

## Subgoal 5

Does the public have access to abundant open space, shoreline, and natural areas, and does the public have enhanced opportunities for interaction with the Lake Michigan ecosystem?

### What is our target for sustainability?

Approximately 50% of the lakeshore area is open and natural with protected areas and abundant opportunities for access and recreation.

### Why is this important?

Outdoor recreation in the Great Lakes basin is an important component of the region's economy and quality of life. The region offers outstanding tourism and recreational opportunities ranging from wilderness activities in pristine national parks to swimming at beaches, fishing, boating, and bird watching. Pressures from development and competing land uses have the potential to limit public access to shoreline and natural areas.

### What is the current status?

Currently, the status of the goal is mixed due to the competing needs for the limited lakefront resources.

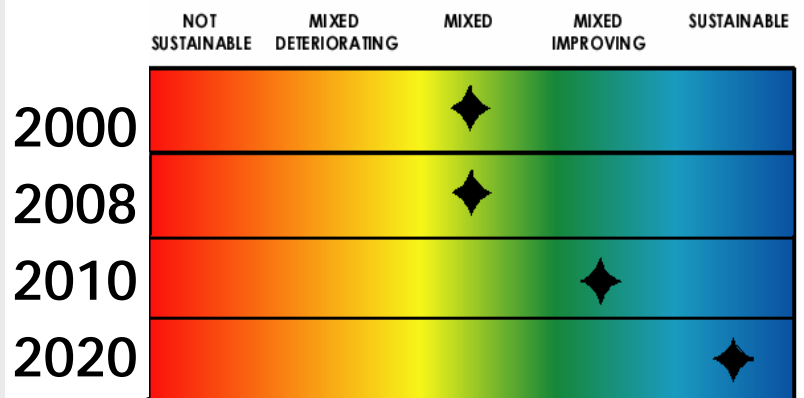
### What are the major challenges?

- Climate Change: Lake level change, emergent vegetation, and storm surges from intensive storms will impact dunes and coastal ecosystems and piers and docks
- Pressure for new development on existing open lands and shorelines
- Increased land costs driven by expanding development
- Fewer government resources available for land use protection and purchase
- Decreasing funding for recreational harbor maintenance
- Lower lake levels leading to closure of some marinas
- Lack of understanding of the economic benefits and value of natural areas

### What are the next steps?

- Partner with the growing coastal zone management programs in the Lake Michigan basin to ensure that the issue of public access to the lake is balanced with protection of the ecosystem
- Support a dialogue on green marinas (see Chapter 9) among states and Sea Grant programs
- Determine protection status of world's largest collection of fresh water sand dunes
- Promote public involvement in preservation and stewardship of special natural areas and public access:
  - Broaden the dialogue with state and local government land-use planners and decision-makers to balance environmental and recreational needs through the Lake Michigan Watershed Academy
  - Provide tools for local communities to understand the value of the resource from a lakewide perspective and develop long-term management programs
  - Identify open space multi-use opportunities and tools for such things as flood retention parks and open space with commuter bike trails, among others

Lake Michigan Target Dates for Sustainability





## What are some tools for addressing the challenges?

- Lake Michigan Water Trails
- Great Lakes Circle Tour Coastal Access Guide: Using Web Mapping to Support Coastal Cultural Tourism

