

Appendix P: Confirmed Records of Significant Vascular Plant Species Reported in Ontario's Great Lakes Coastal Wetlands

COMMON NAME	SCIENTIFIC NAME	NHIC S-RANK	COSEWIC	COSSARO	LAKE/CONNECTING CHANNEL	HABITAT DESCRIPTION
Algae-like Pondweed	<i>Potamogeton confervoides</i>	S2	-	-	Lake Huron	<ul style="list-style-type: none"> shallow water
American Lotus	<i>Nelumbo lutea</i>	S2	-	-	Lake Erie, Detroit River, Lake St. Clair, Lake Huron	<ul style="list-style-type: none"> shallow water marsh
American Water-willow	<i>Justicia americana</i> **	S2	THR	VUL	Lake Erie	<ul style="list-style-type: none"> shallow water marsh
Angled Spike-rush	<i>Eleocharis quadrangulata</i> **	S1	-	-	Lake Erie, Lake St. Clair, St. Clair River	<ul style="list-style-type: none"> shallow water marsh
Arrow-arum	<i>Peltandra virginica</i>	S2	-	-	St. Lawrence River, Niagara River, Lake Huron	<ul style="list-style-type: none"> shallow water marsh
Awnless Graceful Sedge	<i>Carex formosa</i>	S3S4	-	-	Lake Ontario, Lake Huron, Lake Erie	<ul style="list-style-type: none"> mesic woods floodplains
Bayberry	<i>Myrica pensylvanica</i>	S1	-	-	Lake Erie	<ul style="list-style-type: none"> deciduous swamp
Big Shellbark Hickory	<i>Carya laciniosa</i>	S3	-	-	Niagara River, Lake Huron	<ul style="list-style-type: none"> hardwood swamp
Black Sedge	<i>Carex atratiformis</i>	S2	-	-	Lake Superior	<ul style="list-style-type: none"> coniferous swamp
Bluehearts	<i>Buchnera americana</i> **	S1	END	-	Lake Huron	<ul style="list-style-type: none"> wet meadows
Branched Bartonia (Twining Bartonia)	<i>Bartonia paniculata</i> spp. <i>paniculata</i>	S1	SC	-	Lake Huron	<ul style="list-style-type: none"> open sedge bog
Branching Burreed	<i>Spartanium androcladum</i>	S1	-	-	Lake Erie, Lake Ontario, St. Lawrence River	<ul style="list-style-type: none"> shallow water marsh
Bristly Cattail Sedge	<i>Carex frankii</i>	S2	-	-	Lake Erie	<ul style="list-style-type: none"> floodplain woods ditches
Bushy Aster	<i>Aster dumosus</i>	S2	-	-	Lake Ontario, Lake Erie, Detroit River, Lake St. Clair; Lake Huron	<ul style="list-style-type: none"> meadow marsh moist fresh tall grass prairie
Bushy Cinquefoil	<i>Potentilla paradoxa</i> **	S3	-	-	Lake Erie	<ul style="list-style-type: none"> wet beach
Carey's Smartweed	<i>Polygonum careyi</i>	S3S4	-	-	Lake Huron	<ul style="list-style-type: none"> meadow marsh
Common Stiff Sedge	<i>Carex tetanica</i>	S3	-	-	Lake Erie, Detroit River, Lake Huron	<ul style="list-style-type: none"> meadow marsh seepages
Crested Arrow-head	<i>Sagittaria graminea</i> var. <i>cristata</i>	S3	-	-	Lake Erie, Lake Huron	<ul style="list-style-type: none"> shallow water marsh
Cylindrical Blazing Star	<i>Liatis cylindracea</i>	S3	-	-	Lake Huron	<ul style="list-style-type: none"> alvar meadow marsh
Dwarf Lake Iris	<i>Iris lacustris</i>	S3	-	-	Lake Huron	<ul style="list-style-type: none"> alvar coniferous swamp coastal meadow marsh
Eastern Prairie Orchid	<i>Platanthera leucophaea</i>	S2	SC	-	St. Lawrence River, Lake Erie, Detroit River, Lake St. Clair; Lake Huron	<ul style="list-style-type: none"> meadow marsh open sedge fen wet tall grass prairie

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Eastern Yellow Star Grass	<i>Hypoxis hirsuta</i>	S3	-	-	Lake Erie, Lake St. Clair, Lake Huron	<ul style="list-style-type: none"> • mesic prairie
