Welcome to a unique coastal environment on Chicagoland’s north-eastern edge: Adeline J. Geo-Karis Illinois Beach State Park. Here you’ll see the interplay of lake and beach, dunes and wetlands, and rivers and creeks.

Notice the details around you. More than any other Illinois state park, this one shows you landscape changes at every visit. The park’s distinctive setting along the Illinois shore of Lake Michigan is continuously shifted and shaped by the dynamics of wind and water. Each wave that washes the shore moves and redistributes a substantial amount of beach sand. Storm waves have the greatest, and sometimes sudden, impacts on the shore. They move much larger volumes of sand, pebbles, and cobbles and can reshape the beach within days or even hours.

Perhaps it would surprise you to know that Illinois Beach State Park lies on some of the youngest land in Illinois. The 4,160 acres of park land did not exist 4,000 years ago. Even as recently as 500 years ago, when Columbus arrived in America, much of what is now the South Unit had yet to form. While the South Unit was gaining land, hundreds of acres of land in the North Unit were lost to the action of waves. Erosional evidence shows that a vast land area once existed that is now open water.
The undulating ridge-and-swell landscape of Illinois Beach State Park is readily visible on this map, which is based on LiDAR data acquired by aerial survey. The ridges and swales intercept the shore in the North Unit and form a graceful, curving pattern in the South Unit. The Dead River’s channel meanders around and through the ridges.
Since the late 1880s, conservationists have led efforts to preserve the area’s natural beauty from development as nearby industry, farming, and homesteads threatened encroachment. Decades of preservation efforts by both private groups and state government eventually led to the large park areas and preserves you can visit today.

Sand mining and movie making were two of the early uses of the land that is now the South Unit. A small private park of about 450 acres was established during the 1930s by the Illinois Dunes Park Association. In 1948, the State of Illinois purchased this area for the public and continued to acquire park land over the next five decades.

The oldest State-owned land in the entire park is historic Camp Logan in the North Unit. It was acquired in 1892. Initially used as a state militia training facility and rifle range, Camp Logan was also a U.S. Navy training site during World Wars I and II and a National Guard training site after the wars. Closed as a military site by the early 1970s, Camp Logan is now part of the North Unit, and its buildings are included in the National Register of Historic Places.

Other portions of the North Unit land were once used for commercial, industrial, and residential purposes. The State obtained most of the privately held land of the North Unit during the 1970s when severe coastal erosion threatened residential property and roads. Ultimately about 250 houses were abandoned and removed. Traces of the former properties still peek out at park visitors. Residential streets have become trails in places, and some of the building foundations, ornamental evergreens, and property-line plantings remain.

On May 9, 2000, the area encompassing Illinois Beach State Park and North Point Marina was officially designated as the Cullerton Complex in honor of William J. Cullerton, Sr., a war hero, avid environmentalist, and longtime friend of conservation.
Lake Michigan

The rising sun emerges from the water horizon of Lake Michigan as if it were an ocean coast. Here in the midst of the heartland, gulls cry, waves slap the shore, and quartz sand pebbles sometimes “sing” as the wind rubs them together. The opposite Michigan shoreline, nearly 80 miles away, is not visible to the park visitor, and about 300 miles of open water lie between the park and the northeastern shoreline. Because of Lake Michigan’s location within the Great Lakes system, Illinois is, in fact, within the ranks of U.S. coastal states.

The second largest of the Great Lakes in volume and depth, Lake Michigan is the third largest in shoreline length. The lake is a long, glacier-carved basin as much as 930 feet deep in its northern half. Its tides, small but measurable, are affected by the lunar cycle. The lake waters are connected to those of Lake Huron by the Straits of Mackinac. These two lakes, which have the same water level, together are the largest body of fresh water on the planet.

The lake’s configuration and the wind direction and speed allow colder, deep water to rise to the surface at times, changing the water temperature along the coast almost 60°F in a few hours. The lake surface can also be disturbed by rapidly moving storm fronts and strong winds, sometimes resulting in a wave series called a *seiche*. These large, locally destructive waves can be dangerous when they reach shore, especially if they are unexpected.