## What are the State of the Lakes Ecosystem (SOLEC) indicators used to help assess the status of the subgoal?

### [Indicator # 7000 - Urban Density](#)

Status: Mixed; Trend: Undetermined

### [Indicator # 7002 - Land Cover/Land Conversion](#)

Lake Michigan Status: Mixed; Trend: Undetermined

### [Indicator # 7006 - Brownfields Redevelopment](#)

Status: Mixed; Trend: Improving

### [Indicator # 7054 - Ground Surface Hardening](#)

Status: Not Assessed; Trend: Not Assessed

### [Indicator # 8129 - Area, Quality and Protection of Special Lakeshore Communities - Alvers](#)

Status: Mixed; Trend: Not Assessed

### [Indicator # 8129 - Area, Quality and Protection of Special Lakeshore Communities - Cobble Beaches](#)

Status: Mixed; Trend: Deteriorating

### [Indicator # 8129 - Area, Quality and Protection of Special Lakeshore Communities - Islands](#)

Status: Mixed; Trend: Undetermined

### [Indicator # 8129 - Area, Quality and Protection of Special Lakeshore Communities - Sand Dunes](#)

Status: Not Assessed; Trend: Not Assessed

### [Indicator # 8131 - Extent of Hardened Shoreline](#)

Status: Mixed; Trend: Deteriorating

### [Indicator # 8135 - Contaminants Affecting Productivity of Bald Eagles](#)

Status: Mixed; Trend: Improving

For more information on status of indicators, see <http://www.epa.gov/solec/sogl2007/>

## Interacting with the Ecosystem

For thousands of years, the abundant natural resources of the Great Lakes system attracted inhabitants to its shores. The fresh water, abundant and diverse fishery, stands of trees, mineral wealth, and fertile soils formed the basis for the quality of life and the economy. The opportunity of using water for drinking, power, and transportation was a key element in the economic equation of the time. The magnitude and diversity of the Great Lakes added a challenging dimension to most endeavors though.

The interaction of Lake Michigan residents with their ecosystem today is still based on natural resources but is less “hands-on.” For while the plows still till the soil, the pork belly futures get sold in the Chicago Commodities Exchange pits far removed from the resource. More interaction is now self-selection of activities in which residents are seeking quality of life by being outdoors, often on or near the water. The interaction termed “recreation” is so highly valued by society that special purpose governmental units on the federal, state, tribal, and local levels are charged with protecting natural resources by providing and promoting recreation services utilizing public funds. Recreation takes place on the land, and on, in, and under the water. Scuba diving at old ship wrecks and other natural phenomenon in the lake is a growth

sport and opportunities abound to discover other natural and cultural sites.

An entire industry exists to entice visitors to share the region’s natural resource-based activities. Studies document that these nature-based tourism activities provide a significant net positive gain for the health of the residents and to the regional and national economy. To sustain this interaction with a positive net gain to the economy, the environment, and society, critical coastal areas must be open and accessible; water must be of high quality and sufficient quantity; sensitive cultural, habitat and biodiversity areas protected; and attention paid to climate change and lake level interaction.

The Green Infrastructure movement is becoming more widespread as a way to educate and inform communities of the important values of open space. Stated simply, green infrastructure is the system of connected parks, trails, and stream corridors that provide conservation and recreation benefits to a community. This connected system is as important as the more traditional infrastructure such as roads and utility corridors for electric power transmission, water and sewer, and public safety.

Areas used for recreation are also important to help adapt to a changing climate. Open space and

### The Marquette Plan to Open the Indiana Shoreline

The Marquette Phase II Visioning Plan was launched in 2007. It builds off of the Marquette Phase I project, which set a goal of increasing public access and developing the urbanized area. Marquette Phase II imposes a new set of challenges with a different set of stakeholders and interest groups. It will identify and address the needs of the smaller communities and create a vision that will identify and protect greenways and identify possible water trails in the region.

The Marquette Plan is a regional plan that creates a comprehensive land use vision for the Lake Michigan drainage basin and a strategy for implementation of that vision. Officially the project is an extension, or second phase, of The Marquette Plan: The Lakeshore Reinvestment Strategy (2005).

