

o continue the analysis process, key words, terms, and phrases were clustered together within the themes. As would be expected, some of the words used to reference sacred did align with more traditional interpretations of spirituality or

religion. But many of the terms support the six themes described in the prior pages, expanding understanding of how people encounter and experience sacred space in an everyday way. The words are some of the most thoughtful, significant, and symbolic in the English language. The lush word choices,

Design, Nature & Space	Pleasant Sensations	Experiences or Behaviors Within
Beauty	Quiet, intimate	Stillness
Refuge space	Sun shining	Meditation
Compatible design	(brightness & warmth), sounds (wind, birds)	Reflection
Fascinating, intriguing	Water coolness & sound	Safety & refuge
or mystery  Comfort, safety & refuge	Peaceful, calm	Respite
Dedicated	Fascination	Immersed
Designed Sense of place	Nature episodes	(re)Connect
	(spring bloom, bird return, fall color)	Sense of guidance
Sanctuary	Alive	Ponder what a tree has seen in its life
Beyond control of human beings	Being in the flow	Reverence
	Observe non-religious creation	Going outside of the self
	Oasis	Experiencing a place without words
	Canopy	Reconciliation
	Profound	Deep breathing
	Awe & wonder	Safe mourning
		Worship
		Communion
		Playground for the soul

extracted from all the interview and text sources, point to a shared recognition of subtle expressions of the sublime in everyday life, and the potential for public nature spaces to fulfill a need that is an essential part of being human for all who live in cities.

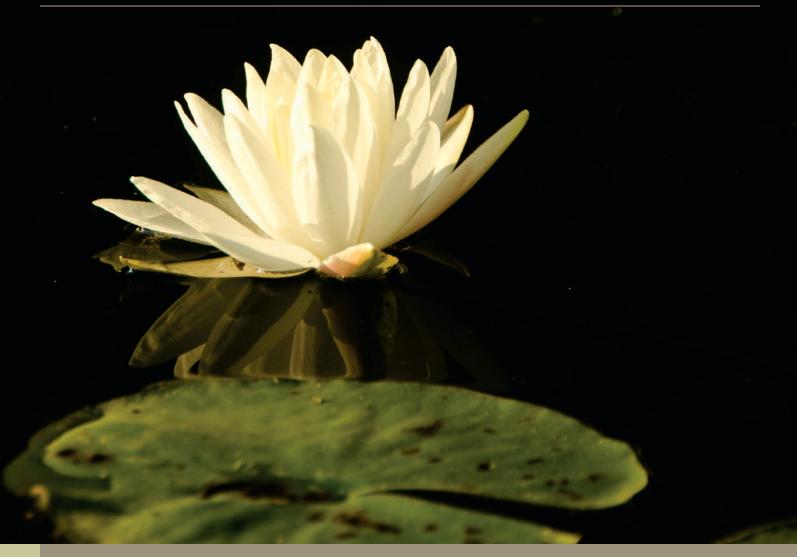
We invite you to look over the following table of terms. Are there experiences that you have enjoyed or cherished while in urban nature - in the midst of parks, gardens, trees, or green spaces? What terms might you bring to a public discussion about *restorative natural spaces* in your community?

Initial Restorative Affects	Enduring Change	Community & Culture
Serenity	Self-discovery	Celebration
Relaxing	Stress management	Familiar
Calming	Healing, health	Inclusive
Revitalized	Affirmation of the cycles	Cherished
Cleansing	of life & death  Renewal, hope	Commitment
Mindfulness		Stories
Lifts one up	Memories	Friendship
Inspires	Mentally revisit	Communication
Deeper awareness	Refreshes creativity	Memorial
Mind & system "reset"	Makes one feel cleansed	Sharing differences
Reconnecting	Connecting to something bigger than self	Respect
Restorative	Universal	Legacy
Creative beginnings;		Monument
imagination		Combined religious & secular
Short retreat	-	Cultural cues
		Place for ceremony
		Consecrated
	*19	Hallowed
		Sometimes exclusive



In sacred spaces, and not in places that aren't, we are allowed to be secure and safe enough to reflect, introspect.

— National Park Service Official



### 3.d. THE SACRED IMMERSION

ome of the people that we interviewed had a planning and community systems perspective. They were particularly observant about the need for a shared understanding about appropriate behaviors while in a sacred place. Some parks and green spaces are intentionally planned for activity, even for boisterous, noisy activity, such as ballfields and skate parks. The themes and terms of a sacred language indicate more quiet, contained, and probably smaller spaces. A shared understanding, and commitment to more quiet, respectful behaviors acknowledges the intentions and needs of all visitors.

Adapted from the American Psychological Association, here are ideas about activities within urban sacred spaces that nourish the user, and protect the experiences of others.<sup>2</sup>

Certain activities and behaviors enhance the sacred experience.
Considerate behavior when within a special place is appreciated by all visitors.

### Contemplation

Many cultures have traditions of contemplative and meditative practices and techniques. Mindfulness practices, including meditation, have evolved from these traditions, and are being integrated into secular mental and physical health care. There are outcomes of quiet thought, meditation, and mindfulness that can help one to revisit priorities in one's life. Meaning and purpose in life are examples.

An individual's identity is often tied to questions of what one should do with one's life, and how to set, then achieve, goals.

Occasional time-outs can be helpful for thinking about how to define one's purpose and broader roles in family, work, and community. Some may also find their time-outs are aided by reading while in an outdoor sacred space. Reading scripture or holy texts, self-help, or inspirational literature can enable greater understanding of self, or suggest motivations or actions for betterment.

A broader perspective on life can lead to thoughts and actions concerning how we interact with other people. Often taken for granted, or rarely brought to our attention, ethical values and behaviors provide the guidelines for our personal and public lives, including respect, responsibility, integrity, competence, and concern. It can be helpful to occasionally take a few minutes to reflect on one's ethical values, and how they are expressed in everyday life. Quiet time spent in nature may help one to reflect on broader purposes and forgive minor disagreements. letting go of feelings about real or perceived slights and social transgressions. Gratitude, or the ability to count your blessings and to be thankful for what one has, eases one's mental health, and nurtures appreciation for daily events and experiences.

### **Connecting to Faith**

While this report is focusing on secular spaces, some users will find solace in their faith and spiritual traditions while in nature. Many religious traditions highlight the notion that life is sacred, suggesting that the divine resides in all humans and/or living things. Reflection on the inherent significance and value of all living things within a quality nature space can promote a greater appreciation of all life. Prayer can be defined in a number of ways, but it is essentially understood as being a conversation with the sacred. It is the 'simple act of turning our minds and heart to the sacred.' William James, a key figure in early American psychology and author of *The Varieties of* Religious Experience, defined prayer as an 'inward communication or conversation with the power recognized as divine'. Prayer, literally and symbolically, is an opportunity to engage with what is most meaningful to us.

Some places are particularly suited for group talking and sharing. They become the places that sustain cultural values over time and multiple sessions, the shared stories of lives generate places that represent the stability of self and family.

—First Nations Program Director

#### **Social Connections**

Many sacred nature spaces are initially created as memorial or celebration sites, then become places for community ceremonies and rituals. Events, gatherings, and celebrations can provide rich opportunities for social connection. support, and networking. There are mental and physical health benefits from community social support, particularly for elders in a community. Assisting with the care of a place, through stewardship projects, provides opportunities to connect with others and feel the satisfaction of sustaining the quality and health of a space, and perhaps even leaving a legacy for one's community. Volunteer activities are associated with positive mental and physical health outcomes. Volunteering, particularly when working to improve the situation of others, can introduce an enhanced sense of meaning, purpose, and value and the experience can help put one's own troubles and concerns into better perspective. In addition, working to provide sacred spaces for others, particularly those feeling greater need or challenge, can help a person become less self-focused and nurture a broader outlook on human needs and fairness.



# 4. CONCEPT AND PROCESS

his report focuses on civic sacred, that is, opportunities for secular spaces and experiences in cities that can transcend the busyness of today's lifestyles.