Water entering Lake Michigan circulates slowly, remaining within the lake for about 99 years before leaving through the Straits of Mackinac. This long residence time, combined with a long history of contaminants, is a concern for the millions who have settled near the lake and depend on its water for drinking and for commerce.
Winter transforms the park. Wave-splash along the shore structures creates unique ice sculptures that sparkle in the sun. As water on and within the lower beach freezes, it binds the sand, forming solid masses. The ice complex gradually extends into the lake as wave-splash continues to freeze and adds to the margin of the ice.

The size and duration of the ice complex vary from year to year depending on temperature fluctuations and wave action. Typically the nearshore ice forms and breaks up several times during the winter freeze-thaw cycles. Although the ice complex can protect the beach from the erosional impact of storm waves, it can also direct wave energy downward, causing lake-bottom erosion.

Sometimes sand is caught in the turbulence along the ice margin and is lifted onto the ice where it freezes, causing “dirty ice.” When the dirty ice complex breaks up, the sediment rides on top of and within the ice, “rafting” along and off the shore. As the ice melts, the rafted sediment settles to the lake bottom.

Dramatic features called ice volcanoes can develop when wave surge goes beneath an ice shelf and “erupts” through an opening in it. Wave spray freezes on the margins of the opening, gradually building an ice cone that mimics a volcano’s shape. Ice volcanoes can build five feet or more above the surrounding ice shelf. When wave conditions calm, the volcano’s throat typically becomes plugged by ice.
A Story of Moving Ice, Water, and Sand

During the waning millennia of the Wisconsin Episode (the most recent glacial episode), an ice sheet more than a mile high advanced across northeastern Illinois, reaching its farthest point south about 23,000 radiocarbon years before present (BP). As it moved forward, the glacier gouged out and carried rock debris with it. When the climate warmed, the glacial ice receded as it melted, reaching northeastern Illinois about 14,500 years BP and the western limits of the park about 14,000 years BP.

As the glacier melted back from northeastern Illinois, it sometimes paused—for decades or even centuries. As it moved on, it left behind the large, arc-shaped ridges of glacial sediment known as end moraines. The last and youngest to form in Illinois were the Highland Park Moraine and the Zion City Moraine. The Highland Park Moraine is the high land that today defines the watershed boundary for drainage directed toward the state park. All that remains of the once-extensive Zion City Moraine, however, is an isolated high point on the upland west of the South Unit.

As the moraines were being built, river valleys were deepened and widened by torrents of water disgorged from the melting glacier. Regional drainage patterns began to take shape. Even after the ice permanently withdrew to the Lake Michigan basin, widely fluctuating lake levels continued to change the landscape. Low land on the lake margin was repeatedly submerged and exposed, and wave action moved great volumes of sand and gravel along the changing shoreline.

How Old Is It?
How do scientists determine how old materials are? The radiocarbon dating method historically has been used to estimate the age of plant and animal materials, which contain carbon. The method measures the amount of naturally occurring radioisotope carbon-14 ($^{14}$C) in these materials. Because $^{14}$C is unstable and degrades over time, its degradation allows scientists to estimate age. These ages are usually reported as radiocarbon years before present (BP), and present is defined as 1950. The year 1950 is rather arbitrary, but provides a reference point so that all radiocarbon ages can be compared with one another. The method is not useful for materials older than about 50,000 years because by then all of the radiocarbon has degraded.

Radiocarbon dating has a few other drawbacks as well. It becomes less accurate the older the materials are. Also, BP dates are not calendar dates; years BP are not the same as years ago. Atmospheric $^{14}$C is not constant over time, and, for accuracy, radiocarbon dates need to be adjusted using internationally developed calibration curves. Yet even though other dating methods have become available and are sometimes used along with $^{14}$C methods, radiocarbon dating is still important and is still used. Why? Because, in addition to providing a firm result, radiocarbon dating provides consistency with vast amounts of historically reported data.

