

Protecting Our Beaches

Beach Conservation

Damaging Wheels

Driving vehicles on beaches is a subject that has become controversial in recent years. Cottagers who have spent many years enjoying our lake will often have stories, or even photographs, of driving up and down the beach back in the 1940s and 50s.

Today, cars are not acceptable, but all-terrain vehicles and snow mobiles sometimes find their way to our beaches. Some local contractors also find the beach a convenient way access job sites with their heavy equipment. At some locations, municipalities have chosen to use beach cleaners to manage a certain aesthetic.

Is there really a problem with driving a vehicle on a beach?

The use of vehicles in beach areas is a practice that is being challenged throughout the world as a better understanding develops of beach ecology and the environmental consequences of allowing vehicles on beaches.

At first glance, a beach may look barren and lifeless. However, a closer look reveals there is life both within and on our beaches. "Strand lines", which are the lines of debris that collect where the waves wash up on the beach, often contain considerable amounts of organic matter, which the bodies of decaying insects, bacteria and fungi break down, releasing nutrients into the sand which are used by plants in the nutrient poor dunes.



Motorized vehicles can cause compaction of the sand, damage native beach plants and disturb the nesting, feeding and resting functions of shorebirds, like the sandpiper, dunlin and piping plover.

Dune plants are key to the health and stability of beaches. They gather sand, shelter birds, and withstand wind and waves. But they are very sensitive to a vehicle driving over them. All motor vehicles can kill native beach plants with a single pass, and even the wide flotation tires of quad bikes crush and destroy plants.

Impacts to Beaches

Research has identified that vehicle traffic on beaches compacts beach sand at depth, but loosens the surface of the beach, making it more susceptible to wind and wave activity. The effects of vehicle passage extends to a depth of approximately 20 cm. The sheer stresses of turning wheels loosens the sand and breaks plant roots as well as crushes seedlings of annuals and young plants of perennials like American Beachgrass.

Vehicles compact the sand, squashing small

creatures that live on or under the sand and compressing their habitat. These animals are important food for shorebirds. Vehicles can also frighten away shorebirds and other species sheltering in the dunes, and crush their nests and eggs.

Driving vehicles in beach areas has important ecological implications. It is a practice that has long lasting effects on dunes and other coastal ecosystems, and this has contributed to the need for extensive conservation efforts by local communities to turn things around. The benefits of protecting our lakeshore extend well beyond environmental. Our beaches are important to our local coastal communities, both economically and socially. Beach stewardship is about restoring the balance between how people use beaches and what our natural ecosystems need to provide the benefits they provide us.



Vehicle access across a dune can have extensive impacts on the dune. The bare tracks provide an opening for wind erosion.

SUVs and boat trailers, ATVs, and snow mobiles are all vehicles that can damage or destroy dune systems. Dunes are simply too sensitive to withstand the effects of vehicles.



Threats to a Rare Ecosystem

On beaches, nesting shorebirds, such as the endangered piping plover are particularly at risk from vehicles. Piping plovers feed along beaches and sand flats. They feed primarily on exposed beach substrates by pecking for invertebrates one centimeter (0.4 in) or less below the surface. Primary prey for piping plovers includes worms, crustaceans, insects, and occasionally bivalve molluscs.

Their nests accidentally get crushed by passing vehicles. The presence of motorized vehicles may also cause the birds to desert the nest, exposing eggs or chicks to the hot sun and predators. Interruption of feeding may stress juvenile birds during critical periods in their life cycle.

Lake Huron's beaches are narrow ribbons of unique plant and animal life that have evolved over thousands of years. This great diversity of life is becoming more imperiled because of increases in human activities that go beyond the ability of the ecosystem to repair itself. Plants, like the endangered Pitcher's Thistle, and other at-risk species like Indian Plantain, Dwarf Lake Iris and Hill's Thistle are examples of species whose habitat is being affected by people. It is important that we regain the delicate balance between people's use of our beaches, and the needs of our beach environments.



Fledgling Plovers feeding on the beach at Sauble Beach.



Vehicles can damage feeding grounds for shorebirds, like the endangered Piping Plover, and tire ruts can impair juvenile birds mobility to feed and escape danger.



Indian Plantain
(flowers in summer)



Pitcher's Thistle (endangered)
(flowers once in its 10 year life cycle)



Dwarf Lake Iris
(flowers in spring)



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Spread of Invasive Plants

The invasive Common Reed (*Phragmites australis*) originates in Europe and is a very aggressive, robust, densely growing member of the grass family. Weeds, like the invasive Common Reed can be spread as vehicles pick up seeds and root fragments in their tires and chassis and carry the unwanted plant to other parts of the coastline. The spread of these invasive plants have become a costly problem for many municipalities to control.

The height and density of Common Reed allow it to form single-species stands that outcompete most non-woody native plants. The buildup of litter from previous years of growth prevents other species from germinating or establishing. It is capable of occupying and degrading vast areas of important lake habitats, like dunes, marshlands and fens. Common reed vegetation communities have low plant diversity and offer poor quality habitats for wildlife. Common Reed on beaches threaten the habitat of endangered species like the Piping Plover and Pitcher's Thistle, as well as many other rare coastal species.



Common Reed is an invasive plant that can overtake beach ecosystems. This has been declared one of Canada's most invasive non-native plants.

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