



# Eastern Lake Ontario Dune Steward Program:

## Resource Appreciation through Public Education

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### Where are the Eastern Lake Ontario sand dunes?

The eastern Lake Ontario dune system extends approximately 16.5 miles and contains the largest and most extensive freshwater sand dune formations in New York State. Of the 16.5 miles of Lake Ontario shoreline (between the Salmon River and Black Pond) contained in the eastern Lake Ontario barrier system, an estimated 6.7 miles is publicly owned, and an estimated 9.8 miles is privately owned. Of the publicly owned shoreline, 6 miles is contained within three state Wildlife Management Areas (all three sites are monitored by dune stewards), with the remaining ~.7 mile being owned within state park land.

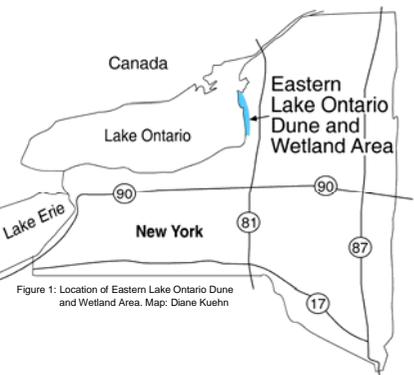


Figure 1: Location of Eastern Lake Ontario Dune and Wetland Area. Map: Diane Kuehn

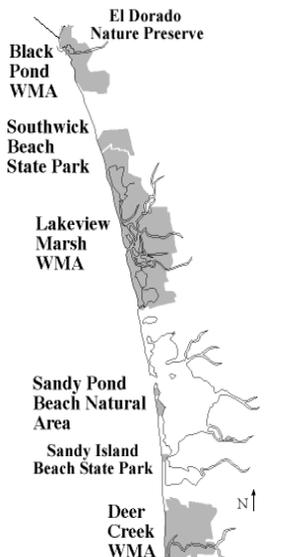


Figure 2: Public properties within Eastern Lake Ontario Dune and Wetland Area. Map: Diane Kuehn

### What areas of the Eastern Lake Ontario Dune System are open to the public?

#### Deer Creek Marsh Wildlife Management Area

Deer Creek Marsh WMA is an 1,195-acre area managed by the New York State Department of Environmental Conservation, and is the southern most property that is monitored by the Eastern Lake Ontario Dune Stewards. The diverse habitats of Deer Creek Marsh WMA supports canoeing, fishing, hiking, hunting, opportunities.

#### Sandy Island Beach State Park

Sandy Island Beach State Park is a 13-acre area managed by New York State Office of Parks, Recreation, and Historic Preservation that is not monitored by Eastern Lake Ontario Dune. Although Sandy Island Beach State Park is not monitored by the Eastern Lake Ontario Dune Stewards, beach goers at Southwick Beach State Park are familiar with the dune steward program because of public outreach programs offered by the stewards.

#### Sandy Pond Beach Natural Area

Sandy Pond Beach Natural Area is managed by the New York State Department of Environmental Conservation, and is unique to the area because it is accessible primarily by boat. On the northern portion of the property there is 1 of 2 bird sanctuaries found on the dunes of the eastern shore where shorebirds can be found in large numbers during spring and fall migrations. This site is monitored by the Eastern Lake Ontario Dune Stewards.

#### Lakeview Marsh Wildlife Management Area

Lakeview Marsh Wildlife WMA is a 3,461-acre area managed by the New York State Department of Environmental Conservation, and because of its size and geography is one of the most challenging areas monitored by the Eastern Lake Ontario Dune Stewards. There are a number of boat launches on the property to provide a variety of recreational opportunities for visitors.

#### Southwick Beach State Park

Southwick Beach State Park is a 500-acre area managed by New York State Office of Parks, Recreation, and Historic Preservation. Although Southwick Beach State Park is not monitored by the Eastern Lake Ontario Dune Stewards, beach goers at Southwick Beach State Park are familiar with the dune steward program because of public outreach programs offered by the stewards.

#### Black Pond Wildlife Management Area

Black Pond WMA is a 526-acre area managed by the New York State Department of Environmental Conservation. In 2001 a ADA (Americans with Disability Act) compliant boardwalk was developed that meanders across a Silver Maple woodland, an open water marsh, and through 70' tall sand dunes until it ends on an undeveloped Lake Ontario beach. This area is monitored by the Eastern Lake Ontario Dune Stewards.

#### El Dorado Nature Preserve

El Dorado Nature Preserve is a 360-acre area that is managed by The Nature Conservancy, and was established with the support from local birders, to protect a vital resting and feeding area for migrating shorebirds traveling thousands of miles between the Arctic and South America. This is the second of 2 bird sanctuaries in the area. This area is monitored by the Eastern Lake Ontario Dune Stewards.

### Goals of the Steward Program

The goal of the Eastern Lake Ontario Dune Steward program is to ensure that preservation and management efforts undertaken by environmental partners assure that dune systems and their associated wetlands are effectively protected. This fully collaborative natural area management program seeks to achieve optimal protection of sensitive natural communities while allowing appropriate use.

The goal of each dune steward is to assist landowners and the public in achieving cooperative conservation of these fragile resources while aiding and enhancing the appropriate uses by visitors of these important natural areas. Stewards educate visitors in ecologically responsible recreational use of these areas.

The goal of the steward/visitor interactions is to foster willing compliance by visitors to enjoy their use of these sites in a manner sensitive to long-term conservation of resources.