Glacial ice erodes and combines river valleys to form the Great Lakes basins. The Lake Michigan basin forms during multiple glacial episodes of the past 2 million years.
Glenwood Phases
(14,500 to 12,200 years BP)
As glacial ice withdrew into the Lake Michigan basin, the moraines blocked the vast amounts of turbulent meltwater pouring from the ice front, creating glacial Lake Chicago between the ice margin and the moraines. About 13,500 years BP, the water level of Lake Chicago was approximately 60 to 70 feet higher than present-day Lake Michigan, and the high land west of the park was submerged almost a mile west of Sheridan Road.

Our current understanding of the geologic history of the park area focuses on the important role rivers had in carrying water and sediment on the glacial ice margins. In southern Wisconsin, the ancient Root River received enormous volumes of water and sediment from the receding glacial margin and transported and dumped this sediment-laden water into glacial Lake Chicago. In addition, as the ice margin halted at Wind Point, rivers flowing beneath the ice moved enormous volumes of sediment south of the point. The resulting immense sand and gravel reservoir of this glacial river’s transport remained in the vicinity south of Wind Point for about 9,000 years until lake levels lowered. Then wave action began to erode and carry most of the sediment southward along the shore.

Calumet Phase
(11,800 to 11,200 years BP)
The Calumet phase resulted in a shoreline and beach tens of feet higher and about one-quarter mile west of the entire state park. The glacier continued to recede, and lake levels varied widely as lake outlets at different elevations were opened or closed. The water level of the lake was about 40 feet higher than it is at present. In the vicinity of Zion and Winthrop Harbor, wave erosion began to move sand and gravel along the ancient shoreline. An ancient beach from that time is preserved today beneath much of Sheridan Road west of the park. In fact, this segment was first named Sand Road.

*These monstrous forms emerging from the sand are ice-glazed tree stumps.*
Chippewa Phase
(about 10,000 to 5,500 years BP)
About 10,000 years BP, the Lake Michigan water level fell dramatically, to as much as 260 feet below its present level, when the receding glacial margin opened a lake outlet in southern Canada. The land in Canada was still depressed from the weight of the continental ice sheet. What is now the lake bottom east of the park was at that time exposed land, and the ancient lake shoreline was further east. Today the former glacial lake bottom lies beneath the sand plain.

Nipissing Phases
(about 5,500 to 3,700 years BP)
The lake level gradually rose again between 10,000 and 5,500 years BP. Once freed from the weight of the glacier, the land at the lake's outlet in southern Canada gradually rebounded to its preglacial elevation, causing the lake level to rise. Ultimately the lake level was about 20 feet higher than today, and waves began eroding the land margin, forming coastal bluffs. Today evidence of those former coastal bluffs can be seen in the abrupt elevation change along the park's west margin. To the north, wave erosion and transport moved the sand and gravel that had been deposited thousands of years earlier by the receding glacier. Those deposits began their long-term southward migration down the coast. Erosion along the northern end of the sand body provided sand and gravel for transport to the southern end, where it was redeposited.

Algoma and Modern Phases
(3,700 years BP to the present)
The leading edge of the sand plain first came south into what is now Illinois about 3,700 years BP. The oldest beach ridges within the state park are in the northwestern part of the North Unit. Much of the sand plain has moved into Illinois, and there are no longer remnants of the sand plain north of Kenosha.

The lake level variations in modern times are not nearly as dramatic as during early postglacial times, or even during historical times, when variation was as much as 6.3 feet. During summer, the lake is about one foot higher than in winter. But even brief, modest changes alter wave dynamics and erosion. At higher lake levels, waves reach higher on the beach, erode more upper beach sand, and raise the groundwater levels across the park.
The Ups and Downs of Changing Lake Levels

Above: Waves rolling to shore at sunrise.

