



NATURAL RESOURCES



“The nation behaves well if it treats the natural resources as assets which it must turn over to the next generation.”

– Theodore Roosevelt





VISION FOR SUCCESS

This plan envisions cleaner, more abundant natural resources throughout the city that are valued as economic and quality of life assets to be preserved and enhanced.

The vision of success for Natural Resources includes:

Green Infrastructure Improvements

The city's green infrastructure network will be expanded, connected, and strengthened through restoration, management, and integration into the urban landscape. This network will provide aesthetic, recreational, educational, and ecological services to the city.

Accessibility

Public access to parks, open space, and the natural environment will provide opportunities for active recreation, leisure, and engagement with the outdoor environment, regardless of age or ability.

Resource Management

To ensure that irreplaceable environmental resources are available for future generations, and to ensure natural resources become recognized as environmental and economic assets, better stewardship is necessary.

OVERVIEW AND INTRODUCTION

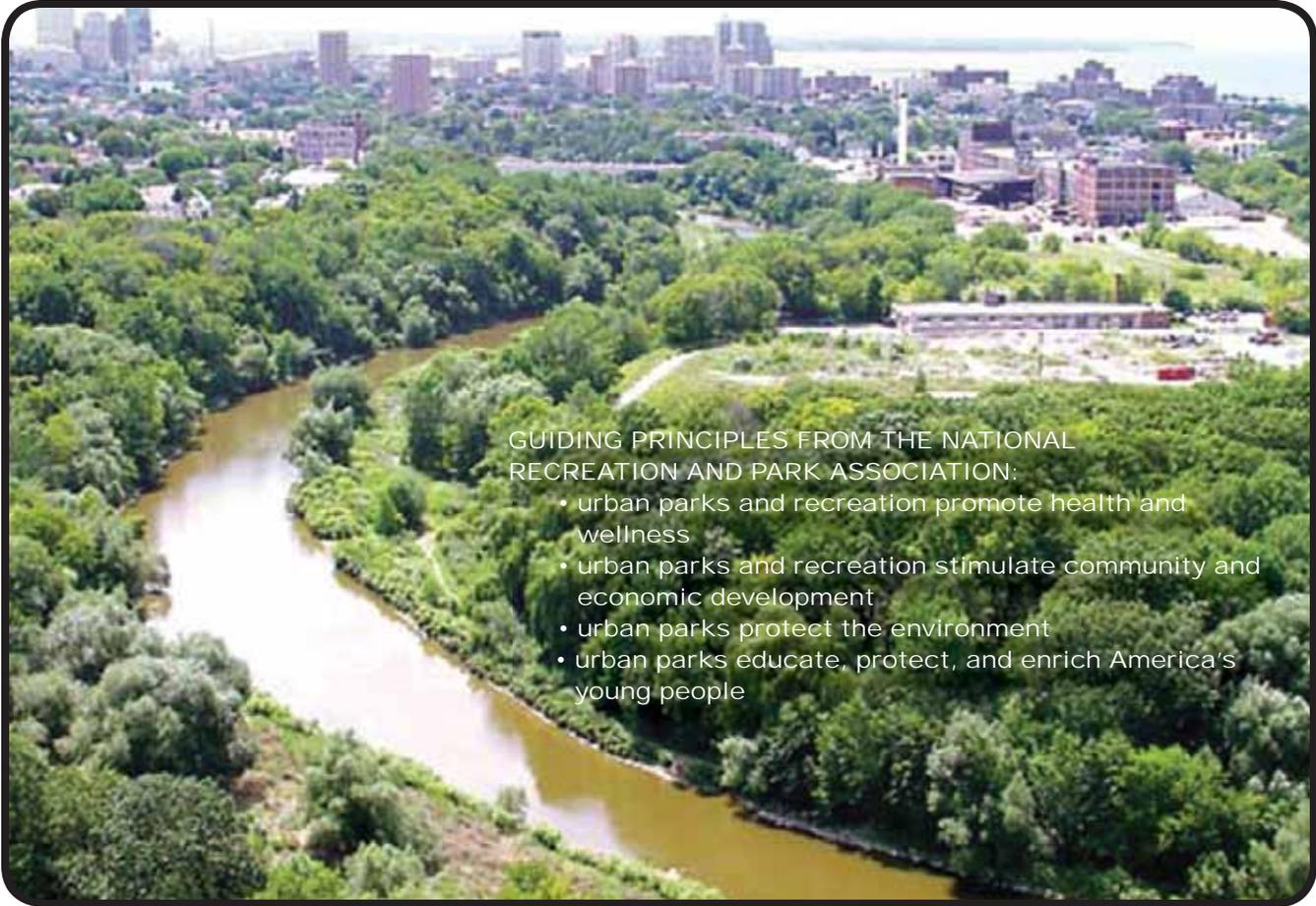
The City of Milwaukee's network of natural resources, and its green infrastructure is unique to this place. It is the city's life support system, helping to provide a healthy and enjoyable living environment and critical to economic progress and development. The importance of this network is clearly evidenced in efforts to green the community by planting trees, setting aside open space, improving and expanding access to parks and recreational opportunities, requiring landscaping in new development, improving stormwater management, and enhancing rivers and lakefronts. Beyond the clear quality of lifestyle benefits, natural resources provide valuable ecosystem services, such as air and water quality improvement, that are very costly if not impossible to replicate.

