



# The Singing Sands

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## Mission of the National Park Service

The National Park Service preserves unimpaired the natural and cultural resources and values of the National Park System for the enjoyment, education, and inspiration of this and future generations. The Park Service cooperates with partners to extend the benefits of natural and cultural resource conservation and outdoor recreation throughout this country and the world.

## Mission of Indiana Dunes National Lakeshore

The mission of Indiana Dunes National Lakeshore is to preserve for the educational, inspirational, and recreational use of the public certain portions of the Indiana Dunes and other areas of scenic, scientific, and historic interest and recreational value in the state of Indiana.

## Contact Information

ADDRESS

Indiana Dunes National Lakeshore  
1100 N. Mineral Springs Rd.  
Porter, IN 46304

PHONE

219-926-7561 visitor information

E-MAIL

indu\_communications@nps.gov

WEBSITE

www.nps.gov/indu

TWITTER

http://twitter.com/indianadunesnl

1-800-PARKTIP (727-5847)  
emergencies, criminal activities, or  
suspicious activity

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# Preserving Our Shoreline

by Costa Dillon, Superintendent



When citizens first proposed a national park along the south shore of Lake Michigan in 1916, they recognized this landscape of dunes and sandy beaches was a special place. Now, 100 years later, the natural shoreline of Indiana Dunes National Lakeshore is in trouble and the National Park Service is taking action to find a remedy.

Along this part of Lake Michigan, most sand is transported from east to west along the shore by lake currents: building beaches and dunes along the way. Human-made structures at the Michigan City Harbor and between the Burns Waterway and Bailly Generating Station prevent this sand from moving. Without the natural deposits of sand, the beaches and dunes at Mt. Baldy, Portage Lakefront, and Ogden Dunes erode and recede.

A recent study at Mt. Baldy indicates that the dune is moving south at a rate of twenty feet per year. Historically, Mt. Baldy moved an average of four feet per year prior to the development of the Michigan City Harbor revetment. The beach at Mt. Baldy erodes almost one foot a month and not that long ago was more than 100 yards farther north than it is now. Occasionally, sand replacement has been done

to repair small sections of the eroded coast, but these projects are a temporary solution to a long-term problem.

Under the new Great Lakes Restoration Initiative, the National Park Service will look at how to repair the eroding beaches and dunes by restoring sand to the shore. As part of the Initiative, the National Park Service will develop a Shoreline Restoration and Management Study that will look at long-term solutions to restore the beaches. This project will consider how to: 1) restore natural sand movement and dunes, 2) improve water quality and visitor use access, and 3) coordinate beach management and access with landowners and partners. Our goal will be to develop an approach that will restore, as closely as possible, natural sand conditions that will protect park resources, provide public recreation opportunities, and be compatible with the interests of industry and homeowners adjacent to parklands.

*Preserving this coastline  
is a regional responsibility  
and it will take a coordinated  
effort to find solutions.*



We understand the importance of maintaining the coast as a place to live and work: thousands of us are fortunate to live close to the coast and depend upon the many jobs created by regional industries. We understand as well the importance of the spectacular vistas provided by the dunes and the incredible biological diversity of the area that draws millions of people to the area for recreation. Preserving this coastline is a regional responsibility and it will take a coordinated effort to find solutions. Working with the Environmental Protection Agency, Army Corps of Engineers, and state and local entities, we are working to preserve the Lake Michigan shoreline as a place to work, live, and play.

## National Lakeshore Park Public Meetings

Want to know more about what is going on in your national park? Want a chance to ask questions about the resources of the park, plans for the future, or recreational opportunities? You are invited to attend one of several park public meetings throughout the year. For information on future meetings please see the park website at [www.nps.gov/indu](http://www.nps.gov/indu).



# Park Information

## Protect Your Park



- Walk only on designated trails** to prevent damage to park resources and minimize erosion.
- Dispose of your litter** and recycle items in marked containers.
- Leave all natural and cultural items** as you find them to preserve the present and past. Collecting items such as shells, fossils, rocks, and wildflowers is prohibited.
- Respect all wildlife** from a safe distance. Never feed wild animals. Feeding wild animals is dangerous, harms their health, and alters their natural behaviors.
- Avoid introducing or transporting non-native species.** For example, don't bring firewood to the park. Exotic insect pests that live in firewood can kill native trees. Burn all firewood; take no firewood home.

## Park Hours

Unless otherwise posted, the public areas of the park are open from sunrise to sunset. Most parking areas are open from 7:00 a.m. until dusk. Lake View parking area remains open until 11:00 p.m.

## Visitor Center



Located on SR 49, between U.S. Hwy. 20 and Interstate 94 near Chesterton, Indiana, it is open daily 8 a.m. -6 p.m. An introductory park movie is available upon request.

## Top Visitor Questions

**1 Where is the beach?**  
The 15-mile beach can be accessed from many different locations. There are access points located north of the intersection of County Line Road and Highway 12 (Mt. Baldy), north end of Central Avenue, Lake Front Drive at Lake View, intersection of West Lake Front Avenue and Dunbar Avenue, north end of East State Park Road, north end of Waverly Road (Porter), Portage Lakefront and Riverwalk (from Hwy. 12 take Hwy. 249 south and follow park signs), and north on North County Line Road (West Beach). West Beach has 600 parking spaces; other parking lots have limited parking. Please reference map located on page 8.

