



Interpretive Trail System

Illinois Beach State Park

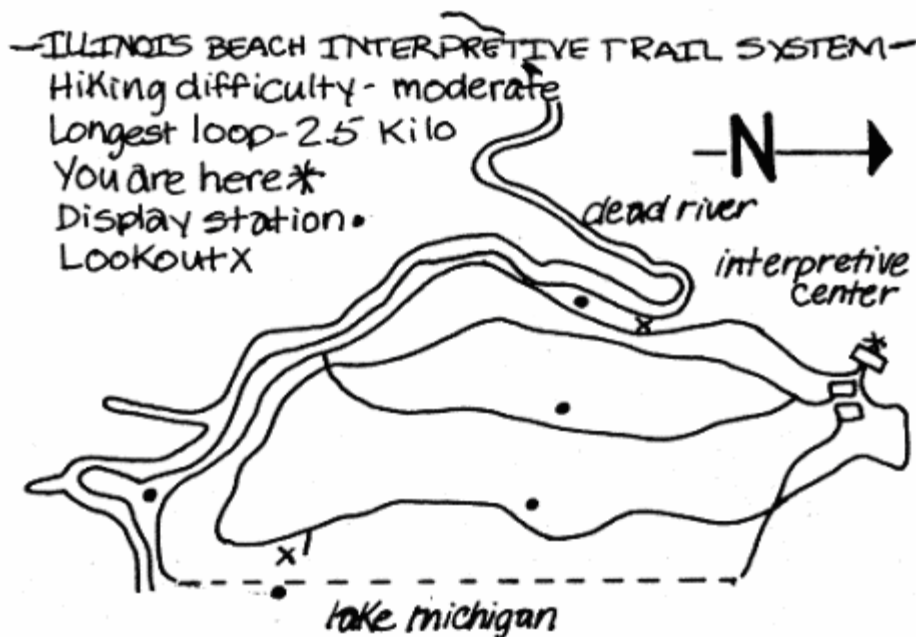
ILLINOIS BEACH INTERPRETIVE TRAIL

Basically, we think of our natural world as consisting of mountains, forests, streams and marshes. Sand beaches are most often associated with recreational activities and rarely considered as a natural entity.

The self-guided Interpretive Trail will help you to discover more about some of the basic natural features of a sand dune. The four mile system will guide you to ten areas of special interest. It is not necessary to hike the entire system to cover all the topics.

*There may be several markers on the trail corresponding to one number in the guide, because the topic may be discovered in several locations.

The numbered markers will not be encountered in numerical order.



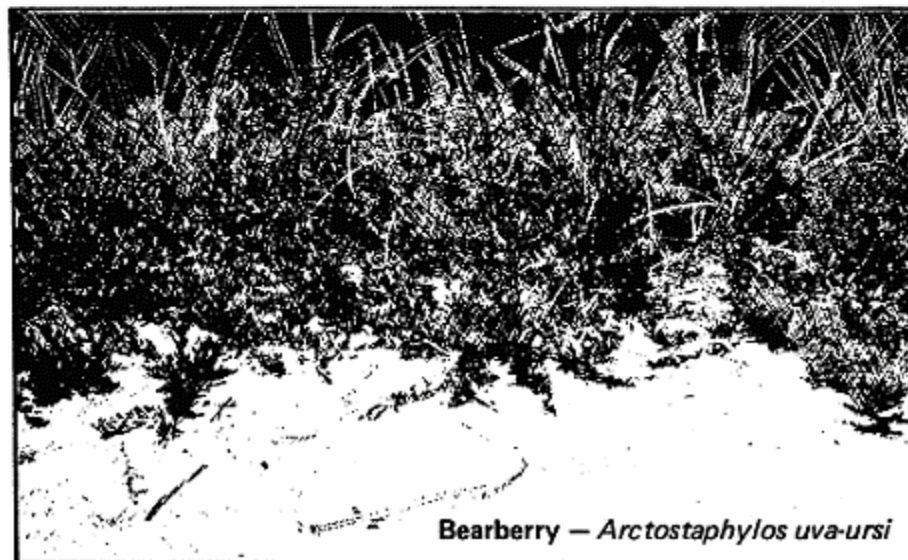
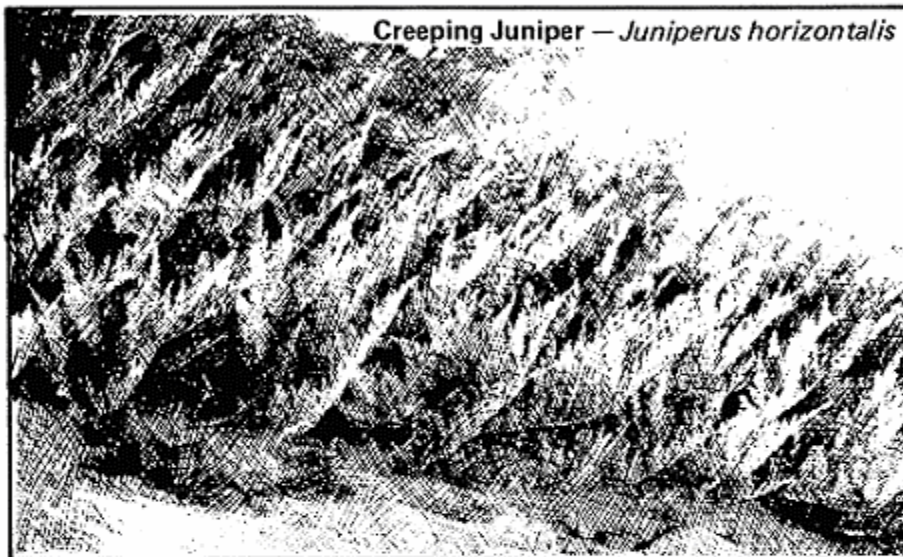
WELCOME TO THE TRAIL.