Natural resources have always been highly valued in Milwaukee. The city's location on Lake Michigan and its area rivers influenced the formation of settlements and helped to spark industries that relied on fresh water such as Milwaukee's famous breweries. Today, Milwaukee is directing intense effort and resources to enhancing its natural assets and is quickly becoming a leader in the fresh water technology industry.

In 2009, Milwaukee gained admission into the United Nations Global Compact Cities Program (UNGCCP), achieving recognition of the area's expertise and global leadership in fresh water technology and science. The area is home to more than 100 businesses that serve some aspect of the water technology industry. In 2007, academic and civic leaders, together with local businesses, formed the Milwaukee 7 Water Council, whose mission is to develop the Milwaukee region as the world water technology hub for fresh water research, economic development and education. The UNGCCP project will be under the leadership of the Milwaukee 7 Water Council.

Milwaukee County Parks and its partners have worked to revitalize the Lake Michigan lakefront. Cleaner beaches, recreational improvements such as volleyball courts, food vendors, and extended trails have contributed to the renewal of this valued space. With deliberate effort and substantial resources, the City of Milwaukee has rediscovered its riverfronts through revitalization and redevelopment, capitalizing on a valuable and sustainable economic asset.

Currently there are 3,609 acres of primary and



GUIDING PRINCIPLES FROM THE NATIONAL RECREATION AND PARK ASSOCIATION:

- urban parks and recreation promote health and wellness
- urban parks and recreation stimulate community and economic development
- urban parks protect the environment
- urban parks educate, protect, and enrich America's young people

secondary environmental corridors and isolated natural areas, 6,308 acres of parks and open space, and over 20 miles of rivers in Milwaukee. Havenwoods State Forest and Lakeshore State Park offer a variety of recreational opportunities while preserving precious environmental assets. Soldier's Home Reef is a National Historic Landmark fossil reef located near Miller Park, another one of the natural features that make Milwaukee unique.

The natural environment has always provided recreational and educational experiences, as well as stimulating economic opportunities. According to professor and author Richard Florida's book *Rise of the Creative Class*, parks, bike trails, riverfront, public spaces, and recreational facilities help drive locational decisions in the creative economy. The abundance and variety

of natural resources contribute to a high quality of life and firmly establishes Milwaukee as a vibrant, unique, and healthful city.

Urban agriculture, including community gardens, urban orchards, rooftop gardens, bee keeping and honey production, fish farming and more, is an initiative gaining momentum throughout Milwaukee, crossing age, educational, and ethnic barriers. These efforts can educate and engage residents in growing food, provide residents with access to healthy, locally-grown produce, reduce grocery bills, and return vacant land to productive community use. Local initiatives include Growing Power, which has achieved national attention, and Teutonia Gardens, a program to incorporate urban gardens into local educational curricula and to use locally-grown products in school-provided meals. The City of Milwaukee

has also partnered with Milwaukee Urban Gardens to encourage urban agriculture in neighborhoods where small intensive urban farming is permitted.

The existence of brownfield sites within Milwaukee provides both problems and opportunities. These once productive, industrial and manufacturing sites lie abandoned or underused and are in need of land assessment and remediation. Milwaukee, a national leader in brownfield remediation, received one of the largest EPA grants for brownfields clean up, assessment and revolving loans fund. The City's existing and planned brownfields redevelopment projects have the potential to generate significant demand for entry-level and advanced-skilled environmental workers.

OPPORTUNITIES



LOCAL ACHIEVEMENT

The City of Milwaukee has demonstrated its commitment to natural resources through the following initiatives:

- Brownfield redevelopment and stormwater management in the Menomonee Valley and the 30th Street Industrial Corridor.
- Revitalization of the riverfront and lakefront.
- Increased tree canopy from 16% to 22% between 1996 and 2008 through the efforts of the Department of Public Works Forestry Division.
- City's first Leadership in Energy and Environmental Design for Existing Buildings Silver Certification for the City Hall Complex, which uses 10% renewable energy.
- Ranked 12th in Sustainlane's 2008 US City Ranking.
- Initial conversion from incandescent to LED traffic signals.
- Conversion of former limestone quarry and clean-fill landfill into Hartung Park.
- Stormwater Best Management Practices such as pervious paving and bioretention swales used in Josey Heights, the Lloyd Street School, and the 27th Street parkway rain gardens.
- City's first pervious pavement public use parking lot at Ward Street and Kinnickinnick Avenue.
- Green roofs on public buildings at 809 North Broadway, the Central Library, and several Housing Authority sites.
- Recycling of wood waste into pellets for power generation.
- Conversion of the city's diesel vehicle fleet and equipment to biodiesel, earning the City a Government Fleet Magazine Top 20 Environmental Leadership Award in 2009.
- Award from America in Bloom for efforts to beautify the city.
- Public-private partnerships to revitalize Johnsons Park, Riverside Park, and Washington Park.

The Milwaukee County Parks Department was recently named the winner of the National Recreation and Park Association's Gold Medal Award for its demonstration of excellence in long-range planning and resource management.