### What does a dune steward do?

- Provide public education about responsible recreational use in fragile natural resources.
- Habitat preservation through the installation and maintenance of snow and or string fencing.
- Collect data for ongoing data monitoring program.
- Plant and maintain beachgrass
- Replace signage
- Litter removal
- Site maintenance
- Provide inventory information on invasive plants.
- Trail/dune walkover maintenance



Dune Steward Terri Evans collects data for an invasive plant project. Photo: Mary Penney



Dune Steward Ashley Ourella (right) points out invasive zebra mussels during an interpretive tour at Black Pond WMA. Photo: Mary Penney



Dune Steward John Koltz (left) talks with visitors about shorebirds that frequent the Eastern Lake Ontario dunes area. Photo: Mary Penney



Dune Steward Joe Strichy (right) leads a tour through a mature dune at Deer Creek Marsh WMA. Note the string fence. Photo: Mary Penney



Dune Stewards replacing snow fencing at the beginning of the season. Photo: Paul Focazio

### How does the dune steward program work?

To encourage public appreciation and proper recreational enjoyment, New York Sea Grant, the New York State Department of Environmental Conservation, The Nature Conservancy and New York State Parks formed the Eastern Lake Ontario Dune Steward Program. From May through Labor Day, college undergrad and graduate students walk the dunes and wildlife management areas, serving as goodwill ambassadors promoting environmentally-sound use of New York's natural resources through public education. The stewards interact with visitors, offer public walks and programs, and lead by example as they install and maintain beachgrass plantings, protective fencing, and dune walkovers; and conduct shoreline/beach cleanup. Walking up to 8 miles a day, the stewards also monitor visitor usage, and assist state and federal fish, wildlife and forestry staff.

### Eastern Lake Ontario Beach User Survey 2003/2004

#### Introduction

The eastern Lake Ontario dune system creates a management challenge because the beautiful natural sandy beach environments attract recreational enthusiasts who help sustain a lively tourism economy in the area. The dune steward program was developed to minimize the continued threat of overuse or misuse of this fragile system. An evaluation of the dune steward program and accompanying management was conducted during the summers of 2003 and 2004.

#### Methods

During the daytime hours of 11am-5pm beach users were surveyed by Eastern Lake Ontario Dune Stewards at Deer Creek Marsh WMA, Sandy Pond Beach Natural Area, Lakeview Marsh WMA/Southwick Beach State Park, and Black Pond WMA/El Dorado Nature Preserve from May through August. Survey questions were similar to ones asked in a similar survey from 1997, and focused on the visitors' general demographic information; their awareness of dune conservation efforts; their understanding of the natural history of the dune and wetland area; their use of educational brochures and signage; the facilities most used (trails, campsites, observation towers, boat launches, etc.), and their understanding of the uniqueness and fragility of the dune and wetland ecosystem.

#### Results/Discussion/Conclusions

Samples of results are shown below (Figures 3 & 4). The results of this survey indicate that overall, education efforts along the Eastern Lake Ontario Dune and Wetland Area (ELOWDA) have been effective. Educational efforts along the ELOWDA continue to be successful and well received by visitors; however, increased efforts are needed to make information more readily available to visitors, and can be accomplished by the dune steward program.

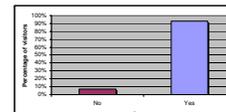


Figure 3: Percentage of visitors that said the signs made them want to stay out of the dunes.

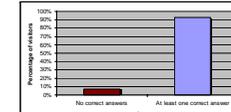


Figure 4: Percent of visitors who could give at least 1 correct or no correct answer when asked to list 2 activities that people do that lead to dune erosion.

### Monitoring Recreational Use in the Eastern Lake Ontario Dune and Wetland Area (ELOWDA) Introduction

The sand dunes of ELOWDA experience erosion primarily as a result of trampling of vegetation by visitors, who are typically boaters, beach goers, and owners of nearby properties. With the high recreational use of the ELOWDA data has been collected for public areas for various time intervals since the late 1980's. Data is collected at the 4 monitoring sites (Deer Creek Marsh Wildlife Management Area, Sandy Pond Beach Natural Area, Lakeview Wildlife Management Area, and Black Pond Wildlife Management Area/El Dorado Nature Preserve) by dune stewards.

#### Methods

##### Visitor Counts

Spots counts, which are done once in the morning and once in the afternoon at designated locations at each of the four ELOWDA properties, are used to calculate total visitor counts.

##### Violations

Throughout the day the dune stewards walk the beach and record the number of violations they see. The types of violations include: people in dunes, people in bird sanctuaries, personal watercrafts, boats in bird sanctuaries, people removing driftwoods, artificial structures, dogs off leashes, fires, campfires, four-wheelers, cars, vandalism, nudes, bikes in dunes, and horses in dunes.

##### Results and Discussion

Violations are likely occurring at night when dune stewards are off duty. Although Black Pond had a moderately high number of violations per day, the number does appear to be decreasing since access to the site is relatively new with the ADA walkover having been built in 2001. There does not appear to be a correlation between the number of violations and visitors. Violations appear to be dependant on the ability of the dune stewards program to provide education and supervision effort across each area. Size maybe more of a factor in determining the number of violations than the number of visitors.

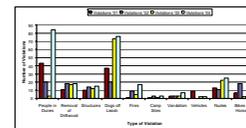


Figure 5: Lakeview/Southwick Violations

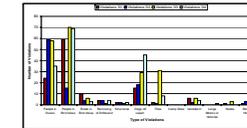


Figure 6: Black Pond/El Dorado Violations

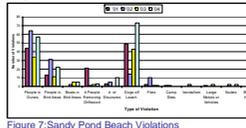


Figure 7: Sandy Pond Beach Violations

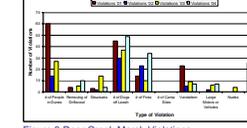


Figure 8: Deer Creek Marsh Violations

### Acknowledgements

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