The initial Marquette Plan: The Lakeshore Reinvestment Strategy was completed in 2005 and addressed public access and redevelopment of the lakeshore from the Illinois state line to the Port of Indiana. It was initiated by First District Congressman Peter Visclosky and funded by the cities of Whiting, East Chicago, Hammond, Gary, and Portage. Projects included in the Phase I plan are eligible for funding from the Regional Development Authority. Phase II will focus on the lakeshore from the Port of Indiana to the Michigan - Indiana state line. Funding for planning the second phase is being provided through a grant from the Indiana Department of Natural Resources Lake Michigan Coastal Program with matching funds from the Gaylord and Dorothy Donnelley Foundation, the cities of La Porte and Michigan City, and La Porte County.

The plan received \$20 million from the federal government as a result of leadership from Rep. Peter Visclosky.

More information is available at: [www.nirpc.org/MP2PCTP/MP2PCTP.htm](http://www.nirpc.org/MP2PCTP/MP2PCTP.htm).



## The Lake Michigan Toolbox

### Lake Michigan Water Trails

There are many existing water trails in the Lake Michigan basin. Information about them can be found online at the resources listed below.

#### Illinois

- Northeastern Illinois Watertrails: [www.openlands.org/watertrails.asp](http://www.openlands.org/watertrails.asp) and [gorp.away.com/gorp/location/il/pad\\_chic.htm](http://gorp.away.com/gorp/location/il/pad_chic.htm)
- Chicago Portage Canoe Trail: [users.rcn.com/clonk/CCFPD/MINI/#Canoe\\_trail.htm](http://users.rcn.com/clonk/CCFPD/MINI/#Canoe_trail.htm)
- Illinois DNR Canoeing Opportunities: [dnr.state.il.us/lands/Landmgt/Programs/Canoe\\_Kayak.htm](http://dnr.state.il.us/lands/Landmgt/Programs/Canoe_Kayak.htm)

#### Indiana

- Indiana's Canoe Trails: [www.in.gov/dnr/outdoor/canoe/index.htm](http://www.in.gov/dnr/outdoor/canoe/index.htm)

#### Michigan

- Michigan's Canoe Trails: [gorp.away.com/gorp/resource/us\\_river/mi.htm](http://gorp.away.com/gorp/resource/us_river/mi.htm)
- Kewaunee Water Trail: [www.kayakwisconsin.net/watertrail/countys/kewaunee-wisconsin.html](http://www.kayakwisconsin.net/watertrail/countys/kewaunee-wisconsin.html)
- Hiawatha Watertrail: [www.hiawathawatertrail.org](http://www.hiawathawatertrail.org)

#### Wisconsin

- Wisconsin Lake Michigan Watertrail: [www.kayakwisconsin.net/watertrail/index.html](http://www.kayakwisconsin.net/watertrail/index.html)
- Capitol Water Trails, Inc., Madison, Wisconsin: [www.capitolwatertrails.org/](http://www.capitolwatertrails.org/)



## The Lake Michigan Toolbox:

### Great Lakes Circle Tour Coastal Access Guide: Using Web Mapping to Support Coastal Cultural Tourism

University of Wisconsin Sea Grant developed an interactive web mapping application to integrate coastal heritage tourism attractions with the Great Lakes Circle Tour route and provide detailed information about public access to the Great Lakes coast. The purpose of the Great Lakes Circle Tour-Coastal Access Guide ([http://maps.aqua.wisc.edu/glct/glct\\_index.htm](http://maps.aqua.wisc.edu/glct/glct_index.htm)) is to direct travelers off the heavily-traveled state and federal highways of the primary circle tour route and towards the many coastal access sites and cultural tourism resources located on the downtown streets and rural roads that hug the lakes.

Applications developed in Google Maps, Google Earth, and the open-source Open Layers software provide both a land-side and water-side perspective to the Wisconsin segments of the Lake Michigan and Lake Superior Circle Tour. Map layers include the primary circle tour route, local roads, parks, beaches, lighthouses, shipwrecks, boat launches, historical sites, and oblique photos. Panorama photos that synchronize the field of view with a vicinity map were taken for public access sites to the Great Lakes.