Milwaukee Water Works now provides the Milwaukee area with some of the highest quality drinking water in the United States.

The Milwaukee Metropolitan Sewerage District is a leader in the nation for improving water quality in the City of Milwaukee through watershed planning, wastewater treatment, stormwater management, stream restoration and the Green Seams Program.



1. Milwaukee has demonstrated a public commitment to environmental protection and enjoys a strong community-based movement to protect environmental resources.

The City of Milwaukee has demonstrated a commitment to sustainability through the establishment of the Milwaukee Green Team, the establishment of the Office of Environmental Sustainability, and through support for the Kyoto Protocol and the Great Lakes Compact. The City also has incorporated sustainability into its operations including green roofs, reduced emissions fleet, LED traffic signals, green alleys, recycling, and more.

The Milwaukee region is fortunate to have a strong network of environmentally focused nonprofit organizations, often formed from grassroots efforts. These groups, such as the Urban Ecology Center, Center for Resilient Cities, Milwaukee Riverkeeper, and others, work to increase awareness and generate funding to address environmental concerns. The efforts of these groups are unquestionably beneficial to the region, however, more work needs to be done to create stronger connections between all citizens and government to the environment. In addition to the system of parks, open spaces, and water resources, urban agriculture is gaining popularity in Milwaukee as one example of non-traditional creative uses of space and land. Growing Power's Will Allen has been at the forefront of these local efforts, promoting expansion of urban agriculture, bee keeping, fish farming, and other locally sourced, healthy produce. These efforts should continue to expand to provide fresh, local food in all areas of the city, as well as its role in engaging residents and children in food production.

2. Milwaukee is fortunate to have access to three major rivers, Lake Michigan, and an abundant supply of water, an increasingly valuable natural resource.

The fresh water resources of Lake Michigan and the area's rivers are tremendous economic and quality of life assets for Milwaukee, providing a lush, living landscape, drinking water, recreation, transportation, and a raw material critical to industry. Lake Michigan, the second largest of the Great Lakes, has attracted a cluster of fresh water based industries, some of which are located in Milwaukee. The Milwaukee 7 Water Council seeks to strengthen this cluster of businesses and the City anticipates development of a fresh water technology industrial park. The Great Lakes WATER Institute, a UWM research facility for water resources, conducts leading-edge fresh water research. The combination of water resources, research, and spin-off industry has the potential to create jobs locally and to increase Milwaukee's share of a growing sector in the global economy, clean water technology. To help protect this resource, Milwaukee entered into the Great Lakes Compact, an historic bi-national agreement that outlines a regional approach for sustainably managing the waters of the Great Lakes.

The city's rivers have also enjoyed renewed attention. Downtown Milwaukee has established the RiverWalk system along the Milwaukee River, with nearly three miles completed and more in progress. Environmental organizations have worked closely with government agencies to better treat stormwater and wastewater, gradually improving the city's waterways, creating more desirable real estate, and sparking riverfront development and urban revitalization.

3. Milwaukee's parks and open space system.

The Milwaukee park and open space system is an asset to the region, providing recreational activities like golf, tennis, toboggans, botanical gardens, nature centers, ice skating, hiking, cross-country skiing and more. Parks and open spaces are economic drivers that contribute to Milwaukee's competitiveness and quality of life. Some of the Milwaukee County Parks (Lake, Washington, and Riverside) were designed by Frederick Law Olmsted, who also designed New York's Central Park. The virtual emerald necklace of linked parks envisioned by Olmsted was connected through the efforts of Charles Whitnall, known as the father of the Milwaukee County Parks System. The City of Milwaukee's Public Outdoor Recreation Plan for City of Milwaukee Neighborhoods reinforces this approach to improving the City's recreational resources throughout its park and open space system.

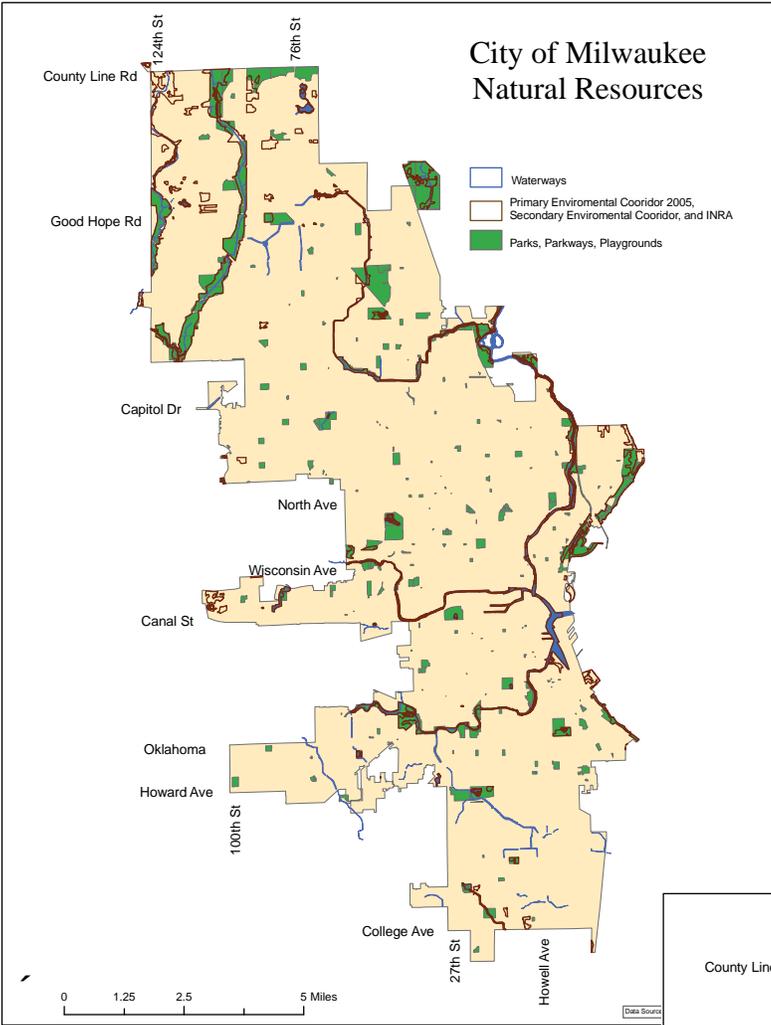
4. Green job creation either directly or indirectly through natural resource protection and restoration.

