

EASTERN LAKE ONTARIO SAND DUNES: AN OVERVIEW OF THEIR FAUNA

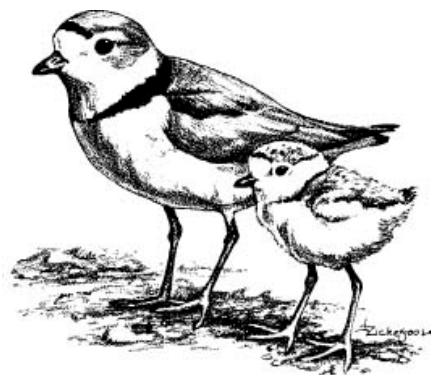
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INTRODUCTION

Our Lake Ontario dune system supports a variety of distinctly different faunal habitats. The open, sandy beach provides access to fresh water and a variable drift line of decomposing plant and animal remains. Primary and low secondary dunes offer patches of herbaceous plants and low shrubs, alternating with bare sand. Though cover and food are sparse for large mammals, the soil is easily excavated. Also, small patches of forest attract various fauna that never venture out onto the exposed beach. The dense, wet shrub thickets that lie between the dunes and the marsh provide habitats that overlap somewhat with both of them.

BEACH FAUNA

Resident fauna on the beach are mostly arthropods: a variety of mites, beetles, flies, springtails, booklice, and small moths in the beach driftline on Lake Ontario sand beaches. These arthropods feed on washed-up plant, fish, mammal and bird detritus, fungi that grow on these materials, and each other. Tiny worms are also seen in the beach sand. Wolf spiders, resident in the more protected dunes above the beach, forage at night amidst the litter. The burrows of predatory wasps are sometimes seen in the fall. Female wasps lay eggs in the burrow, and line the chambers with insects as food for the emerging larvae.



Shorebirds prey on these beach invertebrates; they can be seen running along the water's edge in spring and again from midsummer to late fall.

Shorebirds stop to feed during migration, which takes them from their Arctic breeding grounds to South American wintering areas and back each spring. Our eastern Lake Ontario shore dunes, and especially the flat rocky shores just north of the dune area, constitute the only substantial fall feeding grounds for these migrants between James Bay, Ontario, and Cape May, New Jersey. Sanderling, semi-palmated sandpiper, least sandpiper, and semi-palmated plover are seen in substantial numbers. Spotted sandpiper and killdeer nest in the foredunes, laying their eggs on the ground in shallow depressions scraped in the sand.

Ring-billed, herring, and great black-backed gulls congregate on the shore, foraging for bird and fish detritus. Great squadrons of double-crested cormorants commute offshore from their island breeding grounds to feeding areas on the lake. Caspian and common terns rest among the gulls and fish in the shallows, particularly where streams and ponds flow into the lake. Black Terns commute across the barrier to fish in shallow sandbar waters as well. Of special interest are the common tern (NYS threatened species) and the black tern (NYS species of special concern). Both species breed in areas protected by the dunes and have declined in abundance in recent years.

Signs of wildlife to be found in the beach sand include tracks of white-tailed deer, red and gray fox, great blue heron, painted and snapping turtle, and various caterpillars. Among the migrants that follow the shoreline are monarch butterflies as well as a great many raptors and Neotropical songbirds.

FAUNA OF THE DUNE AND SWALE

Habitat conditions on primary and low secondary dunes and swales provide more opportunities for food and shelter. Small rodents abound, both in brushy cover and open, herbaceous dunes, especially the white-footed mouse. These and other herbivores become prey for red and gray fox and eastern coyote. Well-established animal trails are regularly used by foxes and coyotes as well as by white-tailed deer. Snapping and painted turtles haul out of the marshes in June to dig nests and lay eggs in patches of bare sand. The eggs are subject to heavy predation by skunk, raccoon, red and gray foxes, opossums, and possibly minks. Excavated turtle nests are a common sight on the bare sand of interior dunes.



Among the arthropods, there are 36 species of mites found in cottonwood litter as well as an abundance of spiders, beetles, ants, solitary bees, robber flies, digger wasps, deer flies, mosquitoes, butterflies, and moths. Chrysomelid beetles, especially the tiny, steel blue imported willow leaf beetle, feed in substantial numbers on cottonwood leaves and various

kinds of willow leaves. Antlion nymphs excavate steep, cone-shaped traps 1 to 2 inches deep in patches of bare sand, then lie in wait just below the surface to snatch unwary prey. The tiger beetle flies about in search of its insect prey.

The abundance of insect prey attracts a variety of breeding birds to the interior dunes and swales. Yellow warbler and song sparrow nest in great numbers in shrubby cover on the interior dunes, while tree-cavity nesters such as house wrens and black-capped chickadees find nesting habitat in the cottonwoods. These and other shrub and cavity nesters supplement their diet with seeds of grasses, goldenrods, and other herbaceous perennials, and fruits of chokecherry, poison ivy, dune grape, and other shrubs. Brown-headed cowbirds have also been found to parasitize nests in this open habitat.

FAUNA OF THE FOREST AND THICKET

The white-tailed deer find cover and forage, while the red and gray fox and eastern coyote find the red-backed vole abundant. Fox and deer share well-defined trails here, as they do in the open interior dunes. Beaver move among the alders selecting stems to harvest. Snapping and painted turtles may travel through these habitats to reach the open sand of the interior dunes for nesting. Young turtles returning to the marsh provide prey for raccoons, weasels, striped skunks, and other predators.

Insects are abundant: mosquitoes, mayflies, midges, oak apple galls, eastern tent caterpillars, mourning cloak butterflies, and a variety of moths, some of them rare. Inchworms and other green larvae of these moths feed on the foliage. A great many other arthropods abound, but little specific data exist for the area.



The abundant insect forage base and dense cover provide breeding habitat for ruffed grouse, and other shrubland and forest birds. The yellow warbler, common in the open habitat, is joined here by common yellowthroat, gray catbird, American redstart, great crested flycatcher, and veery, among others. The tree frog, wood frog, and garter snake feed on the insects as well as various slugs, grubs, and worms.

SUMMARY

Our eastern Lake Ontario dunes provide a mosaic of habitats for a wide variety of common fauna, as well as unique opportunities for several rare species. The migrating shorebirds, in particular, depend on these feeding grounds.

Some shorebirds that nest on our shores, like killdeer and spotted sandpiper, need quiet stretches of sand. The piping plover, which once nested at the lakeward edge of our dunes is no longer seen here because it is completely intolerant of human presence.

For a field list of Mammals And Birds please visit the Eastern Lake Ontario Dunes and Wetlands Area website.

ACKNOWLEDGMENTS

Specific data on the fauna of our Lake Ontario dunes are sparse. The information provided here is based on Gordon, (1986), Jankowitz (1988), Norton (1973), Bonanno and Smith (1991); field notes of the New York Natural Heritage Program and knowledgeable local ecologists; and various field guides (Borror and White 1970, Ehrlich et al. 1988, Stokes 1983).

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Education, Resource Bibliography: www.nysgdunes.org