**2 Where may I climb a dune?**  
Mount Baldy is the only dune where climbing is allowed in the national lakeshore. You may scale the dune from the lakeside (north side) to the summit. Climbing is prohibited on the side adjacent to the parking lot because it accelerates the movement of the dune. Please follow the trail from the parking lot, which leads around the side of the dune to a junction that offers a choice between the summit or beach trails.

West Beach offers a spectacular overlook on the one-mile West Beach Succession Trail. Please stay on designated trails to protect sensitive dune species.

**3 Do you close the beach when high waves are present or E. coli levels are high?**  
No. The national lakeshore does not close its beach regardless of water conditions. Risks are inherent in all natural areas. During summer months, lifeguards are stationed at West Beach. Lifeguards are not present at other locations of the beach.

Call 219-926-7561 followed by prompt #2 for information regarding E. coli levels.

**4 How do I find out about beach regulations?**  
Just look for this sign on the beach.

Regulations

Indiana Dunes National Lakeshore  
National Park Service  
U.S. Department of the Interior

Hours — 7:00 am to Dusk

No Pets on Beach

No Glass

No Fires

No Alcoholic Beverages

No Lifeguard on Duty

**5 Do you have a campground?**  
Yes. The Dunewood Campground is open April 1 through October 31 and is located at the intersection of U.S. 12 and Broadway near Beverly Shores. Its 79 campsites are available on a first-come, first-served basis. The restrooms are centrally located and have showers. Electrical hookups are not available; however, the campground has a dump station. Please self-register by depositing the exact camping fee of \$15.00 per night. Use firewood from local suppliers to help prevent the spread of invasive insects. **Alcohol is strictly prohibited.**


**6 May I take my pet with me for a stroll or hike?**  
Yes. The national lakeshore has over 40 miles of hiking trails. Pets restrained by a leash are permitted on beaches east of the Kemil access point and on most park trails. However, pets are not permitted on the beach west of the state park. The Ly-co-ki-we trail (intersection of Hwy. 20 and School House Road) is open for

horseback riding March 16 through December 14.

Please hike with others and stay on designated trails for your protection and that of park resources. Trail maps are available at the Indiana Dunes Visitor Center, which is located near the intersection of U.S. Hwy. 20 and Indiana Hwy. 49 in Porter, IN.

**7 May I launch my boat and fish?**  
The park does not have a boat launch. Personal motorized watercraft (Jet Skis and WaveRunners) are prohibited. However, you may launch your kayak (or other non-motorized watercraft) at locations other than at West Beach. An Indiana state fishing license is required to fish.

**8 How do I reserve an environmental education program?**  
Teachers and youth group leaders should call Christy Gerlach at 219-395-1885 to arrange for a free ranger-led program. These programs are conducted at the park's Paul H. Douglas Center for Environmental Education located in Gary/Miller, Indiana, and focus on the park's resource issues.

**9 Do you have a Junior Ranger Program?**  
 Yes! Stop by the park's visitor center and ask a ranger to help you select the junior ranger program that best fits your visit. A Beachcombers program is popular with families spending just a few hours on the beach. A more comprehensive program is a favorite among those camping in the park. Other junior ranger programs are offered during special events. All programs are free. Children completing the junior ranger program earn a Junior Ranger patch. Program materials are available at the visitor center and are downloadable at [www.nps.gov/indu/forkids](http://www.nps.gov/indu/forkids). If you encounter a roving ranger on the beach, ask him or her about the program. Rangers often carry junior ranger booklets and patches with them for your convenience.

**10 What is Portage Lakefront and Riverwalk, and how do I get there?**  
This site is part of Indiana Dunes National Lakeshore and has a riverwalk, a fishing pier, parking lots, and an environmentally-friendly pavilion. The City of Portage operates and maintains this site through a partnership with the National Park Service. Portage Lakefront and Riverwalk can be accessed by following Hwy. 249 north from Hwy. 20 and follow the park signs.

**11 How can I volunteer at the national lakeshore?**  
We are looking for volunteers to help maintain trails and do some landscaping around buildings. We also have volunteer openings at the visitor center in Porter and at the Paul H. Douglas Center for Environmental Education in Gary/Miller. Go to [www.volunteer.gov/gov](http://www.volunteer.gov/gov) and click on Indiana. Our volunteer opportunities are listed there. If you do not have access to the internet, leave a message with Lynda Lancaster, the Volunteers-In-Park program manager at 219-395-1682.



