



Great Lakes/Coastal: Coastal dune/beach

Description

The Coastal dune/beach feature is generally represented by areas associated with Great Lakes shorelines that have sand, gravel or cobble substrates. These areas include lakeshore beaches and open dunes. Beach communities can be divided into three separate areas with distinct vegetative associations, the lower, middle and upper beaches. The lower beach is hard-packed and under the constant influence of waves. The middle beach is influenced by waves only during storms. The upper beach is usually dry and highly influenced by blowing sand. Coastal sand dunes are found immediately inland from the beach. They are created, maintained, and influenced by water and wind erosion and the deposition of blowing sand. Dune communities include foredunes, perched dunes, blow outs, barrier dunes, Great Lakes barrens, interdunal wetlands, and wooded dune and swale complexes. Vegetation changes significantly across dune areas and over time as dunes stabilize. Dominant plants and community structure vary depending on the degree of sand deposition, sand erosion, and distance from the lake.

General Condition of Feature

Most of the coastal dune and beach area in the Western Upper Peninsula is considered to be in fair, good, or excellent condition. Coastal dunes and beaches include natural communities that are rare, uncommon, or imperiled in the State.

Associated Natural Communities

- Cobble Beach
- Sand/Gravel Beach
- Wooded Dune and Swale Complex

Associated Species of Greatest Conservation Need

INSECTS

- a tiger beetle (*Cicindela hirticollis rhodensis*)

REPTILES

- northern ringneck snake (*Diadophis punctatus edwardsii*)
- western fox snake (*Elaphe vulpina*)

BIRDS

- Bald Eagle (*Haliaeetus leucocephalus*)
- Killdeer (*Charadrius vociferus*)
- Common Nighthawk (*Chordeiles minor*)
- Savannah Sparrow (*Passerculus sandwichensis*)

MAMMALS

- deer mouse (*Peromyscus maniculatus gracilis*)

Associated Threats

MODIFICATION OF NATURAL PROCESSES

- Fragmentation

HABITAT CONVERSION

- Industrial, residential, and recreational development: Residential and recreational shoreline development may impact these systems.

NON-CONSUMPTIVE BIOLOGICAL RESOURCE USE

- Non-consumptive recreation: Uncontrolled ATV and ORV use may impact these systems. Boating and swimming may impact these systems.

BIOLOGICAL INTERACTIONS

- Invasive plants and animals

Conservation Actions Needed [Threats addressed]

LAND & WATER PROTECTION

- Expand conservation easement programs [variety of threats]
- Support and expand conservation purchase of high quality occurrences [variety of threats]

LAND, WATER, & SPECIES MANAGEMENT

- Develop and implement plans for invasive species control and prevention. [Invasive plants and animals]
- Where possible, motorized vehicle trails should be located a minimum of 100 feet (and preferably more than 500 feet) from rivers, streams, lakes and other wetlands except at designated crossings. [Non-consumptive recreation]
- Support Landowner Incentive Programs to foster conservation on private land [variety of threats]

LAW & POLICY

- Work with municipalities to promote planning and zoning insuring adequate protection for wetlands and shorelines on the Great Lakes. Develop local ordinances to retain larger parcel sizes in Great Lakes dune complexes. [Fragmentation; Industrial, residential, and recreational development]

- Develop and enforce regulations to curtail recreational activities that cause significant damage. [Non-consumptive recreation]

RECREATION

- Promote responsible ATV and ORV use. [Non-consumptive recreation]

Research and Survey Needs

- Identify invasive species that may degrade the value of coastal dune and beach for wildlife. Develop techniques to control invasive species.
- Identify and quantify sources of disturbance. How does recreational use impact dune and beach communities? What are the natural disturbance factors and what is their periodicity?
- Identify the characteristics of dune and beach systems that provide benefits to wildlife and which species may be affected by changes in these characteristics.
- Assess the impact of beach stabilization practices, such as plantings, on wildlife habitat quality of dune and beach communities.
- Evaluate the impact of sand mining on the value to wildlife of dune and beach communities.
- A better understanding is needed of the dynamic nature of the shoreline zone.
- Identify and evaluate restoration activities that are currently underway in dune and beach systems.

Monitoring

- Track the density and distribution of development in dune and beach systems with attention to differences between areas protected with critical dune designations and unprotected areas.