Hiking difficulty - moderate.

Poison ivy - abundant, all year.

1. WHAT KEEPS A SAND DUNE IN PLACE?

Tall plants, such as grasses, break the force of lake winds. Their root systems, which are much larger than their tops, help greatly in holding the sand in place. Then, low growing shrubs can exist and stabilize the sand in their finger-like runners.



BEACH GRASS – *Ammophila breviligulata*



SEAROCKET – *Cakile edentula*



BUGSEED – *Corispermum hyssopifolium*

2. WHY DON'T PLANTS GROW ON THE BEACH?

The beach has conditions which are too harsh for most plants. Scorching sun, pounding waves and abrasive blowing sand make plant survival very difficult. Sea-rocket, Bugseed and Marram grass are hardy dune plants which pioneer the way, allowing other plants to follow.

3. "DEAD" RIVER? – TOO BAD!

No, the Dead River isn't dead. It boasts of animal and plant life common to many *ponds*. As a long, thin pond, it extends 1.5 kilometers to the shore of Lake Michigan. Lake winds form waves which plug the river mouth with sand, stopping the flow and allowing it to fill with rain waters. When sufficient water is in the river, the plug is eroded and the river flows into the lake, only to restart the process.

4. WHY DO THE TREES LOOK SICK?

Sand is a difficult soil to grow in. Water is difficult to obtain, nutrients are not abundant and temperatures fluctuate greatly. Although many of the trees in the area are over one century old, their entire existence has been a struggle, as it is for most dune plants. Cavities within these black oaks provide shelter for many animals.



Black Oak – *Quercus velutina*

5. WHAT'S THAT NOISE?

At this point you should be experiencing several changes . . . You can now hear the waves, feel a temperature change in the breeze, notice a change in the vegetation and be able to notice a change in air quality from where you live.



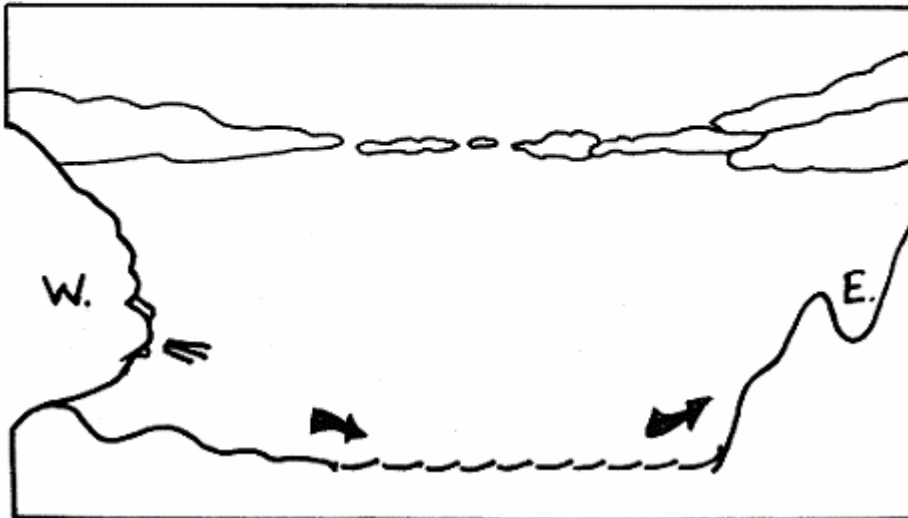
6. WHO'S DIGGING ALL THE HOLES?