The web mapping applications provide the capability to link to external web content about Great Lakes sites maintained by the custodians of those features. Examples include links to information about shipwrecks, historic markers, lighthouses, museums, and parks from the Wisconsin Maritime Trails web site maintained by the Wisconsin Historical Society and beach information and conditions from the Wisconsin Beach Health site.

## INVEST Launches Study to Estimate Dollar Value of Natural Resources

Scientists at Grand Valley State University and Michigan State University developed a computerized tool that estimates the value of natural features in Muskegon, Ottawa, Newaygo, Kent, Ionia, Allegan, and Barry counties. The program is called INVEST, for Integrated Valuation of Ecosystem Services Tool. "We want people to realize that natural features have economic value," said Alan Steinman, director of GVSU's Water Resources Institute and principal investigator on the project. "INVEST is designed to provide citizens with a preliminary look at the value of services that nature provides for free."

Putting a dollar figure on nature, also called green infrastructure, is a difficult job in both a technical and philosophical sense. Officials at the West Michigan Strategic Alliance took on such a challenge though, to help demonstrate that nature is valuable and that damaging it comes at a price. "This is an effort by West Michigan to better understand and measure our quality of life," said Greg Northrup, president of the West Michigan Strategic Alliance. "We hope the monetary values will help residents realize that maintaining our green infrastructure makes good sense in terms of both our environment and our regional economy". Northrup expects the estimated value of the area's natural resources will increase as scientists continue their research especially since current estimates are considered to be conservative.

According to the study performed by the INVEST program, 996,000 acres of forest land in the seven-county West Michigan area were the region's most valuable natural asset, worth an estimated \$1.1 billion annually. West Michigan's abundant natural resources — forests, sand dunes, wetlands and water — provide a variety of benefits that are worth at least \$1.6 billion annually, according to a new study. Great Lakes beaches and sand dunes, which span 4,762 acres in Muskegon, Ottawa and Allegan counties, ranked second in value, at \$139 million. Those were followed by cropland, at \$119 million (including the value of crops); wetlands, \$81 million; and inland lakes and streams (excluding Lake Michigan), at \$62 million. Newaygo County had the largest portfolio of natural features, worth an estimated \$899 million. Much of that value is due to the presence of the Manistee National Forest, Steinman said. Muskegon County placed second, with natural features valued at \$242 million. Muskegon was followed by Ottawa County, with \$134 million, and Kent County, \$111 million. By comparison, the value of all goods and services produced by businesses in the seven county area studied is \$45 billion annually, according to the West Michigan Strategic Alliance.

The INVEST Web site ([www.invest.wri.gvsu.edu](http://www.invest.wri.gvsu.edu)) provides a breakdown of the value of natural features in each of the seven counties. Researchers calculated the worth of natural features by measuring the value of ecosystem services that forests, wetlands and lakes provide. Ecosystem services are the direct and indirect benefits that natural features provide humans, including recreation, improved water quality, fish and wildlife habitat, tourism, soil erosion control, food production, scenic beauty, and improved human health.

Environmentalists have some hesitation about putting a dollar figure on nature. Many see natural resources as being invaluable, so having a price tag associated with them makes no sense, because no amount of money could ever fully restore a damaged or destroyed landscape. Members of the INVEST team emphasize that getting accurate costs for natural resources is not as important as their overall goal of influencing people and government officials about the importance of conserving natural resources.

## Chicago Area Nature Centers Found Rich in Public Benefit

In many of the fast developing coastal areas around Lake Michigan natural areas are "developed" for economic benefit. A new study funded by Illinois/Indiana Sea Grant shows these preserved places provide benefits for more than flora and fauna. They also provide public benefits that can be measured in dollars, in this case \$ 8 million per year.

Daniel McGrath, an economist at the Institute for Environmental Science and Policy at the University of Illinois at Chicago, calculated the worth of two nature centers in Cook County, Illinois to those who use them. Chicago Park District's North Park Village Nature Center and the Forest Preserve District of Cook County 's Sand Ridge Nature Center. He measured the total amount residents of the area were willing to pay in time and travel costs to visit the sites over the course of a season.

