



Bert Miller Nature Club Ecological Survey of the Lake Erie Coast in Ecodistrict 7E-5

Assistance for this project was provided by the Government of Ontario and the following project partners:



Natural
Heritage
Information
Centre



ECKERT HERBARIUM
Buffalo State
State University of New York



NIAGARA
COMMUNITY FOUNDATION

The Bert Miller Nature Club's Lake Erie coast project started in 2010.

The project partners in this study include the Ontario Ministry of Natural Resources, the Natural Heritage Information Centre, the Royal Botanical Gardens, the Eckert Herbarium at Buffalo State College, the Clinton Herbarium of the Buffalo Museum of Science, the Niagara Community Foundation, the Peninsula Field Naturalists, the Niagara Falls Nature Club, and the Niagara Frontier Botanical Society of Buffalo, New York.

The Niagara Frontier Botanical Society recently completed a "Botany on the Beaches" survey of the Lake Erie shoreline in Western New York and contacted the Bert Miller Nature Club of Fort Erie in order to partner and assist in continuing this survey along parts of the Canadian shoreline in the Regional Municipality of Niagara and Haldimand County. This project linkage is an excellent model of international cooperation to support the stewardship of a shared ecosystem.

The goal of this project is to inventory parts of the Lake Erie coast which lie in Ecodistrict 7E-5 (the Haldimand Clay Plain Physiographic Region) to identify the occurrence and distribution of species at risk and their habitats.

During the first field season (2010), the section of the Lake Erie coast between the Niagara River and the Town of Fort Erie/City of Port Colborne border were inventoried.

The second field season (2011) continued inventories west along the shoreline from the Niagara River to the Grand River.

The third and current field season has focused inventories west of the Grand River towards the end of the study area near the Town of Port Dover, Ontario.

The Lake Erie coast is a hot spot for biodiversity and supports a number of species at risk. To date, this project has observed 21 species in the study area that are considered to be at risk. The Committee on the Status of Species at Risk in Ontario (COSSARO) rank 6 of these species as endangered, 7 as threatened, and 8 are considered a special concern. These extant species at risk comprise 8 plant species, 8 bird species, 4 herptile species and 1 mammal. These are:

Plants

American Chestnut (*Castanea dentata*) COSSARO Rank: Endangered
American Ginseng (*Panax quinquefolius*) COSSARO Rank: Endangered
Butternut (*Juglans cinerea*) COSSARO Rank: Endangered
Common Hoptree (*Ptelea trifoliata*) COSSARO Rank: Threatened
Eastern Prickly Pear Cactus (*Opuntia humifusa*) COSSARO Rank: Endangered
Red Mulberry (*Morus rubra*) COSSARO Rank: Endangered
Shumard Oak (*Quercus shumardii*) COSSARO Rank: Special Concern
Swamp Rose Mallow (*Hibiscus moscheutos*) COSSARO Rank: Special Concern

Birds

Barn Swallow (*Hirundo rustica*) COSSARO Rank: Threatened
Bobolink (*Dolichonyx oryzivorus*) COSSARO Rank: Threatened
Bald Eagle (*Haliaeetus leucocephalus*) COSSARO Rank: Special Concern
Chimney Swift (*Chaetura pelagica*) COSSARO Rank: Threatened
Eastern Meadowlark (*Sturnella magna*) COSSARO Rank: Threatened
Peregrine Falcon (*Falco peregrinus*) COSSARO Rank: Threatened
Hooded Warbler (*Wilsonia citrina*) COSSARO Rank: Special Concern
Red-headed Woodpecker (*Melanerpes erythrocephalus*) COSSARO Rank: Special Concern

Herptiles

Blanding's Turtle (*Emydoidea blandingii*) COSSARO Rank: Threatened
Fowler's Toad (*Anaxyrus fowleri*) COSSARO Rank: Endangered
Milksnake (*Lampropeltis triangulum*) COSSARO Rank: Special Concern
Snapping Turtle (*Chelydra serpentina*) COSSARO Rank: Special Concern

Mammals

cf. Woodland Vole (*Microtus pinetorum*) COSSARO Rank: Special Concern

Coastal Species

A number of species observed during this inventory have coastal affinities and are disjunct in their distributions from their major coastal range along the Atlantic Ocean. This means that in addition to their occurrence on the Great Lakes shoreline they are more typically found on one or more ocean coasts (Guire and Voss 1963). In the Great Lakes basin, these species are extremely restricted to the shoreline or coastal areas and are absent immediately inland. These include:

Beachgrass (*Ammophila breviligulata*)
Beach Pea (*Lathyrus japonicus*)
Sea Rocket (*Cakile edentula*)
Seaside Spurge (*Euphorbia polygonifolia*)

Other characteristic shoreline species observed during this project are more or less restricted in Ontario to the shoreline areas of the Great Lakes coast (Guire and Voss 1963, J.L. Riley 1989, and other sources). These include:

Biennial Gaura (*Oenothera gaura*)
Bugseed species (*Corispermum spp.*)
Clammy-weed (*Polanisia dodecandra*)
Crawe's Sedge (*Carex crawei*)
Divaricate Rockcress (*Arabis drummondii*)
Elk Sedge (*Carex garberi*)
Kalm's St. John's-wort (*Hypericum kalmianum*)
Long-spined Sandbur (*Cenchrus longispinus*)
Low Calamint (*Calamintha arkansana*)
Prairie Loosestrife (*Lysimachia quadriflora*)
Purple Sandgrass (*Triplasis purpurea*)
Sagewort Wormwood (*Artemisia campestris ssp. caudata*)
Sand Cherry (*Prunus pumila var. pumila*)
Schweinitz's Cyperus (*Cyperus schweinitzii*)
Strange Cinquefoil (*Potentilla supina ssp. paradoxa*)
Trailing Wild Bean (*Strophostyles helvula*)
Winged Pigweed (*Cyclolma atriplicifolium*)