# Ranger-Guided Programs

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DATE & TIME	PROGRAM	DESCRIPTION	LOCATION
Daily			
July 5 - September 6 8:30 a.m. – 5:45 p.m.	<i>Child of the Northwest Wind</i>	Watch this 11-minute park orientation video to learn about the places to see and activities to do at the national lakeshore (on request).	Indiana Dunes Visitor Center
June 5 – September 6 Peak Beach Hours	AGO <i>Junior Rangers by the Lake</i>	Learn about the national park while enjoying the beach. Children can complete an activity page about the lakeshore and earn a Junior Ranger Beachcomber’s Patch. Get this free activity page from a ranger on the beach or at the visitor center.	West Beach & Mt. Baldy
June 5 – September 6 12:30 p.m. – 2:00 p.m.	<i>Chellberg Farm Open House</i>	Go inside of the farmhouse and learn what life was like on a farm about 100 years ago.	Chellberg Farm
June 5 – September 6 2:30 p.m. – 4:00 p.m.	<i>Bailly Homestead and Chellberg Farm Walk</i>	Join a ranger for a leisurely 1.5 mile walk that includes tours of two historic sites: the Chellberg Farm & Bailly Homestead. Children can complete an activity page and earn a Junior Ranger Heritage Patch during the program, too.	Chellberg Farm & Bailly Homestead parking lot
June 5 – September 6 4:30 p.m. – 5:15 p.m.	<i>Fun at the Farm</i>	Kids, accompanied by an adult, can join a ranger to learn about both the work and fun had by kids about 100 years ago on an Indiana dunes farm.	Chellberg Farm
Wednesdays			
June 16, 30, July 7, 21, Aug. 4, 18 6:00 p.m. – 7:00 p.m.	<i>Patio Talk: “Threatened Lake Michigan”</i>	Join a ranger at the national lakeshore’s newest site to enjoy the beauty of Lake Michigan and learn about some of the threats to it	Portage Lakefront & Riverwalk Pavilion
June 9 & 23, July 14 & 28, August 11 & 25 6:00 p.m. – 7:00 p.m.	<i>Evening Beach Stroll</i>	Join a ranger for a leisurely stroll along the beach and enjoy views of some of the national lakeshore’s tallest dunes.	Central Avenue beach access parking lot
Fridays			
June 18, July 16, and Aug. 20 7:30 p.m. – 9 p.m.	<i>Music Heritage Series</i>	Local musicians help sustain the culture of the Duneland region by sharing historic tunes.	Indiana Dunes Visitor Center
June 11, July 23, and Aug. 27 8:00 p.m. – 9:30 p.m.	<i>Night Hike to Bailly Homestead</i>	Join a park ranger for a 1/3 mile night hike to the Bailly Homestead to explore this historic site and learn about the importance of our diminishing night skies. Bring a flashlight to safely tour the inside of the historic buildings.	Bailly/Chellberg parking lot
June 4, July 9, and Aug. 6 3:00 p.m. – 4:00 p.m.	AGO <i>Camping 101</i>	If you’ve never been camping or just need a couple of pointers about how to camp, meet a ranger at the amphitheater to get your questions answered and learn more about the Dunewood Campground.	Dunewood Campground Amphitheater
Saturdays			
June 12, June 26, July 10, July 24, Aug. 7, Aug. 21 10:00 a.m. – 11:00 a.m.	<i>Junior Wildland Firefighter Program</i>	Meet the park’s fire crew and learn about their jobs and equipment. After this hands-on program, children will receive their very own Junior Wildland Firefighter activity book and a Junior Wildland Firefighter patch.	Campground Amphitheater (June 12, July 10, Aug. 7) West Beach - Douglas Center (June 26 & Aug. 21) (July 24)
June 12, July 10, and August 14. 9 a.m. – Noon	<i>Summer Stewardship Days</i>	Join a ranger to learn about “Your Neighborhood National Park” while you volunteer a hand to help improve it. Activities may include removing invasive plant species, planting native flowers, or other stewardship work depending on the conditions of the day.	Meet at the Indiana Dunes Visitor Center and carpool to that month’s site
June 5 – Sept. 4 (Excluding July 3rd.) June: 8:30 p.m. – 9:30 p.m. July: 8 p.m. – 9 p.m. Aug.–Sept.: 7:30 p.m. – 8:30 p.m.	<i>Discovering Your Neighborhood National Park (Campground Program)</i>	Join a ranger around the campfire and learn about the diversity of park resources, and activities that can be found at the national lakeshore.	Dunewood Campground Amphitheater
Every Weekend			
1:00 p.m. – 3:00 p.m.	<i>Kids’ Fun at the Visitor Center</i>	Join a ranger in the visitor center’s activity room for an afternoon of kid’s activities and stories.	Indiana Dunes Visitor Center
June 6- September 5 1:00 p.m. – 4:00 p.m.	<i>Open House at the Douglas Center</i>	Stop by the center to see exhibits, live animals, and take part in different activities each week. See the park’s website for details.	Paul H. Douglas Center for Environmental Education
Special Events			
June 12 10:00 a.m. – 2:00 p.m.	AGO <i>Take a Kid Fishing Day at the Dunes</i>	Join a ranger to learn all about fishing in the national lakeshore. Bring your own fishing gear. All ages welcome. Children under 16 don’t need a fishing license, but all state fishing regulations apply.	Portage Lakefront & Riverwalk site
June 25 7:30 p.m. – 8:30 p.m.	<i>Climate Change and the National Lakeshore</i>	Learn about the possible effects of climate change on the national lakeshore during this presentation at the visitor center.	Indiana Dunes Visitor Center
June 13, 26, July 11, 24, Aug. 15, 28, and September 4 12 p.m. – 3:00 p.m. (Must arrive by 2:00 p.m.)	<i>Explore Pinhook Bog (Open House)</i>	Take a self-guided hike into Indiana’s only quaking bog. Rangers stationed along the trail will help you understand this unique place filled with carnivorous plants.	Meet at Pinhook Bog parking lot
June 27 Noon – 4:00 p.m.	<i>Midsummer Celebration</i>	Celebrate the summer solstice with Scandinavian music and dance and learn how you can help preserve the cultural landscape at Chellberg Farm.	Chellberg Farm
July 10 2:00 p.m. – 4:00 p.m.	<i>A Soundwalk in the Dunes</i>	Join members of the American and Midwest Societies for Acoustic Ecology to learn how to explore a natural environment through sound. After a brief talk, get some practical experience in focused listening to the national lakeshore.	Paul H. Douglas Center for Environmental Education
July 17 10:00 a.m. – 12:00 p.m.	AGO <i>Kayaking Tour</i>	Join a ranger for a brief presentation of the “Threatened Lake Michigan” program and go on a kayak tour of the Burns Waterway. You must bring your own kayak and life preserver.	Portage Lakefront & Riverwalk site
July 24 and August 22 8:00 p.m. – 9:30 p.m.	<i>Full Moon Hike</i>	Join a ranger under a full moon for a nighttime exploration of the woodlands and wetlands of the ancient Calumet Dunes. Bring a flashlight.	Calumet Dune Trail
AGO ∞ Programs that support Americas Great Outdoors Initiative. (See page 7 for more information)			