Obviously, the notion is very complex.

There is an ever greater commitment to green design, parks, and gardens in many communities, but these nature installations are often intended to provide sports, aesthetic, or social gathering opportunities.

Less thought is given to how to intentionally enable sacred contacts with nature, and to provide these more intimate experiences within the urban fabric.

Scholars throughout the ages have offered insights and interpretations about the sacred. The readings are not always easy to comprehend, and at times can contradict. Offered here is a sampling of contemporary ideas about definition, understanding, and expression of civic sacred in combination with nature in cities.



How have scholars thought about and described the notion of sacred? The concept is complex, but is central to many of the meaningful experiences of being human.

This section was informed by the work of Erika Svendsen and Lindsay Campbell, social scientists with the U.S. Forest Service and Project Leaders for the National Nature Sacred Awards Landscapes of Resilience: Queens, NY project, who have studied community-based memorials following the September 11, 2001 terrorist acts in the United States. Co-authors of a Nature of Cities Global Roundtable blog about nature and sacred in cities also provided insights.<sup>3</sup>

### 4.a. CIVIC APPROPRIATENESS

he term sacred can introduce tension in public discourse as some state and local governments adhere to a political separation of church and state. Civic policies that separate the sacred and profane can quickly sidetrack any discussions about the role of the sacred in public nearby nature in cities. Capital 'S' sacred is connected to formal spiritual traditions and theology, is a foundation of faith-based organizations, and may be interpreted as a breach of public policies of separation. Civic sacred is not limited to traditional places of worship and consecrated sites, but is the opportunity for intentional and meaningful nature encounters throughout a city, on both public and private lands.

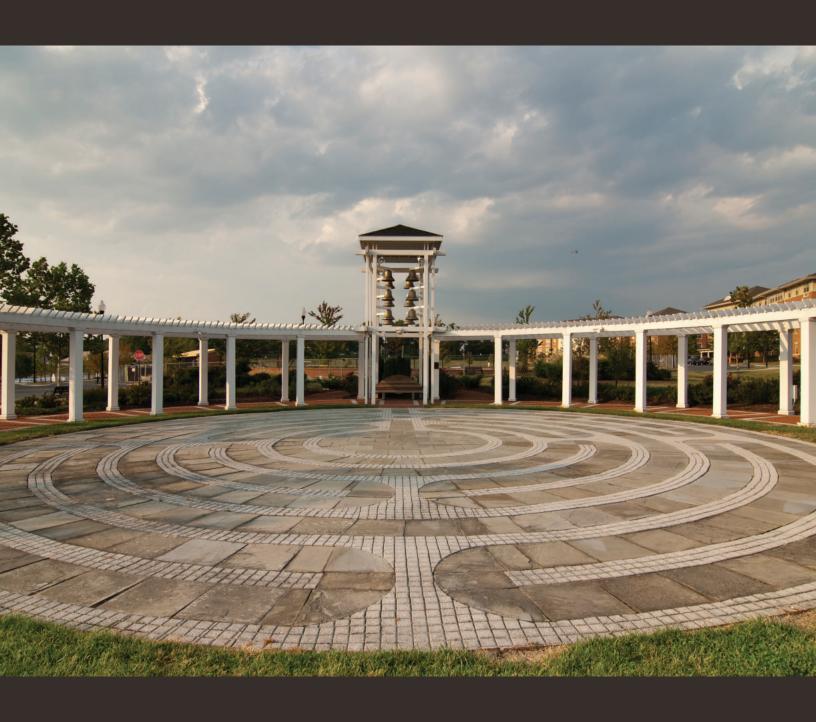
There are challenges of semantics, and the difficulty of direct use of the word sacred can filter down to the scale of specific neighborhoods or communities, or even to individual sites and projects.

A colleague who is a regional urban parks planner attempts to inconspicuously bring the notion of sacred into his work. He holds that 'sacred space should be part of our assumptions about everyday reality, something we feel comfortable in and about. ... When we talk about increasing [parks] access, community-based design policies, or increasing stewardship [participation] among minority populations . . . . we are ultimately talking about how to fold the experience of nature and sacredness into our everyday lives.' But such discussions do not come easily. He also notes that '... with my work colleagues I'll say something, and they hook into it or they don't. That lets me know where to take the idea, or just drop it. Usually I don't use the word 'sacred', but use beauty, serenity, relaxation. They can connect to these words and then we can talk more directly.'

### 4.b. PHILOSOPHICAL TRADITIONS

here have been two generally contrasting philosophical perspectives on the sources and meaning of sacred.4,5 Key perspectives were formulated by scholars in the late 19th to mid 20th centuries. The first relies on expressions that are conveyed by clergy or elites, characterized as an *insider* perspective. Within religious traditions sacred space is often characterized by what is holy, powerful, constant, and centralized. Certain physical places are deemed powerful centers of meaning and tradition.<sup>6</sup> Experiential qualities are based on privileged or limited knowledge and access, often within a relationship of power or prestige. The sacred is expressed as uncanny, awesome, or powerful manifestation of reality, full of ultimate significance. Rudolph Otto, an eminent theologian, equated sacred with *holy* as an experience of greatness outside the self. Mircea Eliade, an interpreter of religious experience, regarded the sacred as that which is the physical manifestation of a higher power. Gerardus van der Leeuw, a Dutch philosopher of religion, suggested that every establishment of a sacred space was potentially a conquest and an act of power.

A competing analysis is found in the works of scholars focusing on the interactions within human society, including Emile Durkheim (a sociologist), Claude Levi-Strauss (anthropologist), and Arnold van Gennep (ethnographer). In this outsider critique, sacred is an empty signifier; nothing is inherently sacred. Sacred is situational and is a consequence of social and political exchange. Sacredness is bestowed on anything, anyone, or anyplace by a community whose members consecrate and declare that some "thing" is different in quality than the objects or ideas encountered in the everyday. This definition describes how place is sacralized by way of a particular culture giving special attention, memory, design, construction, and control of space in a ritualized manner.<sup>7</sup> Durkheim posited that *sacred* was not the same as divine, and argued that not only are gods and spirits sacred, but also things such as rocks, trees, man-made objects, that is, any thing that humans come to find meaningful.





Jungfrau by Albert Bierstadt

### 4.c. THE ROLE OF NATURE

he sacred often takes on spatial form, whether the scale of significance be individual or societal, and is often expressed as place. Lewis Mumford observed in *The City in History* (1961) that burial grounds, shrines, cairns and other sacred sites (including groves or forests) served as the nuclei of human settlements because they provided cultural magnets and prominent sites to which our nomadic ancestors would return.

In the history of the United States, nature, particularly more dramatic landscapes, has been linked to our culture's evolving notions of what is spiritual and sacred.

Set aside lands, particularly those having distinctive or dramatic features, have been prominent sacred places across cultures. We interviewed a U.S. National Parks planner who told of fascinating connections between the spiritual and the landscape:

The origins of the parks movement in developed nations harkens back to earlier civilizations and the antiquities. Parks were places where gods and deities would rest and reside when coming to the human world. Parks and gardens were the places to host gods and spirits. In time these beliefs about the presence of revered beings became more formalized in religious doctrine, adding layers of ritual to the human encounter with sacred.

Eventually the physical expressions of nature as sacred became embedded within ceremony and rituals that took place within the grand architectures of temples, churches, and mosques. Yet people in the United States have long had an affinity for remarkable and symbolic landscapes. Philosophical distinctions between wilderness and civilization, and the sacred and the profane, had been an enduring topic in Europe, and was renewed by early Americans, such as Henry David Thoreau and the Transcendentalists.

