

# MICHIGAN'S COASTAL DUNES

## PLACES WE CALL HOME

Michigan is privileged to have the world's largest freshwater dune system of approximately 230,000 acres of coastal dunes located adjacent to our coastline. Coastal beaches and dunes are home to a wide variety of natural communities and provide a variety of recreation and tourism opportunities to support coastal communities' economies. Additionally, coastal dunes are nature's defense to impacts felt by seasonal dynamic Great Lakes water level variations and coastal storms. Michigan coastal dunes can be found along Lakes Michigan, Superior, and Huron.

### WHAT IS A COASTAL DUNE?

A dune is an accumulation of windblown sand that can form small hills/ridges that are less than three feet in height, to those that are hundreds of feet high. The size and shape of the dune is correlated with the availability of the supply of sand and the wind. Dune formation and the composition of dune vegetation are influenced by lake-driven winds. The largest extent and tallest dunes occur along Lake Michigan due to prevailing southwest winds.

### ARE THERE MORE THAN ONE TYPE OF DUNE? WHAT DO THEY LOOK LIKE?

Yes, there are several types of coastal dunes, and the landscapes can consist of sand and/or be covered in various degrees of vegetation (from grasses to trees). The predominant types are: Parabolic dunes which are distinctive U-shaped dunes consisting of at least four dune areas commonly referred to as: beach, foredunes (open, sandy, lower dunes), interdunal wetland, and backdunes (forested, higher dunes); Perched dunes are found "perched" atop bluffs varying in heights from 90-360 feet above the current lake level. They look much higher because they are "perched" on top, even though they are not all sand. Perched dunes typically contain foredunes, blowouts, backdunes, forests, and interdunal wetlands; and Dune & swale complexes are a series of roughly parallel sandy ridges and low, wet swales formed from irregular cycles of high and water levels.

### LIVING AND THRIVING IN COASTAL DUNES

Coastal dunes are dynamic systems that need to be accommodated to allow for the natural process to occur to maintain a healthy and resilient ecosystem. Development when done without regard to natural processes such as changing water levels, climate/weather variations, moving sand, and vegetation growth, can negatively impact dune systems. Taking a balanced approach when developing in the dunes will enhance the enjoyment of those living in these amazing places but also protect these areas for future generations.

## HOW THE MCMP HELPS TO PROTECT THE DUNES

The Michigan Coastal Management Program (MCMP) is committed to protecting, managing, and restoring these unique ecosystems by making strategic investments in creative coastal projects that serve to protect the dunes and a community's sense of place. The following are examples of how the MCMP is helping to protect Michigan's Coastal Dunes.



### **Syndicate Park Dune Restoration Project** Van Buren County, Lake Michigan

This is a 20-acre park that supports unique species of plants, insects, and animals. Due to unrestricted access, destabilization and increased erosion has occurred, impacting the habitat within the dunes, and the adjacent homes. The MCMP provided funding to stabilize and restore two acres of dune habitat, utilizing native vegetation to stabilize and reduce erosion in vulnerable areas; enhanced trails and managed public access to the beach and dunes utilizing dune fencing; and provided education opportunities through interpretive signage installed on site.



### **Weko Beach Restoration Project** City of Bridgman, Lake Michigan

This park includes north and south dunes and has a system of staircases, boardwalks, and observation decks up and across the dunes to provide access for the public. Portions of these areas in the southern dune were compromised overtime due to erosion. The MCMP provided funding to restore a section of the retaining wall and stairway to provide safe public access and protect public infrastructure; plant dune grass; and install dune fencing to manage access, protect the dune and the plantings, and to trap sand.

Approximately 74,000 acres are state regulated as Critical Dune Areas, including public lands and private properties. Find out more at [Michigan.gov/CriticalDunes](https://Michigan.gov/CriticalDunes). To learn more about the MCMP, visit [Michigan.gov/CoastalManagement](https://Michigan.gov/CoastalManagement).

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