Engelmann's Spike-rush	<i>Eleocharis engelmannii</i>	S1	-	-	Lake Erie	<ul style="list-style-type: none"> • wet beach
Fogfruit	<i>Phyla lanceolata</i>	S2	-	-	Lake Erie	<ul style="list-style-type: none"> • meadow marsh • flood plain
Follicle Sedge	<i>Carex folliculata</i>	S3	-	-	St. Lawrence River, Lake Huron	<ul style="list-style-type: none"> • coniferous swamp • thicket swamp • mixed swamp • shallow water marsh
Gattinger's Agalinis (previously Round-stemmed Purple False Foxglove)	<i>Agalinis gattingeri</i>	S1	END	-	Lake St. Clair, Lake Huron	<ul style="list-style-type: none"> • meadow marsh • alvar • mesic prairie
Giant Ironweed	<i>Vernonia gigantea</i>	S3	-	-	Lake Erie, Detroit River, Lake St. Clair, Lake Huron	<ul style="list-style-type: none"> • mesic prairie
Grass Sedge	<i>Carex jamesii</i>	S3	-	-	Lake Ontario, Lake Erie	<ul style="list-style-type: none"> • floodplain woods • mesic woods
Grass-leaved Rush	<i>Juncus marginatus</i>	S2	-	-	Lake Erie	<ul style="list-style-type: none"> • mesic prairie
Gray-headed Coneflower	<i>Ratibida pinnata</i>	S2S3	-	-	Detroit River	<ul style="list-style-type: none"> • mesic prairie
Great Plains Ladies' Tresses	<i>Spiranthes magnicamporum</i>	S3	-	-	Lake Erie	<ul style="list-style-type: none"> • not a typical wetland species but sometimes found in wetlands • mesic prairie • meadow marsh
Green Dragon	<i>Arisaema dracontium</i>	S3	SC	-	Lake Erie	<ul style="list-style-type: none"> • wooded floodplains
Green Violet	<i>Hybanthus concolor</i>	S2	-	-	Lake Ontario	<ul style="list-style-type: none"> • often found in upland areas, but sometimes in wooded floodplains
Grooved Yellow Flax	<i>Linum sulcatum</i>	S3	-	-	Lake Erie	<ul style="list-style-type: none"> • alvar • mesic prairie
Hairy Fimbristylis	<i>Fimbristylis puberula**</i>	S1	-	-	Lake St. Clair	<ul style="list-style-type: none"> • mesic prairie
Hidden-fruited Bladderwort	<i>Utricularia geminiscapa</i>	S3	-	-	Lake Ontario, Lake Huron	<ul style="list-style-type: none"> • open sedge bog • shallow water marsh
Honey Locust	<i>Gleditsia triacanthos</i>	S2	-	-	Niagara River, Lake Erie, Detroit River, Lake St. Clair	<ul style="list-style-type: none"> • deciduous swamp
Horsetail Spike-rush	<i>Eleocharis equisetoides**</i>	S1	END	END-R	Lake Erie	<ul style="list-style-type: none"> • shallow water marsh
Houghton's Goldenrod	<i>Solidago houghtonii</i>	S2	-	-	Lake Huron	<ul style="list-style-type: none"> • wet alvar
Knee Spike-rush	<i>Eleocharis geniculata**</i>	S1	-	-	Lake Erie	<ul style="list-style-type: none"> • wet beach

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Large Water Starwort	<i>Callitriche heterophylla</i>	S2?	-	-	Lake Erie, Lake Huron, Lake Superior	<ul style="list-style-type: none"> shallow water marsh deep water marsh
Leafy Blue-flag	<i>Iris brevicaulis**</i>	S1	-	-	Lake Erie	<ul style="list-style-type: none"> wooded deciduous swamp
Lizard's Tail	<i>Saururus cernuus</i>	S3	-	-	Lake Erie	<ul style="list-style-type: none"> floodplains
Low Nut-rush	<i>Scleria verticillata</i>	S3	-	-	Lake Ontario, Lake Erie, Lake Huron	<ul style="list-style-type: none"> coastal meadow marsh prairie fen
