BUFFALO NIAGARA WATERKEEPER®

LIVING SHORELINES

RESTORATION AT TIFFT NATURE PRESERVE

Lake Kirsty: Before Living Shoreline Restoration (2018)

The shoreline you see here today once looked very different. Before the Living Shoreline was constructed, a hardened edge made of boulders and concrete rubble lined the lake. A gradual slope between land and water was lacking and patches of invasive plant species threatened to outcompete the limited number of native plants occupying the shoreline. Upland vegetation was dominated by turf lawn which appealed to the large goose population and did little to reduce runoff and erosion of upland slopes. Stormwater runoff flowed into Lake Kirsty carrying with it sediment, excess nutrients, and goose droppings.

Living Shoreline Restoration

Living Shoreline projects remove walls and other barriers, restore gradual slopes, protect shorelines with logs and boulders, and re-establish native plants to create a more natural and seamless transition between land and water. It is estimated that 90% of life found in freshwater ecosystems is born and raised in these vital water-land transition areas. The Living Shoreline at Lake Kirsty re-establishes this "ribbon of life" along the water's edge, supporting numerous wildlife species including waterbirds, fish, amphibians, and beneficial insects.

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TURF LAWN

Turf grass can attract nuisance species like the Canada Goose. When it rains, goose droppings flow directly into waterways, adding excess nutrients that can lead to harmful algae growth.

ERODING BANKS

Shallow root systems of turf grass offer little protection from erosion.

HARDENED SHORELINE

Hard shoreline structures such as walls eliminate the valuable transition zone between aquatic and upland areas.

LIMITED AQUATIC HABITAT

The absence of in-water habitat and the dominance of non-native aquatic vegetation offer limited value for aquatic life.

BEFORE
LIVING SHORELINE

UPLAND ZONE | TRANSITION ZONE: MISSING | AQUATIC ZONE

LIVING SHORELINE HABITAT ZONES

UPLAND ZONE

Pollinator species around the world are in decline due to habitat loss. The meadow habitat included in this living shoreline provides beneficial habitat for many insect and pollinator species, including the Monarch Butterfly.

TRANSITION ZONE

Turtles, unlike mammals and birds, need to regulate their body temperatures which they do by basking in the sun. You may see Midland Painted Turtles or other species basking on logs and rocks throughout the living shoreline.

AQUATIC ZONE

Yellow Perch are attracted to shorelines with dense aquatic vegetation and gravel bottoms. Perch are an important food source to many fish and waterbird species.

UPLAND HABITAT

Promoting native vegetation creates a beautiful landscape that requires little maintenance and attracts species like pollinators and migratory birds. Trees and shrubs in upland areas cast shade over the water, creating ideal habitat for fish and amphibians.

STABLE BANKS

In contrast to turf grass, native plants have extensive root systems that bind soils and help protect the shoreline from erosion. These plants also absorb and filter runoff, reducing the amount of stormwater and pollutants entering our waterways.

TREE SNAG(S)

Standing dead trees, also called snags, provide vital nesting, perching, and foraging habitat for birds, insects, and mammals.

GRADUAL TRANSITION

Creating a gradual transition between the land and water improves accessibility for both people and wildlife. This area is important for animals that rely on both aquatic and upland habitats to feed, rest, and build nests and also provides ideal conditions for activities like fishing and wildlife viewing.

EMERGENT MARSH

Much of the marsh and wetland habitat that once existed in the Niagara Region has been lost or degraded due to human activities including shoreline development. These nearshore areas are among the most ecologically valuable habitats on earth, and are an important component of a healthy shoreline.

STONE SILL

Stone sills are structures built with large rocks that are placed in the water typically parallel to the shoreline. These structures reduce wave energy, protecting the shoreline area from erosion. The calm area created behind the stone sill allows sediment to build up, ultimately creating and sustaining an emergent marsh habitat.

DIVERSE AQUATIC HABITAT

Boulders, logs, and vegetation provide important feeding, resting, and spawning grounds for fish and many other wildlife species like waterbirds.

AFTER
LIVING SHORELINE

UPLAND ZONE | TRANSITION ZONE: RESTORED | AQUATIC ZONE

The Living Shoreline program was supported by the New York Power Authority and the Niagara River Greenway Ecological Standing Committee. For more information please visit ***bnwaterkeeper.org/livingshorelines***