The historic American relationship to nature can be described as overlapping sequences of exploration, exploitation, conservation, and sustainability. In every sequence there are clear examples of nature as sacred or salient to American identity. In the mid-1800s a shift towards a romantic view of nature began to take hold. Wilderness became sublimely beautiful and a place to experience truth and spirituality rather than being a dark and threatening space. For instance, early political appeals to dedicate a National Parks System were premised on dramatic, symbolic imagery about the grandeur and a nativistic expression of the sacred in landscape. John Muir's first hand accounts of lands that would eventually become world-renowned landscape preserves are still quoted extensively as representations of 'sublime' wild landscapes, and a human spiritual dependence on nature.

In the late 1800s Frederick Law Olmsted's appeals about Central Park and its potential to remedy the social ills of urban dwellers initiated greater attention to natural spaces in the midst of cities. Metro nature is often planned and implemented for a number of

New York's Central Park, the first urban landscape park, was a major social innovation, and integrated idyllic and contemplative elements.

services or functions, such as recreation, water management, or beautification.

Awe while in the sublime, grand American landscape has been translated into functional, pragmatic integrations of urban green spaces that are open and community-serving.

The American experience of nature and sacred is not unique. Many cultures, including those of India, Japan, and Africa, have traditions of honoring sacred forests, groves, and mountains. Compared to pristine or wild landscapes, the urban environment may have few remarkable natural features that inspire or there may be little memory of ancient practices. Yet in their studies of community response to tragedy Svendsen and Campbell found that many contemporary memorial spaces were connected to any number of natural elements such as lakes, ponds, shorelines, forested

In a classic American sacred experience, we are suddenly aware of the grandness around us. The visceral attachment to a natural space is perhaps one way for people to experience a sense of connection to their community, or perhaps identity at the community scale.

—Community Health Planner



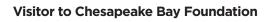
Wooden flowerbed and a bench near a World War II memorial

areas, gardens, and fields. In some cases, symbolic trees were acknowledged, including new plantings. Many of these locations were not formally dedicated or consecrated, but were reappropriated by community members from abandoned or underused lands. Images, symbols, and physical places that include natural elements may convey both religious and civic sacred associations with life, death, and rebirth. Parallels are observed between plant and animal lives, and the human life cycle, including how to weather hardship and challenge. Choices of particular species, colors, or planting arrangements can be used to recognize past events and project

Contemporary urban parks and green spaces often include natural elements, such as trees or small gardens that commemorate people, memories, or events and can become sacred in communities.

messages into the future. Plant materials are used in ceremonies marking human milestones. Refugees and immigrants often plant or forage for plant materials that represent both secular and sacred aspects of their homeland.

It is strange to begin to envision the sunset of my own existence while my parents are still in view. However, each sunrise gives purposeful hope and each sunset the possibility of completion and rest.





### 4.d. SOCIAL CONSTRUCTION



he role of social interactions in creating, consecrating, and acknowledging sacred is equally important as object or artifact. Community dynamics can be particularly relevant in urban settings. While most scholars of sacredness have focused on religious or ritual sources, some social scientists have been particularly observant about secular social process, based on their research of post-disaster memorials.<sup>8, 9</sup> The emergence of post 9-11 community-based memorial spaces offers insights about how people create the civic sacred in their lives and communities. Memorial gardens are a response to keenly felt losses following terrorism, natural disasters, or community unrest, and typify

the shared social activity that may surround any nature-based sacred space.

There were two general placemaking responses following 9-11. The first was formal, institutional process. Local government or civic groups designate a place, often including public art, statues, or sculpture, to commemorate an event or group of people. Formal processes of place-making must simultaneously welcome stakeholder input and limit participation, in order to move from process to construction. Citizens become connected to place by way of participatory inputs, which may include visioning exercises, public workshops or charrettes, and design input. But citizens ultimately may have little direct authority in project decisions.

The second types of response were emergent, vernacular, community reactions. Some residents responded in more intimate ways by engaging in the creation of community-managed special places. These were more self-organized and democratically formed, and developed independently of place-making initiatives sanctioned by local government. Memory and meaning is active and is a part of life, in addition to historical artifact. An interpretive labor goes into making sacred places and helps to determine the symbolic order and design of a sacred space. Informal interpretive acts (such as ceremonies, celebrations, and rituals) create webs of meaning that continually redefine and intertwine the sacred and the profane for an engaged community of people.

Expressions of meaning-making for any outdoor sacred space can vary quite a bit. Some places may emerge as a combination of both formal and informal social processes, and their ongoing use also reflect community interests. Participatory planning and design enable important public discussions about the intent and function of sacred space. Some spaces are



created explicitly for staging events with the intention of strengthening community cohesion and to encourage on-going site care and maintenance. Community uses of special places often also include local spontaneous or unplanned events, and teaching and recreation opportunities.

When in spaces where there is no nature, people depend on each other (for support), but people can't always do that for each other. Green spaces sustain community stability [through emotional, behavioral, and psychological support].

—National Park Service Official

Sacred spaces contribute to development of communal identity. Having a space as a refuge, a place where ongoing cultural practices can take place provides the most benefit.

— Community Health Planner

### 4.e. PLACE ATTACHMENT

eople readily recognize the importance of positive relationships with friends and loved ones. But relationships with places are also important aspects of a person's wellness and expressions of civic sacred. Place attachment is the composite of a person's emotional connection to physical and social environments. Early attachment studies assessed tourism or recreation activity (such as hiking or cycling) in distant places, acknowledging the role of activity to build meaning. More recent studies have considered the bonds that form in everyday outdoor situations. Social scientists have found that length of residency, shared social processes, and home and community garden participation are associated with neighborhood attachment.<sup>10</sup>

Nature places in cities may be merely the background of people's lives. Social activity in and about a place adds meaning, and people develop place attachment. A sacred place emerges from engagement and interaction with the land and other people.



A study of immigrants from six different nations, now living in California, U.S., revealed the diversity of place experiences.11 It was found that immigrant gardens can be: (a) religious space enabling everyday practice of religion as well as meditation and socialization, (b) culture space through plants, fruits, and flowers that enable cultural cuisine, ethnomedicine, and identity continuity, (c) ecological space that assists with environmental/ecological nostalgia. reconnecting people with landscapes left behind as well as forging new connections to place, and (d) family memorial space where gardens honor and memorialize family members and provide opportunities for intergenerational linkages. Gardens enabled immigrants to engage with, personalize, and experience their new home communities in deeply meaningful ways.

#### 4.f. CREATING PLACE

lace-making supports everyday intimate and meaningful experiences. Civic sacred may emerge in found spaces that are community-managed, sometimes reappropriated from their prior use, and often carved out of public lands. They may be dispersed throughout the city in everyday and highly public landscapes.<sup>12</sup> Locations can include a subspace within public green space (such as existing parks or gardens), at sites of historic or local significance (such as city halls or schools), or at key places in daily life (places where people work, shop or drive), within large spaces (such as waterfronts), or occupying tiny scraps of space. The emergence of a created space may connect to a distinctive natural element such as a view of water, a promontory, or a large tree. The relationship between nature and meaning may be expressed as a nature-based activity (such as a tree planting), or as objects brought to a memorial or ceremony (such as flowers).

Sacredness is not necessarily the thing itself, it's something within a person that has to connect...Using ritual is one way to get at sacredness. You can invite public into ritual; ritual can be part of the opening ceremony, it introduces people to the idea of sacredness. There has to be a way to invite people to walk in to that space.

-Community Artist

Once established, a sacred space can continue to serve its creators as a local gathering place, or as a place of intentional community visibility and reflection during daily routines. People may continue to engage with a place by gathering to view the location of a key event, provide decoration during holidays or on significant dates, provide ongoing care and renewal of plants or other materials, make use of ways to leave thoughts or words (mailbox, journal, prayer flags, ribbons), and participate in periodic ceremonies (such as an annual holiday or remembrance event).

People tend to choose an object to focus on as part of their sacred experience. People need something 'to move toward'.