Many-fruited False Loosestrife	<i>Ludwigia polycarpa</i>	S2	-	-	Lake Erie, Detroit River; Lake St. Clair, Lake Huron	<ul style="list-style-type: none"> shallow water marsh meadow marsh
Marsh St. John's-wort	<i>Triadenum virginicum</i>	S3	-	-	Lake Ontario, Lake Huron (Georgian Bay)	<ul style="list-style-type: none"> shallow water marsh open bog
Mosquito Fern	<i>Azolla caroliniana</i>	S1	-	-	St. Lawrence River, Lake Ontario	<ul style="list-style-type: none"> shallow water marsh
Narrow-leaved Water-plantain	<i>Alisma gramineum</i>	S3S4	-	-	St. Lawrence River, Lake Ontario, Lake Huron	<ul style="list-style-type: none"> shallow water marsh
Ohio Spiderwort	<i>Tradescantia ohioensis</i>	S2	-	-	Detroit River	<ul style="list-style-type: none"> mesic prairie
Pin Oak	<i>Quercus palustris</i>	S3	-	-	Niagara River, Lake Erie	<ul style="list-style-type: none"> hardwood swamp
Prairie Dropseed	<i>Sporobolus heterolepis</i>	S2	-	-	Lake Huron	<ul style="list-style-type: none"> primarily upland but occasionally found in wetlands alvar prairie
Pumpkin Ash	<i>Fraxinus profunda</i>	S2	-	-	Lake Erie, Lake St. Clair, Lake Huron	<ul style="list-style-type: none"> deciduous swamp
Purple-jointed Joe Pye Weed	<i>Eupatorium purpureum</i>	S3	-	-	Lake Erie, Lake Huron	<ul style="list-style-type: none"> mesic floodplain
Ram's-head Lady's Slipper	<i>Cypripedium arietinum</i>	S3	-	-	Lake Ontario, Lake Huron, Lake Superior	<ul style="list-style-type: none"> mixed swamp conifer swamp
Red-rooted Nut Sedge	<i>Cyperus erythrorhizos</i>	S3	-	-	Lake Ontario, Niagara River, Lake Erie, Lake Huron	<ul style="list-style-type: none"> meadow marsh mud flat wet beach
Redtop Panic Grass	<i>Panicum rigidulum</i>	S2S3	-	-	Lake Erie, Lake Huron	<ul style="list-style-type: none"> meadow marsh
Riddell's Goldenrod	<i>Solidago riddellii</i>	S2S3	SC	VUL	St. Clair River, Lake Huron	<ul style="list-style-type: none"> mesic prairie meadow marsh
Rigid Yellow Flax	<i>Linum striatum</i>	S1	-	-	Lake Huron, Lake Erie	<ul style="list-style-type: none"> meadow marsh
Riverbank Sedge	<i>Carex emoryi</i>	S3	-	-	Lake Erie, Lake St. Clair, Lake Huron	<ul style="list-style-type: none"> meadow marsh shallow water marsh wet prairie flood plains
Rough Water Horehound	<i>Lycopus asper</i>	S2	-	-	Lake Huron, Lake Erie, Lake Ontario	<ul style="list-style-type: none"> shallow water marsh
Scarlet Ammannia	<i>Ammannia robusta</i>	S1	END	-	Lake Erie	<ul style="list-style-type: none"> wet beach (mud)

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Seedbox	<i>Ludwigia alternifolia</i>	S1	-	-	Detroit River, Lake Erie	<ul style="list-style-type: none"> shallow water marsh
Sharp-fruit Rush	<i>Juncus acuminatus</i>	S3	-	-	Lake Ontario, Niagara River, Lake Erie, Detroit River, Lake St. Clair, Lake Huron	<ul style="list-style-type: none"> wet beach meadow marsh
Skinner's Agalinis (previously Pale Purple False Foxglove)	<i>Agalinis skinneriana</i>	S1	END	-	Lake St. Clair	<ul style="list-style-type: none"> meadow marsh prairie
Slender Bulrush	<i>Scirpus heterochaetus</i>	S2	-	-	Lake Huron	<ul style="list-style-type: none"> shallow water marsh
Small White Lady's Slipper	<i>Cypripedium candidum</i>	S1	END	END-R	Lake Erie	<ul style="list-style-type: none"> meadow marsh fen mesic prairie