# Managing Resources in the Face of Climate Change



Here at the southern tip of Lake Michigan, thousands of miles from stranded polar bears, melting permafrost, and the ocean's rising sea level, Indiana Dunes National Lakeshore might seem far from the threats imposed by climate change. The climate is changing in Northwest Indiana though, as it is elsewhere, and that is a concern for park managers. The specific ways our climate is changing and the ways it may change in the future have the potential to create major impacts on the park's cultural resources as well as the plants, animals, and entire ecosystems the park is charged with protecting.

In recent years, scientists have documented that the summer water temperatures of Lake Michigan are increasing (Austin and Colman 2007), and extreme heat events are occurring more frequently in the Great Lakes region (Wuebbles *et al.* 2003). Winters are getting shorter with the last spring frost coming earlier and the first autumn frost coming later (Kling *et al.* 2003). Ice around the Great Lakes and streams is declining and melting earlier (Austin and Colman 2007, Magnuson *et al.* 2000, Robertson *et al.* 1992). These changes are happening now, so what will the future hold?

“We cannot predict the future in detail, but in spite of uncertainty, we must still plan and act.”

Dr. Nathan Stephensen, a research ecologist with the U.S. Geological Survey, says we can't base the future on the past any longer. “Profound changes are expected for the future. In the face of unprecedented global changes, past conditions no longer automatically provide us with sensible management targets for the future. We cannot predict the future in detail, but in spite of uncertainty, we must still plan and act.”