—İntegrative Health Physician

Places that emerge in both formal and informal processes are supported by the Nature Sacred program, sponsored by the TKF Foundation.<sup>13</sup> The foundation has contributed to the creation of more than 130 Open Spaces Sacred Places. These spaces and gardens have been placed at schools, hospitals, places of worship, prisons, and within neighborhoods. Most serve a group or neighborhood that has experienced crisis or challenge. They serve important needs for people who are not able to leave the city for restorative experiences in distant large parks or nature reserves. The sacred places have been designed and constructed based on the Nature Sacred Principle. Every site has been created with community partners,

often coordinated by a local liaison, the 'firesoul' of the project. Spending time in Open Spaces Sacred Places, as well as the activity leading to their creation, are often significant experiences in users' lives. Every Nature Sacred place includes a bench, providing a comfortable place to sit and reflect, including the opportunity to write an entry in a journal. The journal entries are collected and now number more than 10,000, including the examples found throughout this report.

In green places like this it's as if I can let out a breath I did not realize I was holding; worries drop away and I'm at peace. I am reminded of what I tend to forget, that people are ultimately the most important things in our lives.

University of Maryland, Baltimore County: Joseph Beuys Project Journal Entry







BEFORE AFTER



### 5. SCIENCE AND THE SACRED EXPERIENCE

n our interviews we heard on several occasions that one just knows, just senses when one is in a sacred space. There is a palpable sense of meaning or attachment when one is in such a space, be it in one's personal garden, or be it a public space. In Section 3 we attempted to provide a vocabulary for one's experience while in a civic sacred space. Section 4 summarized philosophical and scholarly insights as an effort to connect to historical and social aspects of nature sacred. We return to the possibility that the notion of sacred may not be acceptable in public policy or meetings in some communities. This section describes the research findings and evidence about why sacred spaces are important for human health, wellness, and other benefits. The Green Cities: Good Health web site (www.greenhealth.washington.edu) is a project at the University of Washington that summarizes nearly forty years of

Personal experiences create and define the sacred in city places. Scientific studies also confirm with evidence that nature-based sacred space is important for health promotion and improved quality of life, particularly for mental health.

·····

research about the linkages between nature experiences and human disease prevention and health promotion.<sup>14</sup> Here we specifically focus on the mental and physical health benefits of being in outdoor spaces that offer sanctuary, and support relaxation and reflection.

The western medical community dismisses the . . . . sacred experience in healing or health because it [is assumed it] cannot be measured. [Yet] we are approaching scientific standards [and] the ability to measure our [body's] response[s] . . . . If people have a desire for heightened experiences, just like a need for food or water, why not begin to understand how?

#### -Integrative Health Physician

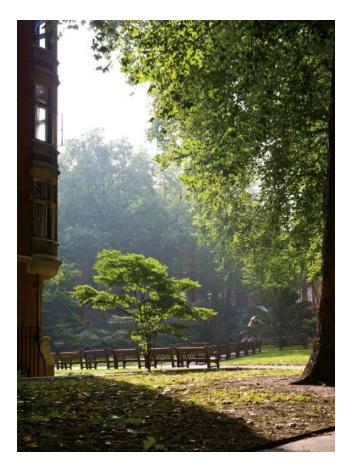
In many communities research and scientific evidence are used to support policy and programs, and secure budget resources. Numerous scientific studies reveal the benefits and importance of restful, mindful time in nature. This information can aid civic sacred advocates in making the case for having open spaces sacred spaces in their communities.

#### 5.a. IMPORTANCE OF NATURE ENCOUNTERS

veryday interactions with nature within one's community sets up positive emotional responses. Portable EEG recordings have shown evidence of lower frustration when in green space, versus when moving within retail and commercial areas having no trees.15 One study focused on the effects of exposure to nature on positive affect and capacity for reflection. Participants spent fifteen minutes walking in a natural setting or a built setting. The natural setting was found to increase connectedness to nature, ability to direct attention, positive emotions, and ability to reflect on a life problem.<sup>16</sup> In another study, after 50 minute walks in nature, participants experienced a decrease in anxiety and negative emotions, and an increase in working memory performance.<sup>17</sup>

The theory of restorative experiences underlies many of these positive responses.<sup>18</sup> The theory posits that our contemporary work and learning activities demand extended periods of directed focus and attention. Such activity, particularly if sustained for long periods of time, can induce attention fatigue that results in irritability, loss of concentration, and inability to function effectively. Nature can provide restorative experiences, particularly if the setting contains key elements: (a) being away (a sense of removal or separation

from attention demands), (b) fascination (being readily engaged in the features of the place), (c) extent (the perception that there is adequate space for varied experiences), and (d) compatibility (feeling that the space supports one's purposes or chosen activities). Notably, small parcels of well-designed urban nature can provide these conditions.





Nature encounters are also associated with positive physiological responses. Our bodies may do better when we experience nature, and in ways that we may not even consciously realize. For instance, studies in Japan about *Shinrin-yoku*, roughly translated as *forest bathing*, have found lower levels of salivary cortisol, an indicator of stress, after short times spent walking in or viewing forest areas.<sup>19</sup> The autonomic nervous system (ANS) is the behind the scenes control for many bodily functions, and reacts based on our

experiences of our surroundings, including relaxation or stress. A study found that views of nature buffered negative ANS response to an introduced stressor, or in other words, a dose of nature 'immunized' a person against a later stress experience.<sup>20</sup> Researchers have linked positive emotions - especially the awe we feel when touched by the beauty of nature, art, and spirituality - with lower levels of pro-inflammatory cytokines, which are proteins that signal the immune system to work harder.<sup>21</sup>

#### 5.b. IMPORTANCE OF QUIET

he amount and character of noise - or the acoustic landscape - is very important to human health and wellbeing. At one extreme, sounds have been used in warfare and in torture, as deafening aural assaults are used to break resolve and willpower. In contrast, music may be used to improve moods and satisfaction in the workplace and life. People often seek quiet or relaxing sounds of nature to recover from a stressful day or simply to relax and decompress. 23

Findings from multiple studies show that persistent, loud noise (e.g., traffic) causes non-auditory stress effects such as elevated blood pressure, poor sustained attention, memory/concentration problems, sleep disturbances, modifications of social behavior, psychosocial stress-related symptoms, annoyance, and learned helplessness.<sup>24</sup> A study in the U.K. found that 63% of people experience noise from neighbors and about half the reports were of annoyance.<sup>25</sup> Even moderate sound levels can cause feelings of disturbance,26 increased blood pressure,<sup>27</sup> increased risk of heart attacks,26 decreased well-being and quality of life, 28, 29 and stress reactions

and sleeplessness.<sup>26</sup> A long-term study of thousands of individuals in the Netherlands found associations between average higher exposure to road traffic and neighborhood air pollution, and cardiovascular events.<sup>30</sup> In another study those with access to a quiet side of their home, not exposed to traffic or disruptive noises, had lower stress-related psychosocial symptoms and improved sleeping patterns than those always in a noisy environment.<sup>31</sup>

Sound can impact our quality of life and mental health. Noise can make it more difficult to learn and apply cognitive thinking skills.<sup>26, 32</sup> The term constructive internal reflection describes what happens in the brain during quiet time.<sup>33</sup> Brain systems activated during rest are important for active, internally focused mental processing. Mental rest improves the ability to recall personal memories, imagine the future, and feel social emotions with moral connotations. Development of some socio-emotional skills may be vulnerable to disruption by distraction. Setting aside quiet time for meditation and simple rest is recommended, however, finding a quiet space can be a challenge in many urban environments.



Green space, particularly trees and large shrubs, can reduce ambient noise by providing a barrier or screen.<sup>34</sup> Vegetation can be used to dampen and reduce noise, by providing a noise barrier as well as softening sharp tones.<sup>35, 37</sup> Research suggests that dense planting reaching to the ground and with no gaps may achieve noise reductions of up to 15 decibels.<sup>36</sup> Being in the midst of vegetation can affect the perception of sound as well. In a study of soundscapes

researchers compared subjective ratings to objective decibel measurements.<sup>37</sup> They found that people rate human-made and natural sound differently, preferring the natural even if the sound levels are high. In a similar study,<sup>38</sup> participants rated loud biological noises (wind, water, birds) as desirable, suggesting that a tranquil experience can be engineered within urban environments.