Glenwood I Phase
(14,000 years BP)

Glenwood II Phase
(13,800 years BP)

Calumet Phase
(11,500 years BP)

Chippewa Phase
(10,000 years BP)

Nipissing Phases
(4,600 years BP)

Algoma Phase
(3,700 years BP)

Modern Lake Michigan
(today)

Shoreline lies to the east
Former lake bottom is exposed land

Glenwood I Phase
(-13,800 years BP)

present shoreline
park boundary (shaded green on land)
littoral transport
accumulation of glacial sediment
ancient beach under shoreline road
lake phases at or above the historical mean
lake phases below the historical mean (lake floor exposed)

Lake phases

- Glacial Lake Chicago
- Glenwood I
- Glenwood II
- Calumet
- Chippewa
- Nipissing Phases
- Algoma Phase
- Modern Lake Michigan

Historical mean lake level

Lake level (feet)

-300 -250 -200 -150 -100 -50 0 50 100

Lake level (meters)

-90 -60 -30 0 30 60 90

Present shoreline
Park boundary (shaded green on land)
Littoral transport
Accumulation of glacial sediment
Ancient beach under shoreline road
Lake phases at or above the historical mean
Lake phases below the historical mean (lake floor exposed)

The Ups and Downs of Changing Lake Levels
Waves—The Driving Force of Change

If you visit Illinois Beach State Park on a fair summer day, there is a good chance that the lake will be calm and glistening. The small waves that move across the beach are an invitation to bare feet and shoreline strolls. During the storms of late fall, winter, and early spring, however, waves six to nine feet high can pound the shore, spewing icy spray high into the air and across the sand. Extreme weather events bring even higher waves.

What makes wave action so important, in all seasons, is its movement of sand and gravel along the shore and across the beach face. This process is known as littoral transport. When waves approach the shore at an angle, they disturb bottom sediment near the breaking waves and move it underwater along a wave-induced current.

Waves washing onto the beach can carry even more sediment, moving it along the beach surface in a zigzag or sawtooth pattern. To see this process in action, watch the movement of sand and pebbles as the waves run up onto the beach (swash) and return down to the water (backwash).

The park shoreline is generally oriented north to south, and waves approach from the northeast or southeast. Waves from the northeast are much larger because they come from a much greater fetch, that is, a much greater distance across the water. As a result, the main direction of sediment transport is southward along most of the southern Wisconsin and Illinois lakeshore.

You can see evidence of the net southerly transport by looking for the sediment accumulations on the north, updrift side of protruding shoreline structures. The steel groins extending from Camp Logan are one of the best examples of updrift sand accumulation in the park.

During any given year, littoral transport moves about 80,000 cubic yards of sand south along the park shore. That’s enough sand to bury an entire football field 36 feet deep. If you consider that this process has been going on throughout the geologic history of the sand plain, you’ll have some understanding of how the park has changed over time.
The Dynamics of Coastal Erosion

The park land beneath your feet began as an ancestral sand plain in southern Wisconsin. Wave action and coastal erosion moved those sandy sediments south, bit by bit, day after day, over 5,500 years. What the waves took from one place, they put somewhere else—in this case, depositing a longer, narrower beach-ridge plain in Illinois.

The beach ridges of the North Unit record the succession of former shorelines. The ridges approach the present shore at an angle until they reach and are cut off by the present dune and beach. The ridges point to former land in what is now the lake. That land was lost as erosion reshaped the shoreline. Formerly arc-shaped and oriented from northeast to southwest, the shoreline now lies more directly north to south.

Wave action today continues its unrelenting push to move the lake plain sediments southward. The erosive power of these waves can be clearly seen in the North Unit.

What is now the North Unit and North Point Marina was once a small lakeside community with about 250 houses. Defending the community against the constant assault of Lake Michigan waves, however, became a losing battle. By the 1970s, some houses were literally falling into the lake. At that time, the Illinois Department of Conservation purchased the land to expand the park north, leveled homes, and removed debris. Some streets remain as part of the North Unit trail system.

The most severe shoreline recession on the Illinois coast, about 10 feet a year, occurred at what is now the site of North Point Marina. The rubble-mound breakwaters put in place during marina construction in the late 1980s halted the shoreline recession at this site.