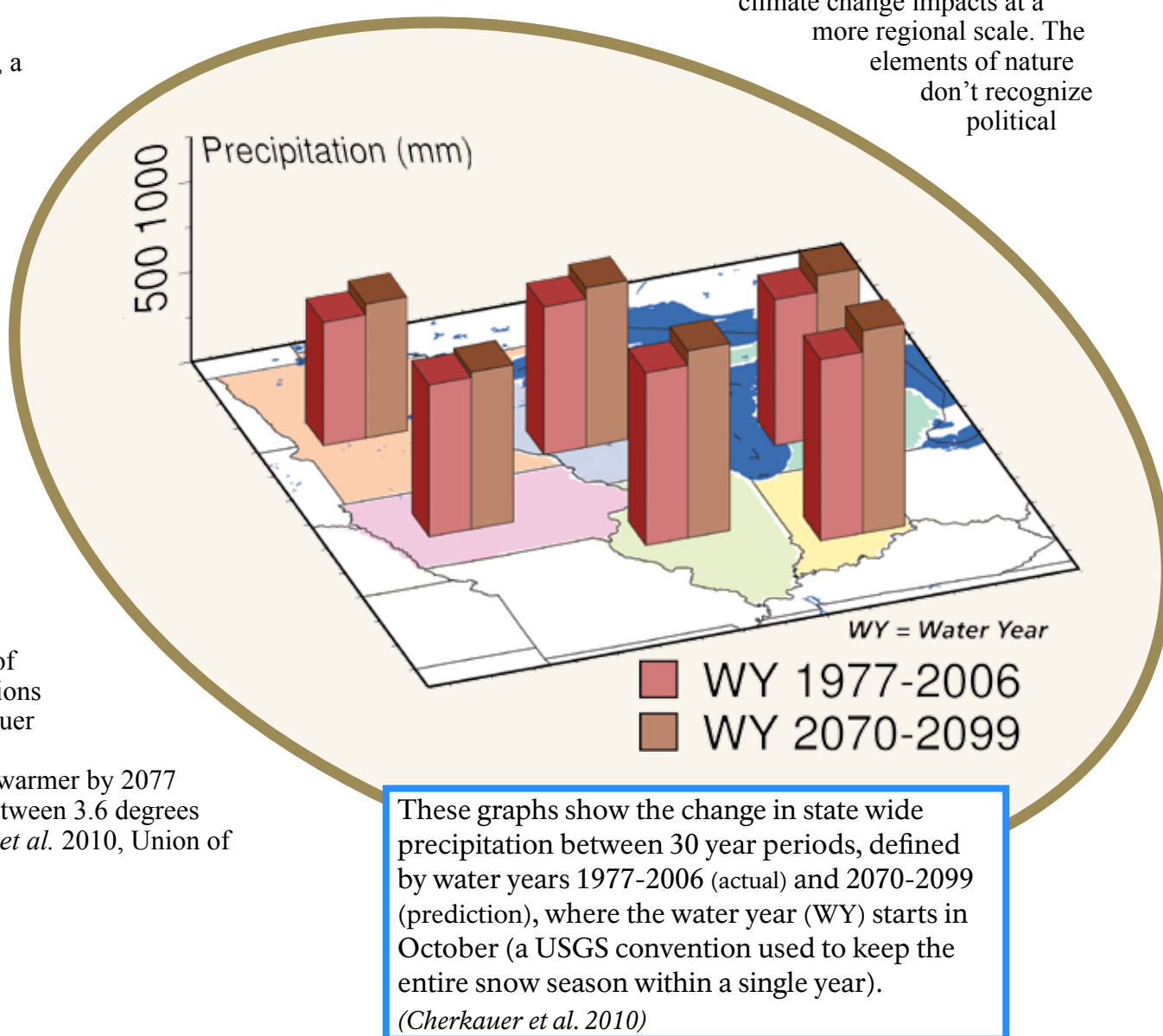
Predictive models which consider a variety of future scenarios can be invaluable planning tools for park managers. Dr. Keith Cherkauer, Assistant Professor of Agricultural and Biological Engineering at Purdue University, used climate model projections to show that Indiana, Illinois, Wisconsin and Michigan could receive as much as 28 percent more precipitation by the year 2070, with much of that coming in the winter and spring. His projections also show drier summer and fall seasons. Cherkauer calculated that winters in the four states could be between 2.7 degrees and 5.4 degrees Fahrenheit warmer by 2077 than today. They also show summers could be between 3.6 degrees and 10.8 degrees Fahrenheit warmer (Cherkauer *et al.* 2010, Union of Concerned Scientists 2009).

According to Dr. Lara Hansen, Chief Scientist and Executive Director of “Eco Adapt” (a scientific and education based nonprofit dedicated to creating a robust future in the face of anthropogenic climate change), “Park managers can do a lot of things in the name of conservation that will not really be effective in the face of climate change. That's one reason it is so important for managers to consider climate change as part of every decision they make. People sometimes think they don't have time to do this because they are so busy addressing the near term issues that seem more pressing, but they need to realize that those very issues will themselves be impacted by climate change. If parks do not address climate change, they are not adequately managing the resources.”

Randy Knutson, National Park Service (NPS) Wildlife Biologist at the national lakeshore, recently considered a potential effort to restore the endangered Hines emerald dragonfly, an insect that once thrived in calcareous fens west of the park, as well as Mitchell's satyr, a rare butterfly once recorded living in the sedge meadows of the park. Restoration projects such as these take a great deal of money, time, and effort. Would it be worth that effort in light of impending climate changes? According to Knutson, “We just need more information.”

Indiana Dunes National Lakeshore is taking the challenge seriously. Knutson and other resource managers at the national lakeshore recently applied for funds for several projects that would generate information needed to understand how climate change will impact many of the park resources. If funded, the knowledge generated by these projects will enable managers to provide the best possible care of those resources. Project proposals focused on the Karner blue butterfly, Oriental bittersweet, Pitcher's thistle, migratory bird habitat, and wetland ecosystems.

While many resource managers are focused primarily on resources within the park, others are approaching climate change impacts at a more regional scale. The elements of nature don't recognize political







boundaries and effective conservation now requires that the NPS engage in a holistic approach, working both within and beyond park boundaries. Indiana Dunes National Lakeshore Superintendent Costa Dillon encourages the park to increase partnerships with other organizations. Such partnerships are synergistic, enabling us to achieve far greater good in all areas, including climate change mitigation and adaptation.

In many situations, a regional approach may be the solution. For example, a recent study by Dr. Karen Franci of Radford University suggests that small mammals in northwest Indiana will attempt to migrate north as the climate changes. Those migrating northeast through Michigan will reach the Straits of Mackinac and be able to go no further. As desired climatic conditions continue moving north, eventually those small mammals will be left behind. Small mammals migrating northwest from Northwest Indiana could be successful, but would encounter a huge obstacle: the city of Chicago (Franck, K.E., et al. 2009). Cooperation with regional partners to promote greenspace and migration corridors through urban areas may be the only way to ultimately protect these species.