#### 5.c. IMPORTANCE OF MINDFULNESS

editation is an act of

intentional focus on any number of things breathing, repetition of a word or phrase, an object in the visual field, tension or physical sensations, or specific thoughts or personal reflections. Benefits of meditation include lowered heart rate,<sup>39</sup> lowered blood pressure, improved metabolism, improved respiration, improved cognitive functions, longer attention spans,40 and improved perceptual ability, memory, intelligence, and empathy.<sup>41</sup> Some research has found that practicing meditation may reduce stress-induced immune system decline and behaviors.<sup>42</sup> Scientists are not yet sure why these responses occur, but generally agree on the benefits.

In addition, mindfulness is described as "being attentive to and aware of what is taking place in the present" with resulting benefits. Mindfulness enhances self-regulated functioning; that is, mindfulness sensitizes individuals to intrinsic signals, allowing people to better regulate themselves toward meeting their needs. Mindfulness enhances the richness and vitality of moment-to-moment experiences.

Mindfulness training may also improve attention-related activities (such as work or study) by enhancing some specific brain areas that support attention.<sup>44</sup> In a study that included training on mindfulness meditation, those doing meditation (compared to a control group not doing so) had increased brain patterns associated with positive affect and significant increases in antibodies available to fight influenza after injection with a flu vaccine.<sup>45</sup>

Certain experiences or environments may promote these beneficial practices. The enhanced sensory influences of nature experiences can support a state of mindfulness and meditative practices. 46 For example, a study using EEG recordings showed evidence of higher levels of brain activity similar to meditation when moving in green space, versus when within built settings having no trees. Key psychological needs may be met through affiliation with nature, including autonomy, competence, and relatedness. These needs also correlate with outcomes of mindfulness.



One possible outcome is a greater sense of happiness. As described by psychologists, happiness is the presence of a positive emotional mindset that broadens how a person thinks about and acts in the daily flow of life's efforts, creating positive intellectual and psychological resources. During relaxing activities such as light walking, tai-chi, yoga, meditation, and exercise, even prayer and belief, the brain produces endorphins and dopamine that contribute to positive feelings. One study indicated that a sense of connectedness

to nature was consistently associated with autonomy, personal growth, happiness, life satisfaction, and purpose.<sup>48</sup> Another investigated levels of self-esteem, anxiety, and happiness of women asked to walk in various settings with the intent to meditate or increase heart rate; meditative walking in a forest was the most effective at increasing measures of happiness.<sup>49</sup>

## 6. SACRED IN YOUR COMMUNITY

e have built the case in this report that sacred - while certainly a part of faith, spirituality and religion - is increasingly important in the everyday lives of every city resident. While some people may identify sacredness in specific buildings or objects, opportunities for quiet, contemplative experiences of nature within one's community are at the very heart of the civic sacred notion.

I think that we are talking about spaces that create intention. They are more than background. They are a part of life.

—Environmental Educator



#### 6.a. A VISION

his report has provided a wide-ranging review of civic sacred in cities, including historic origins, contemporary expressions, evidence-based benefits, and a supporting vocabulary. No other organization or agency has explored this notion so thoroughly. In addition, the TKF Foundation has supported the imagining, design, and construction of a set of Open Spaces Sacred Spaces that demonstrate how civic sacred spaces function, and their meaning in communities.

Based on the Nature Sacred Principle, the TKF Foundation envisions a time when every urban community in the U.S. will provide people with opportunities for intimate, intentional daily doses of nearby nature through the creation of a system of nature spaces. Every person, in every community in America, deserves to have access to well-planned, open, nearby nature sites.

These intimate green spaces should not be distributed in some random way, but should be part of intentionally funded and planned city-wide systems of small spaces to enable necessary and frequent down time for quiet, mindfulness, and reflection. A network of parks, gardens and green spaces can include public or private properties, as well as facilities imbedded within special land uses, such as campuses, transit stations, or retail centers. The Quiet



Garden movement is an example.<sup>50</sup> Started in the U.K., there are now more than three hundred spaces in several countries. They are located in schools, prisons, and hospitals, as well as church yards. People offer their private gardens as quiet places of retreat and, with the additions of benches and welcome signs, they become places of quiet reflection.

A vision for civic sacred can be achieved at different scales. High quality design can be used to create a sacred space wherever there is opportunity. Community policies supporting networks of sacred spaces enable more people to enjoy benefits, and in a way that is fair to all.

#### 6.b. DESIGN DISCOVERY

arks, gardens, the nearby tree
- the Nature Sacred encounter
usually happens at the site
scale. The professionals who
work in horticulture and garden
therapy have engaged hospital patients
and those in need of therapy in nature for
decades. The best practices of design and
management for healing gardens are now
being adapted for other public outdoor
spaces.<sup>51</sup>

Also, the TKF Foundation has funded the design and construction of more than 130 Open Spaces, Sacred Places. In a rather spontaneous way, a pattern of design elements has emerged and these are remarkably consistent with historic designs of outdoor sanctuaries, contemplative spaces and healing gardens. The key elements are portal, path, destination and surround.



**Portal:** When one passes through an archway, a gate, a stand of trees, a pergola, or other marker there is a clear transition by movement from the space of everyday life and functioning. One enters a reflective space and encounters the fascinations of nature.



Path: Whether linear and well-defined, or more meandering, a path allows one to focus attention and achieve mindfulness within the surroundings. A path can ground one with the earth and offers a connecting route to the nature elements that are particularly interesting or fascinating. Labyrinths promote contemplative walking, and can be installed in fairly small places to expand the use of a modest site.

This presentation of four elements is not meant to be design formula, but describes the spatial characteristics that have been found to support moments of contemplation and respite. There can be a sense of variety within unity, that is, there are infinite sets of possibilities for design expression of sacred spaces while still generally incorporating the design elements. A participatory process of design may introduce meaningful

details that recall unique characteristics or remembrances of a community, or the symbols and important messages of different cultural groups. There may also be a system or linked set of civic sacred spaces within a community, all connected in concept, but each having somewhat different features, characters, or a user group.



**Surround:** Design elements — such as plantings, fencing, or trees — provide an encompassing sense of boundary, safety, and enclosure. Portal, path, and destination invite one to experience a space; the sense of surround ensures that one experiences a sense of being away and an emotional separation from the stress and challenges of life.



**Destination:** An appealing feature or end point draws a person into the welcoming space. The sojourn, however brief, is rewarded by the experience of a feature that can encourage quiet, fascination, joy, and spiritual connection with nature.

#### 6.c. BIGGER NEEDS AND A GRANDER VISION

hy should cities and

communities invest in and build Open Spaces Sacred Places? As urbanization continues city residents lead ever more complex and busy lives. They are removed from nature to a degree never before experienced in human history. Just a few generations ago the majority of the U.S. population worked in agriculture and natural resources jobs, industries where one routinely connects to the outdoors and seasonal cycles. Today workers in outdoor occupations (such as farming and forestry) number about one percent of the total U.S. workforce.

As cities have grown and people moved from the countryside to the city, community leaders introduced systems to remove waste, deliver utilities and services, and make transportation more efficient. The resulting 'sanitary city' was highly successful, becoming a model of achievement for human health and wellbeing. Urban designers, such as those of the City Beautiful Movement in the late 19th century, introduced notions of monumental form to cities, replacing the intimate experience of place with grand built settings and large scale geometries. In more recent decades, based on recognition of the ecological impacts of urban areas, sustainability has become a planning goal, and ecological function is integrated into built form. Examples are green infrastructure to manage stormwater, or tree planting to reduce climate impacts.

The most dynamic cities have always been immersed in the critical innovations of their time.

—Geoff Mulgan, National Endowment for Science Technology and the Arts

By far the greatest and most admirable form of wisdom is that needed to plan and beautify cities and human communities.