Small-flowered Lipocarpha (previously Dwarf Bulrush)	<i>Lipocarpha micrantha</i>	S1	END	THR	Lake Erie	<ul style="list-style-type: none"> moist beach
Smith's Tufted Bulrush	<i>Scirpus smithii</i>	S2?	-	-	St. Lawrence River, Lake Ontario, Niagara River, Lake Erie, Lake Huron	<ul style="list-style-type: none"> wet beach
Southern Tickseed	<i>Bidens coronata</i>	S2	-	-	Lake Erie, Detroit River, Lake St. Clair, Lake Huron	<ul style="list-style-type: none"> meadow marsh
Spotted Pondweed	<i>Potamogeton pulcher**</i>	SH	-	-	Lake Erie	<ul style="list-style-type: none"> shallow water
Stalked Water Horehound	<i>Lycopus rubellus</i>	S2	-	-	Lake Erie	<ul style="list-style-type: none"> hardwood swamp
Stiff Cowbane	<i>Oxypolis rigidior</i>	S2	-	-	Lake Erie	<ul style="list-style-type: none"> hardwood swamp thicket swamp
Stiff Yellow Flax	<i>Linum medium var. medium</i>	S3	-	-	Lake Huron	<ul style="list-style-type: none"> meadow marsh
Stiff Yellow Flax	<i>Linum medium var. texanum</i>	S1	-	-	Lake Erie	<ul style="list-style-type: none"> meadow marsh
Swamp Agrimony	<i>Agrimonia parviflora</i>	S3S4	-	-	Lake St. Clair	<ul style="list-style-type: none"> moist old fields open mesic woods scrub
Swamp Oval Sedge	<i>Carex muskingumensis</i>	S2	-	-	Lake Erie	<ul style="list-style-type: none"> floodplain woods mesic woods
Swamp Rose-mallow	<i>Hibiscus moscheutos</i>	S3	SC	-	Lake Ontario, Niagara River, Lake Erie, Detroit River, Lake St. Clair; St. Clair River	<ul style="list-style-type: none"> shallow water marsh meadow marsh mixed swamp
Swamp Star Sedge	<i>Carex seorsa</i>	S2	-	-	Niagara River, Lake Erie	<ul style="list-style-type: none"> deciduous swamp hardwood swamp mixed swamp
Tall Yellow-eyed Grass	<i>Xyris difformis</i>	S3?	-	-	Lake Huron	<ul style="list-style-type: none"> meadow marsh
Thread-like Naiad	<i>Najas gracillima</i>	S2	-	-	Lake Erie, Lake Huron	<ul style="list-style-type: none"> submerged aquatic shallow water marsh

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COMMON NAME	SCIENTIFIC NAME	NHIC S-RANK	COSEWIC	COSSARO	LAKE/CONNECTING CHANNEL	HABITAT DESCRIPTION
Three-awn Grass	<i>Aristida longespica</i> var. <i>geniculata</i>	S2	-	-	Lake Erie	<ul style="list-style-type: none"> • primarily upland species but sometimes occurs in meadow marsh
Trailing Wild Bean	<i>Strophostyles hevela</i>	S3	-	-	Lake Erie, Detroit River	<ul style="list-style-type: none"> • moist beach
Tuberous Indian-plantain (previously Prairie Indian Plantain)	<i>Arnoglossum plantagineum</i> (previously <i>Cacalia plantaginea</i>)	S3	SC	-	Lake Huron	<ul style="list-style-type: none"> • meadow marsh • alvar • open sedge fen
Virginia Bugleweed	<i>Lycopus virginicus</i>	S2	-	-	Lake Erie	<ul style="list-style-type: none"> • shallow water marsh • perched prairie fen
Virginia Meadow Beauty	<i>Rhexia virginica</i>	S3S4	-	-	Lake Ontario, Lake Huron	<ul style="list-style-type: none"> • meadow marsh
Walter's Barnyard Grass	<i>Echinochloa walteri</i>	S3	-	-	Lake Erie, Detroit River, Lake St. Clair; St. Clair River	<ul style="list-style-type: none"> • meadow marsh
Water Awilwort	<i>Subularia aquatica</i>	S3?	-	-	Lake Huron, St. Marys River, Lake Superior	<ul style="list-style-type: none"> • shallow water marsh • deep water marsh