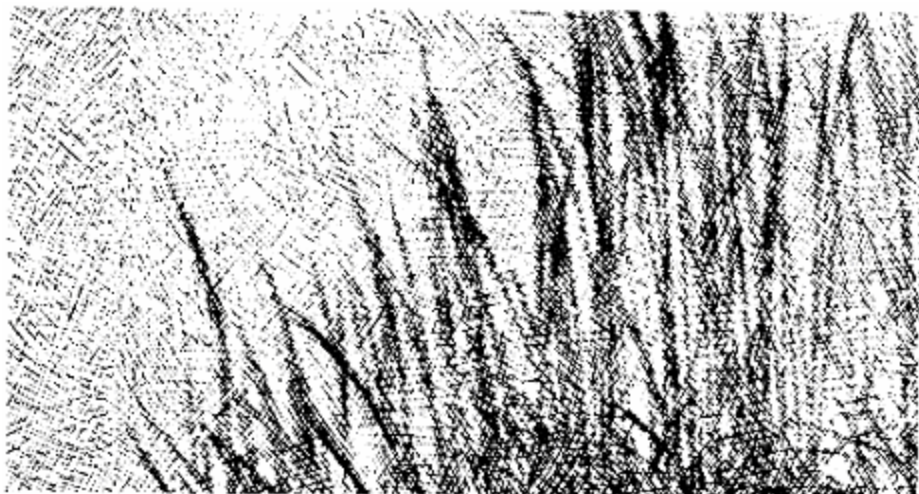
Sit in the sand on a windy day; but don't open your mouth. Dry sand, unless held in place, begins jumping around in even slight breeze. Areas in which the vegetation has been destroyed are susceptible to wind erosion. The wind continues carrying sand from the exposed area, forming a "blowout".



7. WHAT HAPPEND TO THE LARGE, HIGH DUNES?

They never were here: the dunes on the Illinois side of Lake Michigan don't get as high as those on the East side. Why? (Hint—the wind is primarily from West to East.) Most of the plants and animals in the West-side and East-side dunes are the same; the soils are both sand and the processes are the same, but the wind blows the western dune sand lake-ward and the eastern dune sand land ward.





8. HOW DO THE DUNE PLANTS GET THEIR WATER FROM THE LAKE?

Indirectly! Most water is provided through rainfall, which remains in sand for only a short time. It runs almost right through because there is little sponge-like humus to absorb it. Have you been on a dune at night without a jacket? Differences between night and day temperatures cause condensation of moisture-laden air trapped in spaces among sand particles, providing sufficient water for dune plants. During dry spells, it is the plant's greatest source of water.



9. HOW DO THE WAVES AFFECT THE DUNES?

All the sand soil west to the bluff has been deposited here by the Lake. Water movement in the lake both deposits and erodes the sand body: note the saw-like action of the waves against the shoreline. Unfortunately, for the last few years the erosion has been greater than the deposit. Lake Michigan is simply reclaiming what it temporarily placed here.

PRAIRIE GRASSES — In the square to the right are the names of thirteen native grasses found in the Nature Preserve. There are no diagonals.

June, Muhley, Sandreed, Bluejoint, Marram, Cord, Commonreed, Switch, Bigblue, Indian, Littleblue, Wildrye, Dropseed.

S C O M M O N R E E D
 O L B I G B L U E T E
 E S L H I N I O S F A
 P A V S W I T C H I L
 A N E W H X T O P N W
 F D J U N E L R A D I
 D R O P S E E D R I L
 S E I Q U A B S O A D
 G E N K C O L V J N R
 I D T Z S M U H L E Y
 M A R R A M E T I N E

UNSCRAMBLE THE DUNES

1. Soil base — N A S D ————○———
2. Water action — A W V E ————○———
3. Provides most water to plants — N I R A ————○———
4. Builds and destroys — I N W D ————○———
5. Sand ridges — N E D U S ————○———
6. Gradually develops from decay — S U U H M ————○———
7. Wind and wave effect — O R I N E O S ————○———
8. First plants to take hold — R O P E N E I ————○———
9. Wind on a non-vegetated area — T O L B O U W ————○———
10. Plant effect — B A L I T E Z I S ————○———
11. Increases with humus — E N U T I S R T N ————○———
12. YOU ARE ALWAYS IN ONE _____
 (use the circled letters)

Answers, except 12, can be found in this brochure.

* Don't speed erosion! Please empty your shoes before going home.

ILLINOIS BEACH INTERPRETIVE STAFF.