-Socrates





#### 6.d. THE BIOPHILIC CITY

nother important notion, the biophilic city, is an initiative to integrate nature into city form, with intentions to create sustainable cities that also engage residents in experiences of and appreciations for the nature that is around them.

The term biophilia, first coined by Erich Fromm and popularized by Edward O. Wilson, is the innate emotional affiliation of human beings toward other living organisms. This connection is hereditary based on our species' long dependence on nature, and is essential to being human. Tim Beatley and other urban planners are promoting new ways of connecting urban nature and people. A biophilic city is a green city, a city with abundant nature, and natural systems that are visible and accessible to people. Such cities are certainly shaped by buildings, infrastructure, and urban design, but they also include a spirit of place, and residents share an emotional commitment

and concern about nature and other forms of life. Local interest in and curiosity about nature is expressed in the budget priorities of government as well as in the lifestyles and daily patterns of the city's residents.<sup>52</sup>

While the biophilic city may contain abundant nature and rely on natural systems to support human health, there is a spiritual dimension as well. We need wonder and awe in our lives. Beatley observes that nature has the potential to amaze us, stimulate us, propel us forward to want to learn more about the world. Experiences of wonder and fascination, having opportunities to nurture deep personal connection and involvement, and intense engagement in something larger and outside ourselves can nurture an exceptional personal discovery of meaning.

# Symbolism in spaces contributes to healing awareness

—Mayor of a Small U.S. City

## 7. CONCLUSIONS

that life is out of balance, with work and busy lifestyles demanding our attention and energies.<sup>53</sup>

Perhaps it is time to evolve to the sacred city? Building on the precedents of the sanitary and sustainable city, designers, planners, and engineers can continue to provide technical support for clean, efficient urban settings. In addition, recent interest

ore and more people feel

in place-making, participatory and crowdsourced planning, and neighborhood scale infrastructure improvements suggests greater commitment to city changes that engage and effect residents in a direct way.

In recent years there is increasing attention to the importance of all residents of communities and cities having access to trees, parks, and gardens and their associated benefits. Using big data, such as satellite imagery, citywide parks and tree canopy distribution analyses often reveal inequities in location of and access to natural amenities. Higher quality parks, trees, and open spaces are often found in more affluent neighborhoods. Local governments are responding to the spatial distribution discoveries and crafting equity policies that guide new tree plantings and parks development.

There is increasing attention to the power of nature experiences in the city. Perhaps in the sacred city, biophilia should be expressed at a more local scale, as biophilic neighborhoods. Within the biophilic neighborhood residents are sustained by nature and, in turn, are its stewards. Nature becomes more than an abstract, occasional experience, but is part of the fabric of both the built and social community. As an important feature in the biophilic neighborhood, sacred places and gardens become readily available to all residents. and become the healing places of respite that improve human health and promote resilience.

To experience benefits, sacred space should be part of our assumptions about everyday reality, something we feel comfortable in and about. When we talk about increasing access, community-based design policies, increasing stewardship among minority populations, or decreasing adverse nature experiences present among some urban youth we are ultimately talking about how to fold the experience of nature and sacredness into our everyday lives.

-National Park Service Official



As the Nature Sacred Principle becomes more familiar in communities, there must be a commitment to providing nearby nature for all of a city's residents. Providing the resources and spaces that enable all people to envision, design, build and enjoy an open, sacred space is not just about fairness - it is about promoting the spirit and wellness of a community and all its residents.

In closing, we encourage local planners and managers, civic leaders, and engaged citizens to activate the sacred vocabulary, benefits evidence, and planning and design ideas about civic sacred in their communities. Open Spaces Sacred Spaces can be integral elements within a network of welcoming, contemplative

nature spaces, imbedded within biophilic neighborhoods. At both the site scale and across a community there can be design variety within the unity of the civic sacred notion, with unique expressions emerging from participatory design. In this way, all urban residents have access to brief nature encounters of respite and renewal, providing great personal benefit, and achieved without the effort of travel to grand nature beyond the city.

## 8. REFERENCES

- <sup>1</sup> Colgan, D. 2010. Visiting Sacred Spaces: A "How-To" Guide with Tips & Suggestions for Groups and Individuals. Chicago, IL: Sacred Space International.
- <sup>2</sup> Plante, T.G. 2009. Spiritual Practices in Psychotherapy. Washington, D.C.: American Psychological Association.
- Maddox, D. 2014. The Nature of Cities: Global Roundtable on "What is the meaning and role of the 'sacred' in the design and management of urban green space and the building of cities that are both green and livable?" http://www.thenatureofcities.com/2014/09/07/what-is-the-meaning-and-role-of-the-sacred-in-the-design-and-management-of-urban-green-space-and-the-building-of-cities-that-are-both-green-and-livable/. Accessed 9 Feb 2015.
- <sup>4</sup> Stallybrass, P., & A. White. 1986. The Politics and Poetics of Transgression. London: Methuen & Co.
- <sup>5</sup> Chidester, D., & E.T. Linenthal. 1995. American Sacred Space. South Bend, IN: Indiana University Press.
- <sup>6</sup> Eliade, M. 1959. The Sacred and the Profane: The Nature of Religion (1st ed.). New York: Harcourt Brace.
- <sup>7</sup> Smith, J.Z. 1992. To Take Place: Toward Theory in Ritual. Chicago, IL: University of Chicago Press.
- <sup>8</sup> Svendsen, E.S., & L.K. Campbell. 2010. Living memorials: Understanding the social meanings of community-based memorials to September 11, 2001. Environment and Behavior 42, 3: 318-334.
- <sup>9</sup> Svendsen, E.S., & L.K. Campbell. 2014. Community-based memorials to September 11, 2001: Environmental stewardship as memory work. In: Tidball, K.G., & M.E. Krasny (Eds.), Greening in the Red Zone (pp. 339-355). Dordrecht: Springer.
- Omstock, N., L.M. Dickinson, J.A. Marshall, M.J. Soobader, M.S. Turbin, M. Buchenau, & J.S. Litt. 2010. Neighborhood attachment and its correlates: Exploring neighborhood conditions, collective efficacy, and gardening. Journal of Environmental Psychology 30, 4: 435-442.
- <sup>11</sup> Mazumdar, S., & S. Mazumdar. 2012. Immigrant home gardens: Places of religion, culture, ecology, and family. Landscape and Urban Planning 105, 3: 258-265.
- <sup>12</sup> Hadavi, S., R. Kaplan, & M.C.R. Hunter. 2015. Environmental affordances: A practical approach for design of nearby outdoor settings in urban residential areas. Landscape and Urban Planning 134: 19-32.
- <sup>13</sup> Wolf, K.L., & M. Wyatt. 2015. The U.S. national Nature Sacred awards: Open spaces, sacred places. CityGreen 10: 30-35.
- 14 Green Cities: Good Health an evidence-based literature review. http://depts.washington.edu/hhwb/ Accessed 18 March 2015.
- <sup>15</sup> Aspinall, P., P. Mavros, R. Coyne, & J. Roe. 2013. The urban brain: Analysing outdoor physical activity with mobile EEG. British Journal of Sports Medicine 49: 272-76.
- <sup>16</sup> Mayer, F.S., C.M.P Frantz, E. Bruehlman-Senecal, & K. Dolliver. 2009. Why is nature beneficial? Environment and Behavior 41, 5: 607-643.
- <sup>17</sup> Bratman, G.N., G.C. Daily, B.J. Levy, & J.J. Gross. 2015. The benefits of nature experience: Improved affect and cognition. Landscape and Urban Planning 138: 41-50.
- <sup>18</sup> Kaplan, R., & S. Kaplan, S. 1982. Cognition and Environment: Functioning in An Uncertain World. New York: Praeger Publishers.
- <sup>19</sup> Tsunetsugu, Y., B.J. Park, & Y. Miyazaki. 2010. Trends in research related to Shinrin-yoku (taking in the Forest Atmosphere or Forest Bathing) in Japan. Environmental Health and Preventive Medicine 15, 1: 27-37.
- <sup>20</sup> Brown, D.K., J.L. Barton, & V.F. Gladwell. 2013. Viewing nature scenes positively affects recovery of autonomic function following acute-mental stress. Environmental Science & Technology 47, 11: 5562-5569.
- <sup>21</sup> Stellar, J.E., N. John-Henderson, C.L. Anderson, A.M. Gordon, G.D. McNeil, & D. Keltner. 2015. Positive affect and markers of inflammation: Discrete positive emotions predict lower levels of inflammatory cytokines. Emotion 15, 2: 129-133.