There is a tremendous opportunity to create new jobs within the city by focusing on natural resource protection, restoration, and new technology development. The green economy offers job potential at all levels from operations and maintenance to highly specialized research and development positions. Milwaukee is uniquely positioned to capitalize on green job creation, particularly for clean water technology.

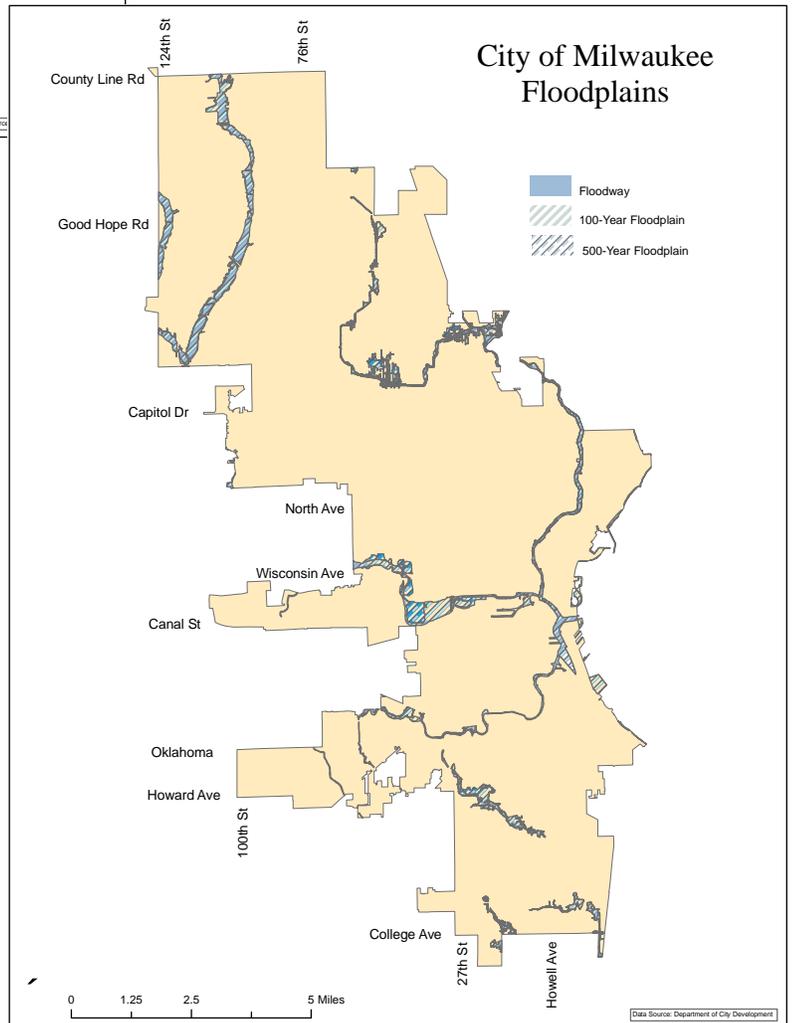
CHALLENGES



City of Milwaukee Natural Resources



City of Milwaukee Floodplains



1. Protecting and improving the water resources that are key economic and quality of life assets for Milwaukee.

Most natural resources cross political boundaries and impact areas, populations, and natural systems far beyond the boundaries of the City of Milwaukee. Issues related to water and climate change are regional, national, and global in nature. The Great Lakes contain 21% of the world's fresh water and provide a critical flyway and land-water interface for wildlife and living systems. Lake Michigan is a key natural asset for Milwaukee. The area's three major waterways, the Milwaukee, Kinnickinnic, and Menomonee Rivers, form a strong green infrastructure network for the recreation and enjoyment by the city's residents and visitors, as well as wildlife habitat.

Many years of alteration to the natural landscape along with economic and industrial activity had an impact on the water resources of the city and region. Although improvements have been made in recent years, largely due to the Clean Water Act, additional improvements are needed on all fronts to protect these valuable resources. Floodplains and riparian areas along the waterways, equally critical as the water channels themselves, are integral to the health and cleanliness of the city's water resources, and should be respected, restored, and integrated into the city's green infrastructure system.