The study reflects conservative estimates of the economic values as it did not include the many out of state visitors nor the educational benefits the nature centers provide through school-children visits which can be significant.

More information is available at <http://www.iisgcp.org/news/072006.htm>.

wetland can also capture storm water and prevent flooding. Walking and biking trails offer alternatives to car transportation that emits greenhouse gasses.

Benefits in communities with well developed green infrastructure include a higher quality of life for residents. Healthy green infrastructure also minimizes non-point source pollution problems, provides transportation alternatives, and improves overall environmental quality and public health.

Development pressures within the Great Lakes basin will continue to increase. Great Lakes communities need to consider growth management planning to ensure that future community expansion, whether residential, commercial, or industrial, does not have negative impacts on the important resources values of the Great Lakes.

Local, state, tribal, and federal government agencies have widely varied natural resource ethics and cannot deliver all that is needed to ensure a sustainable future of protection for the Great Lakes. Ultimately, local stewardship of important resources will cumulatively protect the Great Lakes.

## Public Interaction with the Lake Michigan Watershed

According to the Federal Interagency Ecosystem Management Task Force, an ecosystem is defined as: "... an interconnected community of living things, including humans, and the physical environment with which they interact. As such, ecosystems form the cornerstones of sustainable economies. The goal of the ecosystem approach is to restore and maintain the health, sustainability, and biological diversity of ecosystems while supporting sustainable economies and communities" (1995). Based on a collaboratively developed vision of desired future conditions, the ecosystem approach integrates ecological, economic, and social factors that affect a management unit defined by ecological—not political—boundaries. The foundation of the ecosystem approach is relating human beings and their activities to the ecosystems that contain them.

As access to Lake Michigan increases, so does the pressure for development. Growth of summer homes and year-round homes on the shoreline leads to more road construction, pollution from increased use of automobiles, and human use of areas that interrupts the natural web of basin life. In response,

## Fishtown Receives NOAA Preserve America Initiative Grant

The Fishtown Preservation Society of Leland, Michigan, Michigan Sea Grant were awarded a "Preserve America Initiative" grant from the National Oceanic & Atmospheric Administration (NOAA). The \$9,000 grant was awarded for "Catching the Fishing History of Lake Michigan, 1871-2006." It was one of eight awards given in a competition which had 34 proposals submitted from across the nation. The money will be added to existing funds of \$50,000 obtained from fundraising. The project is supported by the NOAA Preserve America Initiative Grant Program, part of Preserve America, a White House initiative aimed at preserving, protecting, and promoting our nation's rich heritage.



Source: Fishtown, Michigan Chamber of Commerce

Smart Growth policies are being developed and pursued by many communities, and resources such as the "Wisconsin Planning Guide for Smart Growth" (see [dnr.wi.gov/org/es/science/landuse/smart/](http://dnr.wi.gov/org/es/science/landuse/smart/) for more information), the Chicago Metropolitan Agency for Planning's "Environmental Considerations in Comprehensive Planning: A Manual for Local Officials" (see [www.cmap.illinois.gov](http://www.cmap.illinois.gov) for more information), and the Northwest Indiana Regional Planning Commission's "Water Resources Protection and Conservation Toolkit" (see [www.nirpc.org](http://www.nirpc.org) for more information) are becoming more widely available.

## Outdoor Recreation Opportunities

Outdoor recreation in the Great Lakes basin is an important component of the region's economy. The region offers outstanding tourism and recreational opportunities ranging from wilderness activities in pristine national parks to swimming at beaches in

## Michigan and Five Tribes Agree on Tribal Hunting and Fishing

The State of Michigan and five Native American tribes signed a consent decree that would allow the tribes to regulate hunting and gathering as well as inland fishing in tribal areas. Under the agreement, tribes would be allowed, for example, to hunt for longer periods and shoot more deer than under Michigan regulations. The tribes agreed their treaty rights pertain to hunting, fishing, and gathering only for subsistence purposes and not commercial activities.