- <sup>22</sup> Adams, M., T. Cox, G. Moore, B. Croxford, M. Refaee, & S. Sharples. 2006. Sustainable soundscapes: Noise policy and the urban experience. Urban Studies 43: 2385.
- <sup>23</sup> Atkinson, R. 2007. Ecology of sound: The sonic order of urban space. Urban Studies 44: 1905.
- <sup>24</sup> Gidlöf-Gunnarsson, A., & E. Öhrström. 2007. Noise and well-being in urban residential environments: The potential role of perceived availability to nearby green areas. Landscape and Urban Planning 83, 2-3: 115-126.
- <sup>25</sup> MORI Social Research Institute. 2003. Neighbour Noise: Public Opinion Research to Assess its Nature, Extent and Significance. UK: Department for Environment, Food and Rural Affairs.
- <sup>26</sup> Health Council of the Netherlands: Committee on Noise and Health. 1994. Noise and Health. The Hague: Health Council of the Netherlands.
- <sup>27</sup> Regecová, V., & E. Kellerová. 1995. Effects of urban noise pollution on blood pressure and heart rate in preschool children. Journal of Hypertension 13: 405-412.
- <sup>28</sup> Health Council of the Netherlands: Committee on an Uniform Noise Metric. 1997. Assessing Noise Exposure for Public Health Purposes. The Hague: Health Council of the Netherlands.
- <sup>29</sup> Melamed, S., J. Luz, & M.S. Green. 1992. Noise exposure, noise annoyance and their relation to psychological distress, accident and sickness absence among blue-collar workers-the Cordis Study. Israel Journal of Medical Sciences 28, 8-9: 629-635.
- <sup>30</sup> de Kluizenaar, Y., F.J. van Lenthe, A.J. Visschedijk, P.Y. Zandveld, H.M. Miedema, & J.P. Mackenbach. 2013. Road traffic noise, air pollution components and cardiovascular events. Noise Health 15, 67: 388-397.
- <sup>31</sup> Öhrström, E., A. Skanberg, H. Svensson, & A. Gidlöf-Gunnarsson. 2006. Effects of road traffic noise and the benefit of access to quietness. Journal of Sound and Vibration 295: 40-59.
- <sup>32</sup> Cohen, S., G.W. Evans, D.S. Krantz, & D. Stokols. 1980. Physiological, motivational and cognitive effects of aircraft noise on children: Moving from the laboratory to the field. American Psychologist 35: 231-243.
- <sup>33</sup> Immordino-Yang, M.H., J.A. Christodoulou, & V. Singh. 2012. Rest is not idleness: Implications of the brain's default mode for human development and education. Perspectives on Psychological Science 7, 4: 352-364.
- <sup>34</sup> Royal Commission on Environmental Pollution. 2007. The Urban Environment. London: The Stationery Office.
- 35 Greenspace Scotland. 2008. Health Impact Assessment of Greenspace: A Guide. Health Scotland, Greenspace Scotland, Scottish Natural Heritage and Institute of Occupational Medicine.
- <sup>36</sup> LUC. 2004. Making Links: Greenspace and Quality of Life. London: Land Use Consultants.
- <sup>37</sup> Yang, W., & J. Kang. 2005. Acoustic comfort evaluation in urban open public spaces. Applied Acoustics 66, 2: 211-229.
- <sup>38</sup> Pheasant, R., K. Horoshenkov, G. Watts, & B. Barrett. 2008. The acoustic and visual factors influencing the construction of tranquil space in urban and rural environments: Tranquil spaces=quiet places? The Journal of the Acoustical Society of America 123, 3: 1446-1457.
- <sup>39</sup> Schneider, R., S. Nidich, J.M. Kotchen, T. Kotchen, C. Grim, M. Rainforth, C.G. King, & J. Salerno. 2009. Effects of stress reduction on clinical events in African Americans with coronary heart disease: A randomized controlled trial. Circulation 120, 18: S461.
- <sup>40</sup> Slagter, H.A., R.J. Davidson, & A. Lutz. 2011. Mental training as a tool in the neuroscientific study of brain and cognitive plasticity. Frontiers in Human Neuroscience 5: 135-159.
- <sup>41</sup> Desbordes, G., L.T. Negi, W.W.P. Thaddeus, B.A. Wallace, C.L. Raison, & E.L. Schwartz. 2012. Effects of mindful-attention and compassion meditation training on amygdala response to emotional stimuli in an ordinary, non-meditative state. Frontiers in Human Neuroscience 6: 1-15.
- <sup>42</sup> Pace, T.W., L.T. Negi, D.D. Adame, S.P. Cole, T.I. Sivilli, T.D. Brown, M.J. Issa, & C.L. Raison. 2009. Effect of compassion meditation on neuroendocrine, innate immune and behavioral responses to psychosocial stress. Psychoneuroendocrinology 34, 1: 87-98.

- <sup>43</sup> Brown, K.W., & R.W. Ryan. 2003. The benefits of being present: Mindfulness and its role in psychological well-being. Journal of Personality and Social Psychology 84, 4: 822-848.
- <sup>44</sup> Jha, A.P., J. Krompinger, & M.J. Baime. 2007. Mindfulness training modifies subsystems of attention. Cognitive, Affective & Behavioral Neuroscience 7, 2: 109-19.
- <sup>45</sup> Davidson, R.J., J. Kabat-Zinn, J. Schumacher, M. Rosenkranz, D. Muller, S.F. Santorelli, F. Urbanowski, A. Harrington, K. Bonus, & J.F. Sheridan. 2003. Alterations in brain and immune function produced by mindfulness meditation. Psychosomatic Medicine 65, 4: 564-70.
- <sup>46</sup> Kaplan, S. 2001. Meditation, restoration, and the management of mental fatigue. Environment and Behavior 33, 4: 480-506.
- <sup>47</sup> Capaldi, C.A., R.L. Dopko, & J.M. Zelenski. 2014. The relationship between nature connectedness and happiness: A meta-analysis. Cognitive Science 5, 976/15.
- <sup>48</sup> Nisbet, E.K., J.M. Zelenski, & S.A. Murphy. 2011. Happiness is in our nature: Exploring nature relatedness as a contributor to subjective well-being. Journal of Happiness Studies 12: 303-322.
- <sup>49</sup> Shin, Y.K., K. Jung-Choi, Y.J. Son, J.W. Koo, J.A. Min, & J.H. Chae. 2013. Differences of psychological effects between meditative and athletic walking in a forest and gymnasium. Scandinavian Journal of Forest Research 28, 1: 64-72.
- <sup>50</sup> The Quiet Garden Trust. 2010. http://www.guietgarden.org/ Accessed 12 March, 2015.
- <sup>51</sup> Marcus, C.C., & N.A. Sachs. 2013. Therapeutic Landscapes: An Evidence-Based Approach to Designing Healing Gardens and Restorative Outdoor Spaces. Hoboken, NJ: John Wiley & Sons.
- 52 Beatley, T. 2010. Biophilic Cities: Integrating Nature Into Urban Design and Planning. Washington, D.C.: Island Press.
- <sup>53</sup> Lindland, E., M. Fond, 2015. "Nature Doesn't Pay My Bills:" Mapping the Gaps Between Expert and Public Understandings of Urban Nature and Health. A FrameWorks Research Report on behalf of the TKF Foundation Washington D.C.: FrameWorks Institute, 42 pp.
- <sup>54</sup> Wolch, J.R., J. Byrne, & J.P. Newell. 2014. Urban green space, public health, and environmental justice: The challenge of making cities 'just green enough'. Landscape and Urban Planning 125: 234-244.