Wedge-fruited Oval Sedge	<i>Carex suberecta</i>	S2	-	-	Detroit River	<ul style="list-style-type: none"> • wet prairie • deciduous swamp
White-fringed Orchid	<i>Platanthera blephariglottis</i>	S3S4	-	-	Lake Ontario, Lake Erie, Lake Huron	<ul style="list-style-type: none"> • open bog • treed bog
Wicket Spike-rush	<i>Eleocharis rostellata</i>	S3	-	-	Lake Erie, Lake Huron (Georgian Bay)	<ul style="list-style-type: none"> • open sedge fen • coastal meadow marsh • prairie fen
Wiegand's Sedge	<i>Carex wiegandii</i>	S1	-	-	Lake Superior	<ul style="list-style-type: none"> • thicket swamp • treed bog
Wild Hyacinth	<i>Camassia scilloides</i>	S2	THR	THR	Lake Erie	<ul style="list-style-type: none"> • moist woods
Winged Loosestrife	<i>Lythrum alatum</i>	S3	-	-	Lake Ontario, Lake Erie, Detroit River, Lake St. Clair, St. Clair River	<ul style="list-style-type: none"> • meadow marsh • shallow water marsh • deciduous swamp • alvar grassland
Winged Monkey Flower	<i>Mimulus alatus</i>	S2	-	-	Lake Erie	<ul style="list-style-type: none"> • floodplain • wooded deciduous swamp
Winged Oval Sedge	<i>Carex alata</i> **	S1	-	-	Lake Erie	<ul style="list-style-type: none"> • hardwood swamp
Wingstem	<i>Verbesina alternifolia</i>	S2S3	-	-	Lake Erie	<ul style="list-style-type: none"> • floodplain woods
Yellow Flat Sedge	<i>Cyperus flavescens</i>	S2	-	-	Lake Erie	<ul style="list-style-type: none"> • meadow marsh • wet beach
Yellow Pond Lily	<i>Nuphar advena</i>	S3	-	-	Lake Ontario, Lake Erie, Lake Huron	<ul style="list-style-type: none"> • shallow water marsh
Yerba de Tajo	<i>Eclipta prostrata</i>	S2	-	-	Lake Erie	<ul style="list-style-type: none"> • wet beach • mud flat

Appendix Q: Significant Fish Species Reported in Ontario's Great Lakes Coastal Wetlands

COMMON NAME	SCIENTIFIC NAME	NHIC S-RANK	COSEWIC	COSSARO	LAKE/ CONNECTING CHANNEL	HABITAT DESCRIPTION
Bigmouth Buffalo	<i>Ictiobus cyprinellus</i>	SU	SC	NIAC	Lake Erie	<ul style="list-style-type: none"> spawns on flooded vegetation resides in shallows of sluggish, clear, weedy waters
Black Bullhead	<i>Ameiurus melas</i>	S3	-	-	Niagara River, Lake Erie, Detroit River, Lake St. Clair, St. Clair River, Lake Huron	<ul style="list-style-type: none"> spawn in moderate to heavy vegetation like silty soft bottom backwaters
Eastern Silvery Minnow	<i>Hybognathus regius</i>	S2	-	NIAC	St. Lawrence River, Lake Ontario	<ul style="list-style-type: none"> shallow inshore areas of large lakes and rivers spawns in heavily vegetated backwaters over bottom muck
Grass Pickerel	<i>Esox americanus</i>	S3	-	-	St. Lawrence River, Lake Ontario, Niagara River, Lake Erie, Lake St. Clair, Lake Huron (south)	<ul style="list-style-type: none"> spawns on flooded stream margins or in marshes resides in heavily vegetated lowland streams and marshes
Lake Chubsucker	<i>Erimyzon sucetta</i>	S2	THR	THR	Niagara River, Lake Erie, Lake St. Clair, Lake Huron (south)	<ul style="list-style-type: none"> spawns on submerged vegetation in marshes resides in the shallow weedy waters of lakes, streams and backwaters
Longear Sunfish	<i>Lepomis megalotis</i>	S3	NAR	NIAC	Lake Erie, Lake St. Clair, Lake Huron (south, central, Georgian Bay)	<ul style="list-style-type: none"> nests in shallow gravel areas prefers clear shallow areas in or near aquatic vegetation