While writing their own rules and issuing separate licenses, the tribes agreed to observe many of the state's policies for protecting resources from overharvesting and abuse, including limiting use of nets on inland waterways and prohibiting use of gill nets, a type of net that kills virtually any fish it snares.

The tribes also acknowledged their treaty rights do not grant access to private property unless the owner gives permission. However, tribal members can go onto private lands already open to the public, such as forests owned by timber companies, plus 4.5 million acres of federal and state lands.

damage costs. Hazards that can be mitigated through conservation of open space include flooding, slope instability, and structural fire damage. The combination of habitat protection and recreation is often the highest and best use of lands that are too fragile for development. The cost of not protecting such assets as slopes, aquifers, woodlots, wetlands, fens, alvars, floodways is incredibly high in the long run.

The eight Great Lakes states have about 3.7 million registered recreational boats, or about a third of the nation's total. Michigan is second in the nation in the number of boat registrations and six Great Lakes states rank in the nation's top ten in total registrations.

## Recreational Fishery and Parks Value

The Great Lakes recreational fishery is valued at \$4.6 billion. The National Park Service (NPS) estimates expenditures related to visits at national and state parks at \$22 billion (1993 dollars). The NPS 2004 survey of states estimated demands for recreational facilities and open space acquisition for three-quarters of the states have not met the needs of fifty percent of the population.

major cities. A well-defined four-season climate supports many types of recreation ranging from ice fishing, skiing, and snowmobiling in the winter to golf, fishing, boating, and swimming in the summer. There are approximately 40 state parks in or near the Lake Michigan basin as well as national lakeshore parks and fish and wildlife refuges. These can be visited by following the Circle Tour route around Lake Michigan. The Great Lakes Commission, in cooperation with the Great Lakes states and provinces in the 1980s and 1990s, coordinated the creation of the Circle Tours along existing roadways. The Lake Michigan Circle Tour route is marked by signs that feature Lake Michigan and the four surrounding states. In addition, guides prepared by states and localities that highlight enjoyable areas are important tools for promoting public access as well as critical ecosystem protection.

## The Many Benefits of Open Space

Open space plays an important role in supporting the economy. According to the National Association of State Park Directors, use of geologically or environmentally sensitive areas as open space or for recreational purposes can reduce potential property



Photo courtesy of Susan Beck

## Chicago Wilderness Launches "No Child Left Inside" Program

In 2007, more than 200 Chicago Wilderness member organizations formalized their long-standing commitment to forge a connection between children and nature with programs like camping trips, nature scavenger hunts and birding hikes. In 2008, Chicago Wilderness members began offering all-new programs as part of *Leave No Child Inside*, including a Chicago Wilderness Field Book that encourages fun and educational visits to local natural areas. *Leave No Child Inside* comprises hundreds of year-round events in nature that impact millions of children throughout the region.



*Leave No Child Inside* is built on principles popularized by author Richard Louv in his 2005 book *Last Child in the Woods: Saving Our Children from Nature Deficit Disorder*. The book's premise is that social changes within the last thirty years have led to a generation of children disconnected from nature. Increasingly, children's health experts agree that the lack of unstructured outdoor playtime for children may be linked to childhood obesity, attention deficit disorder, depression and other children's health problems.

The U.S. Forest Service is taking the lead on the program for Chicago Wilderness.

Chicago Wilderness' 200 members form a natural network spanning more than 300,000 acres of forests, prairies, savannas, wetlands, lakes and other protected open spaces across southeastern Wisconsin, through northeastern Illinois, in northwestern Indiana, and into southwestern Michigan.

More information is available at [www.KidsOutside.info](http://www.KidsOutside.info).