## 9. ACKNOWLEDGEMENTS

The authors extend their great appreciation to the following professionals who agreed to be interviewed, and provided valuable information and insights.

Jamie Donatuto, Environmental Health Analyst, Swinomish Indian Tribal Community (Swinomish, WA)

Mickey Fearn, Professor of the Practice, College of Natural Resources, North Carolina State University (Raleigh, NC)

**Frederick Foote,** Physician Scholar, The Institute for Integrative Health (Baltimore, MD)

Rose High Bear (Deg Hit'an Dine), Executive Director, Wisdom of the Elders, Inc. (Portland, OR)

Molly Greist, Stone Sculptor, Hug A Rock (Bainbridge Island, WA)

Katie Himanga, Consulting Forester, Heartwood Forestry (Lake City, MN)

Nancy E. Young, Intercultural Author and Consultant, Intercultural Interaction (Portland, OR)

## 10. PHOTO CREDITS

All green spaces and journal entries depicted herein, with the exception of those on pages 31 and 40, were supported by TKF Foundation grants.

- Cover iStockPhoto.com/Getty Images.
- **Inside Front Cover -** iStockPhoto.com/Getty Images.
- **Page 4 -** David Harp/Chesapeake Photos for TKF Foundation. 2006. Johns Hopkins Bayview Medical Center, Baltimore, MD.
- **Page 6 -** Len Spoden Photography for TKF Foundation. 2006. Amazing Grace Evangelical Lutheran Church/ Amazing Port Street, Baltimore, MD.
- Page 8 TKF Foundation. 2014. Landscapes of Resilience: Butterfly Garden and Overlook, Joplin, MO.
- **Page 11** Len Spoden Photography for TKF Foundation. 2006. St. Anthony's of Padua Peace and Remembrance Garden, Falls Church, VA.
- **Page 13 -** David Harp/Chesapeake Photos for TKF Foundation. 2006. St. Anthony's of Padua Peace and Remembrance Garden, Falls Church, VA.
- Page 14 (top) TKF Foundation. 2003. Frederick Douglass Gardens, Washington, DC.
- **Page 14 (lower) -** David Harp/Chesapeake Photos for TKF Foundation. 2006. Healing Therapeutic Garden at Kernan Hospital now known as the University of Maryland Rehabilitation & Orthopaedic Institute, Baltimore, MD.
- **Page 15 -** David Harp/Chesapeake Photos for TKF Foundation. 2006. The Whitman-Walker Clinic of Northern Virginia.
- **Page 16 -** TKF Foundation. 2012. Old Market House Square Park/St. Philip the Evangelist Episcopal Church/ Anacostia Community Park, Washington, DC.
- Page 17 TKF Foundation, 2006. Crispus Attucks Park, Washington, DC
- **Page 20 -** Mitro Hood Photography for TKF Foundation. 2012. Garden of Little Angels, Franklin Square Hospital Center, Baltimore, MD.
- **Page 23 -** TKF Foundation. 2009. Mt. Washington Preservation Trust/Mt. Washington Arboretum, Baltimore, MD.
- **Page 24 -** David Harp/Chesapeake Photos for TKF Foundation. 2006. St. Anthony's of Padua Peace and Remembrance Garden, Falls Church, VA.
- **Page 27 -** David Harp/Chesapeake Photos for TKF Foundation. 2006. Stadium Place-Thanksgiving Place Labyrinth, Baltimore, MD

- Page 28 Jungfrau by Albert Bierstadt (1830-1902). Commons.wikimedia.org.
- Page 31 iStockPhoto.com/Getty Images.
- Page 32 iStockPhoto.com/Getty Images.
- Page 33 TKF Foundation. 2008. Johns Hopkins Bayview Medical Center, Baltimore, MD.
- **Page 34 -** Len Spoden Photography for TKF Foundation. 2006. St. Anthony's of Padua Peace and Remembrance Garden, Falls Church, VA.
- Page 37 Mitro Hood Photography for TKF Foundation. 2012. N. Arlington Avenue, Baltimore, MD.
- Page 38 iStockPhoto.com/Getty Images.
- Page 40 David Morgan for TKF Foundation. 2008. Mount Street Gardens, London, UK.
- Page 41 Len Spoden Photography for TKF Foundation. 2008. Frederick Douglass Gardens, Washington, DC.
- **Page 43 -** David Harp/Chesapeake Photos for TKF Foundation. 2006. St. Anthony's of Padua Peace and Remembrance Garden, Falls Church, VA.
- **Page 45 -** Len Spoden Photography for TKF Foundation. 2007. Healing Therapeutic Garden at Kernan Hospital now known as the University of Maryland Rehabilitation & Orthopaedic Institute, Baltimore. MD.
- **Page 46 -** Mitro Hood Photography for TKF Foundation. 2008. Intersection of Change/Martha's Place Mural and Garden, Baltimore, MD.
- **Page 47 -** Len Spoden Photography for TKF Foundation. 2006. St. Anthony's of Padua Peace and Remembrance Garden, Falls Church, VA.
- Page 48 (left) Len Spoden Photography for TKF Foundation. 2007. Kids on the Hill, Baltimore, MD.
- **Page 48 (right) -** Mitro Hood Photography for TKF Foundation. 2006. Healing and Restorative Garden, Anne Arundel Medical Center, Annapolis, MD.
- Page 49 (left) David Harp/Chesapeake Photos for TKF Foundation. 2006. Western Correctional Institution, Cumberland, MD.
- **Page 49 (right) -** Mitro Hood Photography for TKF Foundation. 2012. University of Maryland, Interfaith Garden of Reflection and Remembrance and Labyrinth, College Park, MD.
- Page 51 Aerial image of Bishan Park, Singapore. Commons.wikimedia.org.
- **Page 52 -** Anne E. Gleeson, Landscape Architect. 2005. Architectural rendering of Healing Therapeutic Garden at Kernan Hospital now known as the University of Maryland Rehabilitation & Orthopaedic Institute, Baltimore, MD.
- Page 55 TKF Foundation. 2008. Johns Hopkins Bayview Medical Center, Baltimore, MD.

#### **ABOUT THE AUTHORS**

Kathleen L. Wolf, Ph.D.



Dr. Wolf is a Research
Social Scientist with the
College of the Environment,
University of Washington
(Seattle) and serves as
TKF Foundation's Research

Advisor for its Nature Sacred program. She is also a primary collaborator in the Green Cities Research Alliance, a research program about urban natural resources stewardship that is sponsored by the USDA Forest Service, Pacific Northwest Research Station. Her studies are based on the principles of environmental psychology. Her research and scholarly works are an effort to better understand the human dimensions of urban forestry and urban ecosystems. Dr. Wolf's professional mission is to discover. understand and communicate human behavior and benefits, as people experience nature in cities. She is also interested in how scientific information can be integrated into local government policy and planning. Dr. Wolf has presented her research throughout the United States, in Canada, Europe, Australia and Japan.

## Elizabeth Housley, M.A. TKF Foundation Contributing Staff Writer



Elizabeth is an environmental psychology research specialist. Her work contributes to education, research and ecological restoration

surrounding our understanding of human health and urban green spaces. She has hiked through the woods with middle-schoolers as a park interpreter in her home state of Arkansas, collected user-based field data to design several NYC spaces, and designs health and environment projects in Seattle. For TKF, she contributes to our research briefings, our Open Voices blog and other written projects within the Nature Sacred Award Program. She is delighted to call Seattle her home.

**Recommended Citation:** Wolf, K.L., and E. Housley. 2016. The Sacred and Nearby Nature in Cities. Annapolis, MD: The TKF Foundation, 59 pp.