Other human interventions have helped counteract erosional impacts. The north end of the North Unit now contains a “feeder” beach. Sand and fine gravel are trucked in, stockpiled, and allowed to erode and move southward to nourish the rest of the park. Sand is ultimately trapped by the jetties and breakwaters at Waukegan Harbor. The harbor entrance is periodically dredged, and sand is barged back to the feeder beach to begin the journey again. Without continued maintenance, North Unit land would be permanently lost.
The marina at North Point bustles with activity from April through October. The 1,500-slip capacity and many amenities make this world-class marina a sought-after departing point for both recreational boaters and fishing charters. The nearby woods, wetlands, and beaches provide an idyllic backdrop to the marina and additional recreational opportunities.

The marina breakwaters stabilize this section of the park’s coastline, which bears the brunt of wave dynamics and coastal erosion. Lasting from 1987 to 1989, construction involved building protective breakwaters and excavating roughly 2.5 million cubic yards of sand and gravel to create the 72-acre marina basin. This excavated sand and gravel was used to create the land beneath the parking lot south of the marina and to provide sand to nourish the beaches to the south.

The marina serves as an example of coastal management efforts. Its breakwaters have halted the once serious erosion. However, continued management of lake-bottom sand near the marina is very important. Wave-transported sand trapped against the north breakwater or brought into the marina entrance must periodically be dredged. Additional shore protection and a submerged breakwater have been needed to prevent erosion of the sand beneath the south parking lot.
A Unique Shoreline Setting

Although you can’t see it from the ground, Illinois Beach State Park is part of a long, narrow plain lying beneath the dunes and atop glacial till and ancient lake-bottom deposits. The plain is generally no more than about 10 to 15 feet above lake level and is widest, about one mile across, at the park. This lens-shaped body of sand and gravel is up to 30 feet thick, thinning out on its east and west margins. You can see the plain’s western margin, which is well-defined by an abrupt rise in elevation.

No matter where you stand within the park, your location was at one time at or near the shoreline. Like growth rings on a tree, the beach ridges and swales provide evidence of this growth history. The ridges are the higher, drier ground of dunes and upper beach deposits; the swales between the ridges correspond to the lower parts of former beaches. The ridges and swales are progressively older toward the west and north and progressively younger toward the east and south.

Geologists have collected cores of organic material from the oldest marsh deposits in the swales for radiocarbon dating. They have learned that, although the Illinois part of the sand plain began to form about 4,000 years BP, the ridges and swales of the southern portion of the South Unit are only hundreds of years old.

The curving ridges and swales in the South Unit preserve the shoreline shape that existed as this land area was forming. Although the ridges and swales are subtle and hard to see from ground level, their location and configuration are indicated by the park plants. Drought-tolerant plants, such as savanna grasses, black oaks, and the occasional prickly pear cactus, populate the higher ridges. Marsh plants occur along the swales, which at times may contain water.

Above: South Unit beach as viewed from the lake. Below: Dune grasses and poplars at sunrise. Opposite: A flash of color and a series of squawks announce the blue jay’s arrival.
The Dead River meanders toward its mouth at Lake Michigan.
A former river channel breached the beach ridge here. This lake formed in an abandoned sand and gravel pit.

Wave-transported sand blocks the Dead River mouth until the river rises high enough to breach the sand. The sudden outlet to the lake can temporarily cause a swift river current and pose a danger to visitors.

Above: Traces of a former railroad that transported beach sand during the late 1880s.

Right: Turtles enjoy the sun's warmth in early spring. Below: The beach-ridge plain and moraines are clearly visible in this high-resolution computer-generated image. The vertical dimension has been exaggerated (4x).

Ridges of higher, drier dune sand.

Marshes may form in the lower, wetter swales.

Anatomy of the Beach-Ridge Plain

This marshy channel, or slough, was formed by a former river channel.

Ridge-and-swale washboard topography.

Marsh has infilled the former Dead Lake, which was once a channel of the Dead River.

A former river channel breached the beach ridge here.

This lake formed in an abandoned sand and gravel pit.