Pugnose Minnow	<i>Opsopoeodus emiliae</i>	S2	SC	VUL	Detroit River, Lake St. Clair, St. Clair River	<ul style="list-style-type: none"> spawns on aquatic vegetation prefers sluggish, clear weedy waters
Pugnose Shiner	<i>Notropis anogenus</i>	S2	END	THR	St. Lawrence River, Lake Ontario, Lake St. Clair, Lake Huron, Lake Erie	<ul style="list-style-type: none"> heavily vegetated waters as well as clear streams of sand and marl no information on spawning
Spotted Gar	<i>Lepisosteus oculatus</i>	S2	SC	THR	Lake Erie	<ul style="list-style-type: none"> all life history stages associated with dense submergent vegetation
Warmouth	<i>Lepomis gulosus</i>	S1	SC	VUL	Lake Erie	<ul style="list-style-type: none"> lakes, ponds and sluggish streams with dense aquatic vegetation nests in shallow water over rubble, loose vegetation or other debris

Appendix R: Significant Reptile and Amphibian Species Reported in Ontario's Great Lakes Coastal Wetlands

COMMON NAME	SCIENTIFIC NAME	NHIC S-RANK	COSEWIC	COSSARO	LAKE/CONNECTING CHANNEL	HABITAT DESCRIPTION
Reptiles						
Butler's Gartersnake	<i>Thamnophis butleri</i>	S2	THR	VUL	Lake Erie, Detroit River, St. Clair River	<ul style="list-style-type: none"> wet meadows and prairies, marshy ponds and lake border and other moist grassy places in Ontario often found in upland areas adjacent to wetlands Great Lakes shoreline marshes and vegetated dunes and beaches
Eastern Fox Snake	<i>Elaphe vulpina gloydi</i>	S3	THR	THR	Lake Erie, Detroit River, Lake St. Clair, St. Clair River, Lake Huron (central, Georgian Bay)	<ul style="list-style-type: none"> associated with damp lowlands, including river bottom woodlands, shrub swamps, bogs, fens, marsh borders, sedge meadows and moist prairies
Eastern Massasauga Rattlesnake	<i>Sistrurus catenatus catenatus</i>	S3	THR	THR	Lake Erie, Detroit River, Lake Huron (central, Georgian Bay, North Channel)	<ul style="list-style-type: none"> associated with damp lowlands, including river bottom woodlands, shrub swamps, bogs, fens, marsh borders, sedge meadows and moist prairies
Eastern Spiny Softshell Turtle	<i>Apalone spinifera</i>	S3	THR	THR	Lake Ontario, Lake Erie, Detroit River, Lake St. Clair, St. Clair River, Lake Huron (south)	<ul style="list-style-type: none"> live on or near permanent bodies of water, rivers, streams, sloughs, lakes, ponds, bogs meadows and swamps
Lake Erie Water Snake	<i>Nerodia sipedon insularum</i>	S2	END	END-R	Lake Erie (Pelee Is.)	<ul style="list-style-type: none"> live on or near permanent bodies of water, rivers, streams, sloughs, lakes, ponds, bogs meadows and swamps
Queen Snake	<i>Regina septemvittata</i>	S2	THR	THR	Lake Erie, Detroit River, Lake St. Clair, Lake Huron (south, central)	<ul style="list-style-type: none"> in or near warm shallow rocky bottomed streams, also inhabit edges of ponds, lakes, marshes, ditches and canals
Spotted Turtle	<i>Clemmys guttata</i>	S3	SC	VUL	St. Lawrence River, Lake Ontario, Lake Erie, Lake St. Clair, Lake Huron (south, central, Georgian Bay)	<ul style="list-style-type: none"> shallow ponds, wet meadows, tamarack swamps, bogs fens, marsh channels, sphagnum seepages and slow streams
Amphibians						
Fowler's Toad	<i>Bufo fowleri</i>	S2	THR	THR	Lake Erie	<ul style="list-style-type: none"> open woodlands, sand prairies, meadows and beaches