2. Preserving and restoring the quantity and quality of usable land resources for future generations.

As in any city, land use and development impact the quality and quantity of natural resources. Milwaukee was established to serve an industrial sector that continues to contribute to the city's economy, but also has impacted the quality of land for development and reuse. Where land resources have been degraded, the city has worked to restore them to a healthier condition. In the case of severe impacts due to industrial or other uses, the City of Milwaukee has demonstrated its commitment to remediating brownfields, which are property that is encumbered by the real or perceived presence of contamination, and returning brownfield land to productive use. Since 2002, several hundred acres across the city have been remediated and developed, generating over 1,500 jobs. The city is challenged to continue to address its industrial legacy and to prepare land for reuse. Furthermore, directing new growth to available areas within the city's boundaries can help slow the conversion of natural and agricultural lands outside of the city.

3. The city's contribution to climate change.

As with water resources, climate change is a national and global issue that requires the City of Milwaukee to reduce its impact. Energy consumption and efficiency,

renewable energy sources, industry, transportation, and the quantity and quality of the city's green infrastructure system, all affect the city's contribution to climate change and need to be addressed. Milwaukee has made significant progress in reducing air pollution, which has an impact on health and respiratory illnesses as well as climate change. Efforts should continue to reduce air pollution in the region. Multi-modal transportation options will help reduce emissions and contribute to improved air quality and health.

4. Securing a consistent and adequate source of funding to preserve, manage, upgrade, and program parks and open space for all Milwaukee residents.

Milwaukee County owns and manages the majority of land within the city boundary that is dedicated to parks and open space, and the City is responsible for many playgrounds, playfields, and some green spaces. The parks and open space system is a cultural legacy containing Olmsted designed parks, botanical gardens, ball fields, and a wide variety of year-round recreational opportunities that contribute to a high quality of life for residents. However, the operation, maintenance, programming, and development of these valuable resources depends on the availability of scarce resources from the City and County, and the lack of adequate funding for parks is a growing challenge that must be

Polluted rainwater runoff from the urban and agricultural landscape is the primary reason that 30% of Wisconsin's 552 water bodies do not support the fish communities, recreation, or other uses that they should support due to bacteria, low levels of oxygen, excessive phosphorous, and contamination by metals and other pollutants.



Public open space lands such as parks and parkways are important to the quality of life. These lands serve as outdoor recreation, outdoor education, buffers, flood and stormwater management, habitat preservation, air and surface water quality improvement, protection of groundwater recharge areas, aesthetics, and providing community focal points.



solved to protect this legacy. As an example, a number of Area Plans identified the lack of organized sports activities for children, such as Little League baseball and soccer. Some public-private partnerships, such as leasing a coffee shop in Red Arrow Park, are proving financially successful, but are not always popular or adequate solutions for funding. In spite of budget constraints, a number of Milwaukee area parks have updated facilities, like water parks or splash pads. Many rely on private donations to make improvements. Other parks are in desperate need of

maintenance, updated facilities, and programming to better serve the changing recreational needs and interests of citizens.

As successful as the county parks system has been, some areas of the city are better served by parks and green space than others. Geographic distribution of parks and open space should be examined to identify areas that are underserved and develop strategies for providing greater park or green space access. In some areas, children are playing in schoolyards and neighborhood parks that consist primarily of asphalt

surfaces rather than having exposure to grass and nature which is important to the physical and intellectual development of children. Integrating green infrastructure into neighborhoods with minimal green space is a significant challenge. The City of Milwaukee and Milwaukee Public Schools have implemented the Green Schools program, which increases green space and trees on playgrounds. This effort, which is subject to the availability of grants and other funding, should be continued.

The City of Milwaukee ranked above average with 15.8 acres of parkland per 1000 residents when compared to the median of 13.7 acres per 1000 residents, in 2009 per The Trust for Public Land.



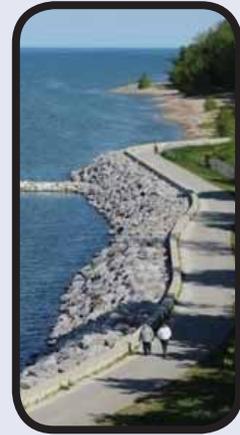
POLICIES

I. PROTECT AND RESTORE NATURAL RESOURCES TO ENSURE THAT MILWAUKEE'S RICH NATURAL HERITAGE REMAINS INTACT, HEALTHY, AND FUNCTIONAL FOR THE BENEFIT OF FUTURE GENERATIONS. **A healthy natural resource base is one of Milwaukee's greatest assets, providing recreation, environmental services, and economic activity. Continued commitment to preserving and restoring these natural resources will improve the city's attractiveness and competitiveness.**

A. Identify, preserve, and enhance the quality of natural resources, natural features, biodiversity, and ecological integrity of the community.