Dr. Hansen reminds us that while we are working to protect the resources in the face of climate change, we must also reduce our carbon footprint. The national lakeshore’s Environmental Management Team (EMT) is working to do just that. This team facilitates activities within the park to increase sustainability each year. During the next two years, the team is leading national lakeshore employees through the Climate Friendly Parks Program. This intensive program was developed by the Environmental Protection Agency in cooperation with the NPS to provide national parks with tools to address climate change. Park employees inventory sources of park emissions and with the help of a web-based program calculate the level of their current green-house gas output. A plan will then be developed to reduce those greenhouse gases by a certain percentage. According to Dr. Susan Lehmann, NPS Engineer and chair of the national lakeshore’s EMT, the web-based tool allows park employees to examine the impact that each of their activities has on the park’s total emissions. It also allows them to see exactly how strategic changes in those activities will affect costs, in carbon output and dollars. Changes identified as beneficial are incorporated into the action plan and park operations. Emission inventories are conducted each year, carbon emission reductions are tracked, and additional changes can be programmed into the plan annually.

Education plays a huge role in slowing climate change. Interpretive rangers at the park have pledged to weave climate change messages into each of the programs they conduct. During presentations, rangers talk to both students and members of the general public about ways climate change could impact the park resources. They also explain how people

can take actions in their own lives to reduce their carbon footprints. Taking action will not only help individuals, but will also help to protect natural and cultural resources including those at Indiana Dunes National Lakeshore.



The National Parks and Conservation Association created the “Do Your Part for Climate Friendly Parks” program. This web-based program empowers national park visitors to reduce greenhouse gas emissions and help national parks nationwide to be leaders in slowing climate change. People who visit the site <http://www.doyourpartparks.org/> can create a personal or household plan to reduce their carbon footprint and tie their efforts to the national parks they love.

People invented the technology that caused an acceleration in climate change. Therefore, there is no reason to think people lack the ingenuity to slow it down. The park employees, park visitors, and public at large must be proactive. We need to work together and be creative. We can’t just “think” outside of the box...when it comes to climate change, we need to “act” outside of the box as well!

### Useful Resources Related to Climate Change

- Climate Friendly Parks - Do Your Part! Program:  
<http://www.nps.gov/climatefriendlyparks/doyourpart.html>
- National Parks and Climate Change blog available at:  
<http://americasbestidea.blogspot.com/>
- One Million Acts of Green:  
<http://www.greennexus.com/omaog/us/education>
- A New Climate for Conservation - Nature, Carbon and Climate Change in British Columbia:  
[http://www.y2y.net/data/1/rec\\_docs/726\\_New-Climate\\_Report\\_reduced.pdf](http://www.y2y.net/data/1/rec_docs/726_New-Climate_Report_reduced.pdf)
- The US Forest Service Climate Change Resource Center:  
<http://www.fs.fed.us/ccrc/>

### References:

Austin, J.A., S.M. Colman. 2007. Lake Superior Summer water Temperatures are Increasing More Rapidly than Regional Air Temperatures : A Positive-Ice Albedo Feedback. Geophysical Research Letters 34. L06604, doi:10.1029/2006GL029021

Cherkauer, K.A., T. Sinha. 2010. Hydrologic impacts of projected future climate change in the Lake Michigan region, J. Great Lakes Res. doi:10.1016/j.jglr.2009.11.012

Franci, K.E., K. Hayhoe, M. Saunders, E.P. Maurer. 2009 Ecosystem adaptation to climate change: Small mammal migration pathways in the Great Lakes states, J. Great Lakes Res. doi:10.1016/j.jglr.2009.09.007

Kling et al. 2003. Confronting climate change in the Great Lakes Region. Union of Concerned Scientists. Available at <http://www.ucsusa.org/greatlakes/glchallengereport.html>

Magnuson, J.J. et al. 2000 Historical Trends in Lake and River Ice Cover in the Northern Hemisphere. Science. 289: 1743-1746.

Robertson, D. M., R.A. Ragotzkie, J.J. Magnuson. 1992. Lake Ice Records Used to Detect Historical and Future Climatic Changes. Clim. Change, 21:407-427.

Union of Concerned Scientists. 2009. [https://www.ucsusa.org/global\\_warming](https://www.ucsusa.org/global_warming)

Wuebbles, D.L. and K. Hayhoe. 2003. Climate Change Projections for the United States Midwest. Mitigation and Adaptation Strategies for Global Change 9: 335 – 363.

# Park Safety Tips

## Things to Keep You Safe in Lake Michigan

Entering Lake Michigan is a lot different than splashing in your local pool: it's serious business! Wind driven waves can quickly create dangerous conditions that pose a severe threat to even the most expert of swimmers. People drown in the lake every year. Don't let your visit end in tragedy.