Jefferson Salamander	<i>Ambystoma jeffersonianum</i>	S2	THR	-	Lake Ontario, Lake Erie, Lake Huron	<ul style="list-style-type: none"> most common in moist well drained upland forests, but breeds in ponds within or adjacent to their woodland habitats
Northern Cricket Frog (previously Blanchard's Cricket Frog)	<i>Acris crepitans</i>	SH	END	END-R	Lake Erie (Pelee Is.)	<ul style="list-style-type: none"> permanent ponds, bogs, lakes and slow moving streams or rivers abundant aquatic vegetation sparsely vegetated mud flats and muddy or sandy shorelines are also favoured habitats in Ontario, only marginally a wetland species
Smallmouth Salamander	<i>Ambystoma texanum</i>	S1	SC	THR	Lake Erie (Pelee Is.)	<ul style="list-style-type: none"> most abundant in lowland floodplain woods breed in shallow bodies of water; also breed in runoff ponds, flooding, river backwaters and roadside ditches

Appendix S: Significant Bird Species Reported in Ontario's Great Lakes Coastal Wetlands

COMMON NAME	SCIENTIFIC NAME	NHIC S-RANK	COSEWIC	COSSARO	LAKE/CONNECTING CHANNEL		HABITAT DESCRIPTION
					Breeding	Non-Breeding	
Acadian Flycatcher	<i>Empidonax vireescens</i>	S2B	END	-	<ul style="list-style-type: none"> • Lake Erie • very few breeding sites along coast • no record of confirmed breeding sites outside the extreme southwest of Ontario 	<ul style="list-style-type: none"> • migratory and resting areas are very few • Lake Erie, Lake Ontario, Lake Superior 	<ul style="list-style-type: none"> • breeds in river swamps, creek bottoms, well-wooded ravines, Black Ash swamps and deep shaded forests • in Ontario, fairly mature deciduous forest or edges of wood ravines are favoured • Ontario is the northern limit of its range • good quality habitat has been reduced through clearing of forests for agriculture • stick nests in trees are immediately adjacent to wetlands (shallow water marshes), or on the lakeplain
Bald Eagle	<i>Haliaeetus leucocephalus</i>	S3B	NAR	END-R	<ul style="list-style-type: none"> • breeding sites are not rare but much reduced (especially in southern Ontario) since the 1950s due to shooting, habitat destruction and DDT chemical (primary cause) • Lake Erie, St. Marys River, Lake Superior 		<ul style="list-style-type: none"> • nests amidst moderately dense emergent marsh vegetation- cattails favored • usually open water adjacent to nests • likes productive wetlands with extensive shallow areas and emergent vegetation • commonly abandon breeding sites when vegetation or water levels change • likely to have been a decrease in populations over the last few decades with extensive alteration and destruction of marsh habitat
Black Tern	<i>Chlidonias niger</i>	S3B	NAR	VUL	<ul style="list-style-type: none"> • St. Lawrence River, Lake Ontario, Lake Erie, Lake St. Clair, Lake Huron (Georgian Bay), St. Marys River 		<ul style="list-style-type: none"> • most Ontario nests were in deciduous shrubs or trees, some in conifers and one other on matted vegetation in a cattail marsh; more usual sites were on islands, wooded river banks or swamps • declines in 1960s, early 1970s due to pesticides; the species is expanding its range but will be limited by loss of wetland habitat
