

EASTERN LAKE ONTARIO SAND DUNES: MINIMIZING IMPACTS OF YOUR VISIT

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INTRODUCTION

Our eastern Lake Ontario dune-wetland system is a priceless treasure. Freshwater dune barriers of this magnitude are found nowhere else in New York. Our dune area is treasured by seasonal visitors for swimming, sunbathing, picnicking, camping, hiking and bird watching. Sunsets over the lake are second to none. Our dune area includes approximately 16.7 miles of shoreline owned and managed by the state of New York and open to limited public use. Thousands of visitors use the area each year, and the number continues to grow annually.

The value of our dune system for recreation is tremendous, both personally to each visitor, and economically to the eastern shore economy. Dunes have very important natural values as well. Our dunes provide habitat for a variety of birds and wildlife. Two rare or threatened plant species thrive there. But most importantly, our dunes form a barrier that absorbs the energy of storm-driven lake waves, creating calmer conditions in the low-lying expanses behind the barrier where extensive high quality wetlands have developed. The eastern shore dune-wetland complex includes the highest concentration of state-designated Significant Coastal Fish and Wildlife Habitats in New York State (NYS).

Wetlands are an important buffer that protects Lake Ontario water quality from the impact of activities that occur on adjacent uplands. Wetlands trap sediments, pollutants, and excess nutrients carried by runoff. They also store excess water during high-water periods and release it during drought. Without an intact and healthy dune barrier on our Lake Ontario eastern shore, these wetlands would be lost.

Our dune barrier is always changing. Its protective capacity is not based on the ability to stand firm before the forces of wind and waves, but rather on the ability to give way during storms and high water and rebuild in times of gentle breezes and low water. This cycle of erosion and rebuilding occurs as long as: Sand is available and not prevented from moving on, off, and along the shore; Plants adapted to shore conditions are available to trap newly deposited sand; and The necessary growing conditions for these plants are present. We can enjoy the recreational use of our Lake Ontario dunes as long as these three factors are allowed to rebuild them.

THE IMPACT OF RECREATION ON OUR DUNES

How we affect the dunes is based on the impact we have on the growing conditions for plants. While dune plants are specially adapted to the challenges nature presents, they are particularly sensitive to human disturbance. Within six weeks, two people per day entering the dunes and returning to the beach along the same path can severely damage the vegetation. As few as 25 round trips on a path over one summer can destroy half the vegetation in the path. Similar intensity of use by an off-road vehicle will totally destroy the vegetation.

Damaged vegetation is less capable of providing a windbreak, and as a result wind velocity increases near the ground where sand movement occurs. These changes result in larger areas of bare sand on the beach and in the dunes. Wind then scours the sides of small paths, increasing their width and depth. As the paths become deeper, wind funnels through them; the constriction causes wind velocity to increase, further scouring the sides of the path. Progressive wind erosion results in the blowouts seen at intervals on our dunes. Thus, when foredune plant growth is damaged, vegetation on the interior dunes is also damaged, since an intact foredune shelters and greatly contributes to better growing conditions on interior dunes. In extreme cases sand can move rapidly inland, burying the wetlands it helped foster and any other vegetation or structure in its path. Examples of such runaway dunes also exist on our eastern shore.

Other consequences of recreational use of our dunes may include harassment of waterfowl, migrating shorebirds, and nesting shorebirds. They are extremely intolerant of visitors and are easily denied nesting habitat by the very presence of recreational beach/dune users.

While dried driftwood makes great campfires, this and other natural debris washed up by the lake help trap sand; and are the only source of nutrients available for plant growth on the foredunes. Also, beach campfires leave unsightly scars and pose a fire threat to surrounding vegetation in this dry habitat.

Dunes can and do recover from overuse, as long as the three above-mentioned conditions exist. However, along some stretches of our Lake Ontario sandy beach, nature no longer provides sufficient sand for damaged dunes to be rebuilt to their present extent. As a result, it is very important that our dune areas be used in ways that do not contribute to their destabilization.

REGULATIONS GOVERNING OUR USE OF DUNES

New York State created a variety of laws that protect our dunes from destabilizing uses. These laws regulate what we may legally do on our Lake Ontario sand dunes. A variety of agencies enforce these laws: the NYS Police, the NYS Department of Environmental Conservation, the NYS Park Police, and county Sheriffs' Departments. The following synopsis outlines these laws.

The NYS Coastal Erosion Hazard Act (CEHA) limits activities in dune and other sensitive coastal areas so that these resources continue to provide the natural functions necessary for both nature and civilization. The CEHA in our dune area focuses primarily on regulating development, but also includes provisions that prohibit:

- the operation of vehicles on foredunes;
- disturbance of bird nesting and breeding sites;
- foot traffic heavy enough to cause foredune erosion; and
- development of surface-level foot trails across foredunes.

Much of the public access to our Lake Ontario dunes is on NYS Wildlife Management Areas (WMAs), where visitors may find a measure of solitude. Along with the above regulations, WMAs also include provisions that prohibit:

- camping, fires, swimming, horse riding, or overnight mooring of a boat;
- disturbing or removing plants or rocks; and vandalism.

Due to its high natural value, the beach and dune at Lakeview WMA has an additional designation as a "National Natural Beach Landmark." As a result, it carries additional rules beyond those listed above:

- No hunting, trapping, or discharge of guns;
- No excess noise, including use of audio equipment; and
- No picnicking.

These additional regulations are designed to protect nesting and migrating birds and other wildlife, as well as provide for human enjoyment of the resource.

Recreational enjoyment of the sandy beach shoreline is one of the missions of Southwick Beach State Park. The park provides access to the beach and dunes as well as camping, concessions, and other amenities. Park rules ensure everyone's safety and also protect the natural resource. The rules:

- Quiet hours are from 10 p.m. to 7 a.m.
- Pets must be leashed (they are banned from the beach and picnic areas);
- Swimming is allowed only in guarded area, when guards are on duty; and
- No hunting.

COMPLYING WITH THE LAW

When we relax, we want to be able to turn our hard-working minds and bodies loose, stop worrying about everything, and just do what comes naturally. It's still possible. While on our beaches and dunes remember to

think of others, and let those others include the plants and animals. To ensure compliance with the rules that apply to the site you are using, the following tips will help minimize your impacts:

- **Stay on the beach.** The foredunes are fragile, and the interior dunes are a haven for poison ivy and deer flies. If you must cross the foredune, pick your way between the plants and avoid already-eroded trails and steep approaches. If there is more than one person, select spots where the dune is shallow and spread out; return to the beach by a different route.
- **Do not sunbathe or picnic in the interior, or on the foredunes.** Existing vegetation cannot endure it, and new plants cannot establish themselves under such use.
- **Respect private property.** Most shore landowners do not mind if you walk the beach quietly, much as you would walk a city sidewalk, but reserve more intensive use for public land. Use public access to approach the beach, and park in designated public parking areas.

If you want to go beyond being an environmentally conscious visitor, there are a number of ways you can become proactive in the protection of our Lake Ontario dunes:

- Pick up trash as you walk along the shore, and recycle or dispose of it properly.
- Encourage better behavior by other users; point out regulations and the reasons for them.
- Report any serious violation you see to the proper authorities.
- Participate in volunteer projects for dune restoration. These may include fence placement or dune grass planting.
- Check for notice of planned projects in dune areas for which permits are being sought. Provide the appropriate agency with your input.
- Encourage agencies that manage our public dune areas to practice sound dune management.

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