1. Promote the creation, expansion, and restoration of a green infrastructure system, including primary environmental corridors, designated natural areas and features, parks and parkways, gardens, open space networks, waterways, floodplains, and areas that contribute to the quality of the natural resource base
2. Promote open space preservation and restoration programs for Primary Environmental Corridors including rivers, riparian corridors, and floodplains, and along the Lake Michigan shoreline. Incorporate public access and recreation into preservation and restoration efforts
3. Minimize air, soil and water pollution and clean up areas of contaminated soils, polluted rivers, and hazardous buildings
4. Protect and restore the natural qualities of the Lake Michigan shoreline, ridges, bluffs, and ravines, where feasible, to support habitat needs of resident and migratory species
5. Encourage the use of low impact development practices to minimize environmental impact of site and building development
6. Consider the adoption of increased incentive structures, such as stormwater utility fees and credits, to encourage better management and protection of natural resources in the urban landscape
7. Lead by example through implementation of natural resource protection measures and sustainable development strategies in capital improvement projects, demonstration projects, and large redevelopment efforts such as the Menomonee Valley
8. Promote local and regional cooperation and partnerships, particularly with Milwaukee County Parks, Milwaukee Public Schools, the Southeast Wisconsin Regional Planning Commission, private, and nonprofit organizations to help consistently protect and manage the area's natural resources
9. Seek out innovative long-term funding mechanisms for acquisition, development, management, and restoration of natural resources and open space. Support efforts of nonprofit organizations and land trusts to acquire and protect natural resources and open space
10. Promote natural resources protection to foster green job opportunities and training programs





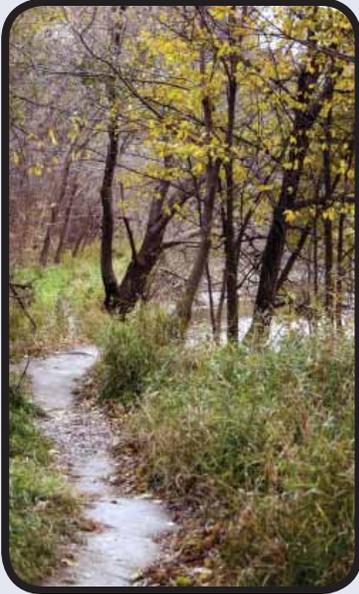
B. *Prioritize the preservation and enhancement of water resources and features, which are critical natural assets for the city.*

1. Support efforts to protect Lake Michigan through the Great Lakes Compact. Participate in efforts to develop Lake Michigan watershed and river resource protection plans that consider the quality of the city's water supply, runoff that returns to Lake Michigan, wastewater discharge and combined sewer overflows, and changing lake levels due to climate change
2. Partner with the Milwaukee Metropolitan Sewerage District, Milwaukee Riverkeeper, the Southeastern Wisconsin Watersheds Trust and other agencies and organizations to improve the quality of Milwaukee's rivers and water resources, to restore the natural and hydrologic quality and function of water resources, to implement stormwater management practices throughout the city, and to continue to work towards ending the practice of discharging untreated wastewater into Lake Michigan. Pursue funding opportunities through the Great Lakes Restoration
3. Continue to allow water-compatible development along waterways, such as the RiverWalk, Beerline B, Menomonee Valley, and the Third Ward, as an economic development asset to the city
4. Minimize stormwater runoff within the public right-of-way and encourage the capture, attenuation, and treatment of stormwater onsite using low impact development, green infrastructure, permeable paving, and natural drainage practices and systems. Focus infiltration efforts in areas of large impervious surfaces such as parking lots, alleys, and street rights-of-way. Also consider the construction of appropriate detention facilities for stormwater quality and quantity control where low impact development practices are inadequate or inappropriate
5. Encourage measures and activities that increase efficiency of water consumption, reduce wastewater and stormwater flows, and improve water quality. Upgrade and improve water, wastewater, and stormwater infrastructure to conserve and preserve water resources and to reduce combined and sanitary sewer overflows. Work with residents, nonprofit organizations, business and industry to improve water efficiencies and conservation
6. Consider enacting policies to capture and reuse rainwater, greywater, and black water, as well as treated wastewater effluent
7. Capitalize on the area's water resources and support the expansion of water research and development industries, such as the Great Lakes Water Institute and the efforts of the Milwaukee 7 Water Council, as an economic development strategy
8. Enact strategies to reduce the quantity of stormwater runoff to reduce the extent, frequency, and cost of flooding