If there are whitecaps on the lake, the water conditions are too dangerous for swimming or wading anywhere along the 15-mile shoreline. Steep, uneven waves can knock you off your feet and tire you out before rescuers can help. Rip currents can sweep you away, even from shallow water.

Lake Michigan is a natural environment. Sandbars, steep drop-offs, uneven bottom and debris all combine to make footing uneven and sometimes dangerous. Sandbars entice poor or non-swimmers to venture far from shore. Waves sometimes knock the unwary off the sandbar into much deeper water, occasionally leading to tragedy. Children and poor swimmers are particularly vulnerable to the sandbars.

Lake Michigan, like all bodies of water, is susceptible to contamination by natural and human created bacteria. When concentrations are high, these bacteria can pose a threat to your health. When "No Swimming" advisories are posted, heed this warning and enjoy the lake from the beach. Even on clear days, you should rinse off with fresh water after swimming.

## Things to Keep You Safe in the Park

Insect repellants work great to keep biting bugs away from you. Staying out of the woods during the very early morning or around dusk will also limit your exposure to pesky mosquitoes. When you go exploring in the woods, you can keep ticks at bay by wearing long sleeve shirts and pants, with cuffs closed and legs tucked into your socks.

Bees, yellow jackets, spiders, snakes, and other critters are happy to leave you alone if you do the same. No amount of repellent will keep creatures from fighting back when you stick your hand into their home. When exploring the park, don't put your hand anywhere you can't see.

## Danger

*People drown here each year. Be careful!*

If there are whitecaps on the lake, the water conditions are too dangerous for swimming or wading.

Sandbars, steep drop-offs, uneven bottom, and debris all combine to make footing uneven and sometimes dangerous.



In case of an emergency or to report a crime, call the national lakeshore emergency line at: **1-800-PARKTIP (727-5847)**

# Summer Beach Parking

Parking Lots	Capacity	Directions from Indiana Dunes National Lakeshore Visitor Center
West Beach	596 vehicles	Follow Indiana Hwy. 49 north to Hwy. 12 and proceed west to County Line Road. Turn north on County Line Road and follow signs. Lifeguards are on duty. Fees are charged from Memorial Day through Labor Day - \$6.00/car and \$30.00/bus.
Portage Lakefront and Riverwalk Pavilion site	125 vehicles	Follow Indiana Hwy. 49 north to Hwy. 12 west. Travel west to JCT 249 south, which is the first left after the the overpass. Turn left on Hwy. 249 south and stay in the right-hand lane to traffic light. Turn right at traffic light and follow the park signs.
Porter Avenue Access Point	66 vehicles	Follow Indiana Hwy. 49 north to Hwy. 12 west to Waverly Road, and turn north.
Kemil Road	81 vehicles	Follow Indiana Hwy. 49 north to Hwy. 12 east to Kemil Road (East State Park Road), and turn north.
Dunbar Avenue	26 vehicles	Follow Indiana Hwy. 49 north to Hwy. 12 east to Kemil Road (East State Park Road), and turn north. At the dead end, turn east to Dunbar.
Lake View	40 vehicles	Follow Indiana Hwy. 49 north to Hwy. 12 east to Kemil Road (East State Park Road), and turn north. At the dead end, turn east to Lakeview along this road.
Central Avenue	70 vehicles	Follow Indiana Hwy. 49 north to Hwy. 20 east to Hwy. 520 north. Follow to Indiana Hwy. 12 east to Central Avenue and turn north.
Mount Baldy	120 vehicles	Follow Indiana Hwy. 49 north to Hwy. 20 east to Hwy. 520 north. Follow to Indiana Hwy. 12 east to the Mt. Baldy access point.

## What to do if the parking lots are full

Smaller parking lots fill quickly during the summer months, especially on weekends. The large parking lot at West Beach, with 600 spaces, rarely fills. You will be ticketed if you do not use a designated parking space. Parking along the roads is not authorized. Always lock your vehicle, and leave valuables in your trunk or at home.



# America’s Great Outdoors Initiative



**Kayaking Tour**  
**July 17, 10:00 a.m. – 12:00 p.m.**  
Join a ranger for a brief presentation of the “Threatened Lake Michigan” program and go on a kayak tour of the Burns Waterway. You must bring your own kayak and life preserver. Meet at the Portage Lakefront & Riverwalk site.

On April 16, 2010, President Barack Obama signed a Presidential Memorandum establishing the America’s Great Outdoors Initiative to promote and support innovative community-level efforts to conserve outdoor spaces and to reconnect Americans to the outdoors. In launching this initiative, President Obama said: “we are losing touch with too many of the places and proud traditions that have helped to make America special. Farms, ranches, forests, and other valuable natural resources are disappearing at an alarming rate. Families are spending less time together enjoying their natural surroundings. Despite our conservation efforts, too many of our fields are becoming fragmented, too many of our rivers and streams are becoming polluted, and we are losing our connection to the parks, wild places, and open spaces we grew up with and cherish. Children, especially, are spending less time outside running and playing, fishing and hunting, and connecting to the outdoors just down the street or outside of town.”