Recent breach

Relict breach

Above: Traces of a former railroad that transported beach sand during the late 1880s.
Despite its name, the Dead River and its banks teem with life. Aquatic plants, mud minnows, bluegills, turtles, crayfish, and western chorus frogs are common in or near the water. During early morning or at dusk you may see white-tailed deer, raccoons, or muskrats nearby. Great blue herons visit here as well. So how does the river deserve its name?

The Dead River is considered to be “dead” because most of the time it has no current or flow. Although the river receives water from Bull Creek and its tributaries, which drain the glacial upland, the river mouth and its outflow to Lake Michigan are generally blocked by sand. Sometimes, though, the river’s water level rises, overtops the beach barrier, and gradually erodes an outlet. At other times, breaches occur as a catastrophic event. Storm waves also can form a channel from the lake to the river. On rare occasions, water from the lake can flow into the river and temporarily reverse its flow direction. Beach, river, and lake environments are interrelated and interactive.

The geologic history of the Dead River records dramatic variations in river length, course, and mouth. The river has repeatedly changed course seeking a new outlet to the lake, and traces of older river channels can still be seen on the landscape. As waves continued to transport more sand to build the sand plain, the river has had to travel farther to reach the lake.

Along its middle segment, the river first flows northward adjacent to a ridge, crosses the axis of the ridge through an eroded gap, and then flows south until it again finds low points that cross the younger ridges. Dead Lake is the remnant of a former river channel. The most recently abandoned river channel occurs just west of the present river mouth and traces a more southern path. The former river mouth associated with this abandoned river channel has been obliterated by dune sand.

Another river, the Little Dead River, formerly existed south of the park in the Waukegan Harbor area. This southern channel was an extension of the Dead River that was cut off when the river acquired a northern outlet to Lake Michigan. Traces of this abandoned channel were destroyed as land was developed.

A Window to Historic Chicago

The north dune at the mouth of the Dead River provides a modern proxy for the historical dune that existed on the north side of the Chicago River mouth in the late 1700s when Jean Baptiste Pointe DuSable, Chicago’s first permanent resident, built his cabin and trading post. The Dead River’s south dune resembles the south dune of the Chicago River at Fort Dearborn’s construction in 1803. Those dunes were about 10 to 12 feet high. When the mouth of the Dead River is blocked, the river level can rise to inundate nearby low-lying wetlands. Similarly, the Chicago River mouth was repeatedly blocked by sand, and Fort Dearborn soldiers repeatedly dug trenches across the beach to keep the river open and reduce flooding potential west of the fort.
Wetlands

As you walk the park trails, notice the low-lying swales sandwiched between the higher beach ridges. These swales and other landscape depressions are more often water-saturated than the higher areas and may even become flooded for part of the year. Some have become wetlands.

During the rainy winter and spring seasons, the runoff from the uplands west of the park is greater and may flood low-lying areas. Plants take up less water than during summer, and evaporation is less. Groundwater recharge is greater, and groundwater levels rise and sometimes intersect the land surface, resulting in standing water.

During summer, wetlands become drier. Evaporation and water uptake by plants increase, and runoff and groundwater levels decline. Some shallower swales dry quickly, but standing water remains longer in the deeper depressions. The duration and depth of standing water strongly influence the types of plants that can inhabit each wetland. More than 650 plant and animal species, including at least four federally threatened and endangered species, are found in the park’s diverse wetland environments.

Wetland types range from those that are temporarily saturated, such as wet prairies, to those that have longer standing water, such as sedge meadows, shallow marshes, and deep marshes. The globally rare pannes, lying between beach ridges, are wetlands that are very much affected by lake level.
Since European settlement, the park’s wetlands have been altered by humans. Much more water flows through the park now because of runoff from paved urban surfaces and drained agricultural fields. As a result, flooding is more frequent, and water in the wetlands is deeper and lasts longer. Water patterns can be altered still further by other installations in or near the park that either drain or retain water in the wetlands. These changes can shift the plant communities of individual wetlands.

Water quality also has been dramatically altered. Heavier runoff increases the erosion of stream banks, depositing more sediment in the park wetlands. The urban runoff also contains road salt, oils and greases, heavy metals, and nutrients. All of these alterations allow the invasion of weedy or nonnative plant species such as cattails and purple loosestrife, which displace more valuable native plant communities.