C. Enhance the urban forest and incorporate green infrastructure elements within the urban environment.

1. Work with Milwaukee County Parks, SEWRPC, and other local organizations and regional agencies to create and adopt a Green Infrastructure and Urban Forest Management Plan and map, to increase and enhance green space, vegetation, and the urban forest tree canopy in every neighborhood
2. Encourage the use of diverse native and regionally adapted plants and discourage the use of invasive species in landscaping. Select plants that require minimal maintenance, irrigation, fertilizers and pesticides, that tolerate urban environmental conditions such as soil compaction, heat and drought conditions, minimal water infiltration, and salt spray and other urban pollutants
3. Preserve existing trees and significantly increase the citywide urban tree canopy coverage and tree diversity through a tree planting initiative. Prepare and implement a strategy to minimize the impact of major urban forest die-off due the threat of invasive pests and disease. Support efforts of community organizations to increase the tree canopy on private property. Increase public awareness of the urban forest and its economic, ecological and social benefits
4. Continue to replace existing asphalt and concrete school yards and parks with green space, grass, landscaping, permeable surfaces, play equipment, trees, fencing and lighting through initiatives such as the Green Schools program and public-private partnerships
5. Support temporary or permanent reuse of the city's vacant, abandoned, underutilized, and open space lands for functional, environmental, and productive uses such as community gardens, urban orchards, stormwater management, energy generation, and neighborhood parks and open space. Inventory vacant and underutilized properties in relation to neighborhoods served by parks and open space, neighborhood gardens, flooding and stormwater, etc. Share responsibility and ownership over care and maintenance of vacant land and structures
6. Promote the availability of safe, nutritious, and culturally acceptable food. Encourage healthy eating, farmer's markets, produce markets, and locally grown and produced food, including the creation of community, rooftop, schoolyard, and kitchen gardens





II. ENHANCE THE CITY'S PARK AND OPEN SPACE NETWORK TO PROVIDE ACCESS AND ENJOYMENT FOR ALL. ACCESS TO OPEN SPACE, **recreational resources**, and **programming** are key elements to a high quality of life, and should be made available to residents of all abilities.

A. ***Ensure easy and equitable public access and connectivity of parks, nature, and open space across the city and region.***

1. Work within neighborhoods to identify public park and recreational needs and assess the level of access and distribution of park resources. Target the location of park resources within a 10-15 minute walk from the majority of residential neighborhoods as a neighborhood focal point of activity and social interaction
2. Work within neighborhoods and coordinate planning and implementation efforts with Milwaukee Public Schools, surrounding municipalities, private land owners, and the county to provide a stronger, more extensive system of park and recreational resources and connections to fill gaps in park provision and access to open space for all residents. Restore green space, permeable surfaces, and/or recycled surfaces to school grounds, play lots, and other institutional uses
3. Protect natural beauty and improve physical access to the city's waterways and lakefront where possible
4. Preserve and program parks and open space for a diversity of active, passive, and functional uses such as recreation, urban agriculture, and relaxation
5. Incorporate natural resource areas and protection priorities, such as streams and rivers, in plans for parks, open space and green infrastructure
6. Develop a management and development plan for the lakefront, to ensure the waterfront continues to be active, healthy, beautiful, and accessible

B. *Improve and expand a diversity of facilities and programming within the park and open space system.*

1. Support Milwaukee County in identifying the maintenance needs of parks and recreation facilities to prioritize and address maintenance projects in the most cost-efficient manner
2. Involve neighborhoods in the design, programming, and improvement of parks and open space. Ensure a diversity of educational and recreational opportunities including arts and culture, organized sports leagues, environmental education, outdoor adventure and discovery, child and adult development, and wellness-oriented activities. Prioritize facilities and programs that help to bolster the self-esteem, skills, and education of children and help prevent self-destructive and socially-destructive behavior
3. Provide vibrant, usable, and safe park, recreation and open space facilities in neighborhoods for use during all four seasons, including additional green space, indoor recreational facilities, school gardens, and facilities with a diversity of programming and opportunities
4. Expand, maintain, and improve indoor and outdoor recreational facilities as safe, secure, inviting, and engaging spaces
5. Continue to adopt and implement the Milwaukee County Trails Network Plan and the Citywide Bike Plan, and prioritize the development of an interconnected trail and bike system including the RiverWalk and the Hank Aaron State Trail
6. Coordinate recreational facility improvements with neighborhood redevelopment efforts
7. Strive to assure that all parks and open space be accessible to people of all abilities

C. *Improve and seek funding to support park acquisition, maintenance, and programs.*

1. Engage community members, community organizations, nonprofits, public and quasi-public agencies, faith-based organizations, and volunteer programs in opportunities to assist with maintenance, operation, restoration, and stewardship of parks and open space
2. Investigate potential programs, activities, and services to generate greater revenues for parks, while minimizing the need to privatize public facilities
3. Aggressively pursue state and federal funding to help support recreational facility improvements and programs
4. Reuse and retrofit, expand and intensify the use of existing facilities before considering new facilities





III. REDUCE THE CITY'S CONTRIBUTION TO ENERGY CONSUMPTION AND CLIMATE CHANGE. **By reducing its carbon footprint, the city can reduce energy costs, improve air quality, and contribute to the global goal of slowing climate change.**

A. Minimize peak energy demand and reduce overall energy consumption of buildings and infrastructure.

1. Accelerate the City's efforts to achieve less reliance on fossil fuel technology for electricity and mobility, including working towards the goal of a 15% reduction in energy use for City operations by 2012
2. Encourage new and retrofit public, commercial and institutional buildings to be high performance and energy efficient through performance recognition systems, regulation, and incentives
3. Continue to improve housing energy efficiency through grants and other incentives for home weatherization and appliance upgrades through partnerships with utility companies, nonprofits, and other community organizations
4. Continue to incorporate energy efficient fixtures into public services and utilities such as traffic lights and street lights
5. Encourage training and jobs in the renewable energy sector