Like the nation as a whole, Indiana Dunes National Lakeshore faces challenges, such as pollution, invasive species, and climate change, which place a growing strain on wildlife, water and the land. The America’s Great Outdoors Initiative’s first goal is to bring more voices to the table so we can collect the best ideas on conservation and pursue the ideas that local communities embrace. This will lead to more responsible stewardship of the parks and other public lands.

Indiana Dunes National Lakeshore is working locally to get public input on park matters. This has included getting public and stakeholder group input for the park’s new Long-Range Interpretive Plan.

While public involvement is not required for this type of operational plan we have been seeking the public’s ideas and suggestions on the types of interpretive and educational services offered by the park. We have also hosted a recent series of informational workshops on “how a national park works,” as a way to help the public understand how they can more effectively work with the National Park Service. Subjects have included planning, partnerships, and the volunteer program.

The America’s Great Outdoors initiative also seeks to promote partnerships for community-based recreation and conservation. Our local partnership activities directly support the initiative’s goal of reconnecting Americans, especially children, to landscapes of national significance, coasts, and beaches. Tens of thousands of children have learned about their role in the stewardship of the park through overnight education programs provided by a partnership with the non-profit Dunes Learning Center.

As the America’s Great Outdoors program gathers momentum, look for more opportunities at Indiana Dunes National Lakeshore to make connections to the park. Look for the AGO symbol on the list of activities in this guide and on our website for programs that further the goals of America’s Great Outdoors. Also be sure to check out the Website at <http://www.doi.gov/americasgreatoutdoors>.

## Eastern National Bookstore



*Eastern National provides quality educational products and services to the visitors of America’s national parks.*

Eastern National promotes understanding and support of the National Park Service by providing visitors with the information, materials, and experiences they need to fully understand and appreciate the importance of preserving and protecting America’s national parks for future generations.

Eastern National, a non profit organization, donates a portion of its proceeds to Indiana Dunes National Lakeshore to support interpretive and educational activities and publications such as this edition of *The Singing Sands*.



## Partners

### FRIENDS OF Indiana Dunes

Friends of Indiana Dunes

P.O. Box 166  
Beverly Shores, IN 46301-0166  
219-395-1824  
[www.friendsofindianadunes.org](http://www.friendsofindianadunes.org)



Indiana Landmarks

340 West Michigan Street  
Indianapolis, IN 46202  
1-800-450-4534  
[www.historiclandmarks.org](http://www.historiclandmarks.org)



Indiana Dunes State Park

1600 North 25 E.  
Chesterton IN 46304  
219-926-1952  
[www.IN.gov/dnr](http://www.IN.gov/dnr)

1 West Beach

There is much to do at West Beach, even when the weather is too cold for swimming. Grill a meal at the picnic shelter, walk a marked trail traversing the dunes and forest, learn how plant and animal communities are replacing one another through time, or watch migrating waterfowl! Long Lake in autumn and spring.

2 Portage Lakefront

October 2008 marked the opening of the national lakeshore's newest location, Portage Lakefront and Riverwalk. The new facility has parking for 125 cars, an accessible fishing pier, a riverwalk along Burns Waterway, a rehabilitated breakwater, various hike/bike trails, access to the beach, and a 3,500 square foot pavilion that contains a food service area.

3 Cowles Bog Trail

The national lakeshore's most rugged hike takes you on a five-mile journey through wetlands and over both wooded and moving dunes to an isolated beach.

4 Bailly/Chellberg

Explore an 1820s fur trading outpost and a 1900-era Swedish farmstead. Enjoy the Duneland Harvest Festival during the third full weekend of September and Maple Sugar Time in March. Follow the trail that starts here and winds through a wide diversity of landscapes, including the Mnoké Prairie, the Little Calumet River, and a mature beech/maple woodland.

5 Ly-co-ki-we Trail

Depending on the season, hike, ski, or ride the four-mile trail through wooded dunes and wetlands. Bring your own skis or horse.

7 Dunewood Campground

Dunewood is just over one-mile south of Lake Michigan and features 79 wooded campsites. Enjoy camping with the convenience of access to restrooms and showers. Fees are charged, and registration is on a first-come, first-served basis. The campgrounds are open the months of April through October.

6 Lake View

As the national lakeshore's only picnic area overlooking Lake Michigan, this site offers covered picnic shelters. Beautiful sunset views make this one of the more popular parking spots.

8 Mount Baldy

Hike the trail to the top of the national lakeshore's largest moving dune. Mount Baldy, at 126 feet tall, provides stunning views of Lake Michigan and its shoreline.

9 Pinhook Bog

A mat of sphagnum moss keeps everything from trees to insect-eating plants floating above an ancient, and now-hidden, lake. This extremely rare and fragile habitat can only be entered during ranger-led tours.



Water Safety

Lake Michigan waters can be hazardous. Rip currents occur frequently during periods of high wind and waves. During the winter, shelf ice forms along the lakeshore and is never safe to walk on. Check with local authorities about conditions and potential hazards.

Note: There are no lifeguards at any national lakeshore beaches during the fall, winter and spring.