Scientists and conservationists are working to preserve the current biodiversity and restore presettlement conditions to the extent possible. They are removing man-made drainage and surface-water blockages, taking out nonnative plant species, and rerouting drainage to improve surface water quality.
Challenges to Survival

There is no other place in Illinois remotely like Illinois Beach State Park. Perhaps because of its uniqueness, the park’s complex ecosystem is threatened by many forces, both natural and human. Water and waves work to carve and transport land. This park is currently being threatened by the same processes that formed it. Development and recreational needs compete with preservation efforts.

We can see the rhythms of nature pulling at the young park’s beaches, working wave by wave to move the park southward along the shoreline. Sand erosion is perhaps the park’s greatest natural threat. Closely following in impact are lake level changes, which open or block the Dead River and dry or flood the beaches, dunes, and wetlands, sometimes altering them irreversibly. The same processes that built the park also threaten it.

Away from the shoreline, invasive species can overwhelm native plant populations and the animals that depend on them, greatly affecting their survival. Many of the threatened and endangered species have very narrow habitat requirements.

Human needs also pull against the park’s natural systems. More than two million people visit the park annually for recreation: to bike, hike, swim, fish, and sail. Each of these visitors, no matter how careful, leaves traces. The sheer volume of human traffic in the park creates needs for education, signage, road and trail access, and cleanup. Runoff from neighboring communities has changed the volume and quality of the surface water entering and crossing the park, which in turn affects the types and quality of its wetlands.

Scientists, engineers, and conservationists are trying to find ways to balance human needs and ecosystem preservation. Shore engineering, breakwaters, jetties, and sand management help maintain the park land. The changing hydrology of the park is being studied to determine its effects on the park wetlands and the Dead River. As funds permit, invasive species are being identified and removed. Work continues in the study, collection, and disposal of unburied building materials, some of which contain asbestos. All of these efforts, and more, are needed to preserve the park for current and future generations.
The ever-changing story of Illinois Beach State Park is one of thousands of years of geological and natural history: the progress of glaciers, changing lake levels, shoreline migration, the building of park land, the Dead River meanderings, and the living beauty of the park's plants and animals. The history of human impacts and interventions is also on display.

Enjoy yourself within this unique and vibrant place, sample its many pleasures, and breathe its fresh air. Look around you. See the silver shine of sun on waves. Walk on the water-edge cobblestones and observe their transition to coarse gravel, to fine sand, to grass-topped dunes. Hear the whisper of waves that wander the beach or the groan of boats straining against their moorings at the marina. Notice the red and yellow glint of blackbird wings above the great expanse of savanna grass, or the mirror of wetland water. Listen to the percussive resonance of frog duets or the joy of laughing children.

Consider what future generations will see when they come to this place. What legacy will we pass on to them? In a lifetime, if we are careless, we can destroy the astonishing diversity of habitat and plant and animal species within and near the park.

We can easily ignore or take for granted the intricate ecosystem of which we are a part. But we do so at our peril. Understanding the geological foundation and complexity of our ecosystem will help us maintain our high quality of life, use our resources wisely, and pass along our earth's treasures to future generations.

So, please, walk gently, and obey park signs. Help protect this special place. Leave nothing but your footprints, and take away only what you can record or remember. Treat these parks as if you are their owner. You are.
The Geoscience Outreach Program uses many channels to inform the public about the geology of the state and to disseminate the results of ISGS research and mapping. The Survey distributes technical and nontechnical publications, presents lectures and exhibits, responds to inquiries, and leads field trips. This program helps citizens and government officials understand how the research programs of the ISGS help protect the environment and strengthen the economy of Illinois. Publications are available on the ISGS web site.

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Ilinois State Geological Survey
Prairie Research Institute
University of Illinois at Urbana-Champaign
615 E. Peabody Drive
Champaign, IL 61820
217-333-4747
http://www.isgs.illinois.edu

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