B. Foster greater use and development of alternative energy systems and practices.

1. Work with WeEnergies, Focus on Energy, and the Wisconsin Office for Energy Independence to increase development of and reliance on renewable forms of energy such as biomass, wind, solar, and geothermal systems
2. Encourage the integration of alternative methods of energy generation including distributed community systems, onsite energy generation, and cogeneration, into development and redevelopment projects
3. Consider the temporary or permanent use of vacant, abandoned, underutilized, and open space for alternative energy generation demonstration projects, in the appropriate neighborhood context
4. Continue the exploration of innovative alternative energies, like wood waste utilization and the use of sewage pipe heat exchangers for energy production

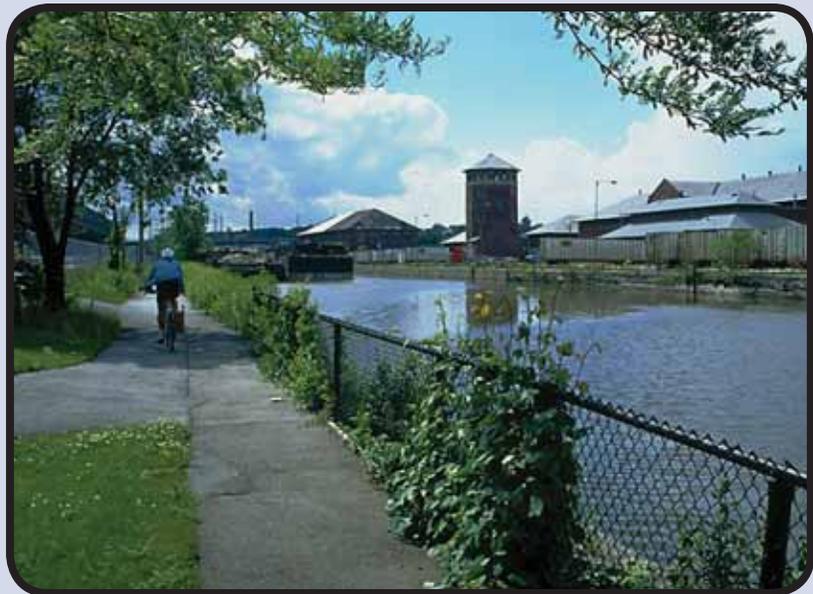


C. Plan land use, employment, and transportation systems to improve the efficient movement of people, goods, and services and to reduce vehicle emissions and dependence on automobiles.

1. Plan new neighborhoods for compact development patterns that provide a diversity of goods and services close to residential areas and that facilitate co-location of jobs, housing, and public transit systems
2. Encourage the production, use, and purchase of goods and services locally, which can help reduce the climate impacts of economic activity and transportation
3. Build, promote, and incentivize the use of a multi-modal transportation system (walking, cycling, and public transit infrastructure and service) to provide a variety of transportation options
4. Continue to reduce the use of fossil fuels, increase the use of biodiesel and other alternative fuels, purchase more efficient vehicles, and update emission control equipment within the City's fleet of vehicles
5. Increase landscaping, shading, and tree planting on public and private land to help reduce the urban heat island effect, to maximize cooling benefits, and to increase the uptake of atmospheric carbon

D. Engage residents, businesses, institutions, agencies, and organizations in conversation and actions to reduce the city's impact on climate change.

1. Create a City of Milwaukee climate action plan through a planning and engagement process with community leaders, stakeholders, business owners, elected officials, and staff. Refer to Wisconsin's Strategy for Reducing Global Warming the Final Report to Governor Jim Doyle from the Governor's Task Force on Global Warming (July 2008)
2. Revise City codes regarding parking lots, landscaping, and screening to provide affordable options to increase tree canopy and plant materials, and to increase permeable parking surfaces. Establish a phased-in period for compliance, and consider requiring retroactive compliance





IV. IMPROVE THE CITY'S EFFORTS TO REDUCE WASTE, AND SUPPORT LAND AND RESOURCE REUSE AND RECYCLING STRATEGIES. **Significant cost and resource efficiencies can be found in reducing waste, which in turn reduces the need for landfills, for converting open space and agricultural land to urban uses, and for cleaning up contamination and pollution resulting from the release of waste and materials into the environment.**

1. Continue to encourage the recycling, composting, and reuse of organic yard and food waste as a resource for urban gardens
2. Continue to support the recycling efforts for household and commercial waste streams, including household chemicals and electronic recycling facilities
3. Work with partners (nonprofits, private industry, etc.) to plan and develop networks of industrial operations to identify, reduce, and connect waste, material, and energy streams. Support product stewardship that places the responsibility for end of life cycle on manufacturers
4. Continue to support the collection, recycling, and reuse of construction and demolition site waste, and encourage the use of recycled, locally produced, and sustainably harvested materials in new construction
5. Continue to examine the City's facilities, operations, services, maintenance, and procurement and waste management systems for ways to improve efficiencies and environmental performance
6. Continue efforts to reuse, reclaim, and redevelop brownfields, greyfields, and vacant and underutilized facilities, sites, buildings, and properties to productive use when feasible
7. Coordinate and encourage workforce development efforts in distressed communities where workforce efforts can be tied to brownfield remediation and other land and resource recycling initiatives
8. Continue to promote, through partners, the collection of prescription drugs, which frequently end up in the area's fresh water