This project has also documented a number of provincially rare (ranked S1, S2, or S3 by the Natural Heritage Information Centre) or locally rare (based on M. J. Oldham 2010 and M. E. Gartshore et. al 1987) species along the Lake Erie coast. Some of these include:

Alpine Rush (*Juncus alpinoarticulatus*)
Buck's Meadow Spike-moss (*Selaginella eclipse*)
Canada Milk-vetch (*Astragalus canadensis*)
Carpenter's-square (*Scrophularia marilandica*)
Clinton's Wood Fern (*Dryopteris clintoniana*)
Cooper's Milk-vetch (*Astragalus neglectus*)
False Dragonhead (*Physostegia virginiana*)
Fringed Gentian (*Gentianopsis crinita*)
Goldie's Wood Fern (*Dryopteris goldiana*)
Grass-of-Parnassus (*Parnassia glauca*)
Greenish Sedge (*Carex viridula*)
Hair-like-beak-rush (*Rhynchospora capillacea*)
Halberd-leaved Tear-thumb (*Persicaria arifolia*)

Indian Grass (*Sorghastrum nutans*)
Kalm's Lobelia (*Lobelia kalmii*)
Knotted Rush (*Juncus nodosus*)
Leatherwood (*Dirca palustris*)
Little Bluestem (*Schizachyrium scoparium*)
Lizard's Tail (*Saururus cernuus*)
Lyre-leaved Rockcress (*Arabidopsis lyrata*)
Muehlenberg's Sedge (*Carex muehlenbergii*)
Poison Sumac (*Toxicodendron vernix*)
Pringle's Aster (*Symphotrichum pilosum* var. *pringlei*)
River Bulrush (*Bolboschoenus fluviatilis*)
Rough-leaved Dogwood (*Cornus drummondii*)
Schreber's Wood Aster (*Eurybia schreberi*)
Shining Ladies'- tresses (*Spiranthes lucida*)
Shinleaf (*Pyrola elliptica*)
Small Skullcap (*Scutellaria parvula*)
Small-flowered Agalinis (*Agalinis paupercula*)
Sneezeweed (*Helenium autumnale*)
Sweet-flag (*Acorus americanus*)
Tall Cord Grass (*Spartina pectinata*)
Threesquare (*Schoenoplectus pungens*)
Tufted Hair Grass (*Deschampsia caespitosa*)
Twig-rush (*Cladium mariscoides*)
Virginia Bluebells (*Mertensia virginica*)
Virginia Mountainmint (*Pycnanthemum virginianum*)
Wooly Sedge (*Carex pellita*)
Yellow Giant Hyssop (*Agastache nepetoides*)

In total, hundreds of species have been identified in the study area along the Lake Erie coast.

These significant species could not have been documented without the help of the many volunteers who have devoted their time, interest and keen observations in the field. Special thanks goes out to all those that have contributed, including: Joanne Schlegel, Jim Battaglia, Rick Young, Janet Damude, Carol Horvat, John Stevens, Steven Daniel, Joyce Sankey, Jim Grassie, Linda Wierstra, Tim Seburn, Paul Philps, Rick Stockton, Peter Bon Infant, Marcie Jacklin, Said Mohamed, Janet Mcullum, Rob Eberly, Laurie Dann, Michael Siuta, Ed Fuchs, Thomas Staton, Sarah Staton, Jessica Staton, Sarah Moloney, Natalie and Mrs. Kiers, Paul O'Hara, Neil Stewart, Alison Thomson, Amy Brunning, Jack Yurko, Emma Cane, Mike Wolosinecky and the numerous attendees of the Bert Miller Nature Club and Niagara Frontier Botanical Society outings. Plant collections, and

problematic taxa were confirmed by Michael J. Oldham, Botanist / Herpetologist, at the NHIC; Dr. George Argus, at the Canadian Museum of Nature in Ottawa; Natalie Iwanycki and Dr. Jim Pringle, at the Royal Botanical Gardens; and Diana Bizecki Robson, at the Manitoba Museum in Winnipeg.

This project aims to inspire and enable people to become involved in species at risk stewardship through outreach and volunteer opportunities. If you would like to contribute or participate in these surveys, please contact the Bert Miller Nature Club.

By: Albert Garofalo

Email: albert.garofalo@gmail.com

Literature Cited:

Gartshore, M.E., D.A. Sutherland, J.D. McCracken 1987. The Natural Areas Inventory of the Regional Municipality of Haldimand-Norfolk. Volume I and Volume II. Norfolk Field Naturalists

Guire, K.E., E.G. Voss. 1963. Distributions of Distinctive Shoreline Plants in the Great Lakes Region. University of Michigan, Ann Arbor. The Michigan Botanist

Oldham, M.J. 2010. Checklist of the Vascular Plants of Niagara Regional Municipality Ontario. Ontario Natural Heritage Information Centre, Ministry of Natural Resources Peterborough, Ontario for Niagara Peninsula Conservation Authority

Riley, J.L. 1989. Distribution and Status of the Vascular Plants of Central Region, Ontario Ministry of Natural Resources. Ontario Ministry of Natural Resources, Parks and Recreational Areas Section, Central Region, Richmond Hill. OFER SR 8902

Species at Risk in Ontario (SARO) List. Committee on the Status of Species at Risk in Ontario (COSSARO)

(<http://www.mnr.gov.on.ca/en/Business/Species/2ColumnSubPage/276722.html>)

[accessed 28 February 2010]