Black-crowned Night-Heron	<i>Nycticorax nycticorax</i>	S3B	-	-	<ul style="list-style-type: none"> • Lake Ontario, Niagara River, Lake Erie, Lake St. Clair, Lake Huron (& Georgian Bay) 		<ul style="list-style-type: none"> • appears mostly in large fertile marshes • almost all nests are placed on emergent vegetation (cattails and bulrushes) primarily, but also sedges and bur-reed • extreme extent of its western range • nest in deciduous swamps
Canvasback	<i>Aythya valisineria</i>	S1B	-	-	<ul style="list-style-type: none"> • Ontario population is very small • rare breeder in Ontario appearing mostly in larger marshes of the Great Lakes • Lake Erie, Lake St. Clair 	<ul style="list-style-type: none"> • coastal wetlands are major non-breeding and staging areas • occasionally overwinter in coastal wetlands 	
Cerulean Warbler	<i>Dendroica cerulea</i>	S3B	SC	VUL	<ul style="list-style-type: none"> • Lake Erie, Lake St. Clair 		

Appendix S: Significant Bird Species Reported in Ontario's Great Lakes Coastal Wetlands

COMMON NAME	SCIENTIFIC NAME	NHIC S-RANK	COSEWIC	COSSARO	LAKE/CONNECTING CHANNEL		HABITAT DESCRIPTION
					Breeding	Non-Breeding	
Forster's Tern	<i>Sterna forsteri</i>	S3B	DD	IND	<ul style="list-style-type: none"> nesting in Ontario confined to coastal wetlands of Lake Erie, Lake St. Clair, St. Clair River and Lake Huron 		<ul style="list-style-type: none"> deep water portion of large cattail marshes range expansion and increased population abundance attributed to years of high water levels in Lake Erie ests primarily in the Prairie Provinces locally common, rare overall
Great Egret	<i>Casmerodius albus</i>	S2B	-	-	<ul style="list-style-type: none"> in Ontario, Great Lakes marshes are the primary breeding sites: Lake Erie, Lake St. Clair, Lake Huron (& Georgian Bay) 		<ul style="list-style-type: none"> frequents marshes and open areas of water breeds in treed swamps, thickets and occasionally low vegetation gradual northward extension of its breeding range
King Rail	<i>Rallus elegans</i>	S2B	END	END-R	<ul style="list-style-type: none"> coastal marshes of Lake Erie, Lake St. Clair, Lake Ontario, Lake Huron 		<ul style="list-style-type: none"> prefer large expanses of shallow water marsh that merge with scrubby swales cattail, grass/sedge marshes, shrubby swamps and marshy borders of ponds and rivers population declines noted in many parts of North America - drainage of wetlands contributed to their decline in Ontario
Least Bittern	<i>Ixobrychus exilis</i>	S3B	THR	VUL	<ul style="list-style-type: none"> St. Lawrence River, Lake Ontario, Lake Erie, Detroit River, Lake St. Clair, Lake Huron (& Georgian Bay) 		<ul style="list-style-type: none"> open cattail and <i>Scirpus</i> spp. marshes moderately dense cattail stands and dense reed beds in the larger marshes of the lower Great Lakes provide the most extensive habitat in Ontario species has decreased in number within its range due to loss of wetlands
Little Gull	<i>Larus minutus</i>	S1S2B	-	-	<ul style="list-style-type: none"> Lake Erie, Lake Huron (Georgian Bay) all nesting sites in Great Lakes Basin are coastal coastal lowlands of James Bay and Hudson Bay may be prime nesting area in North America 		<ul style="list-style-type: none"> ests on wet grassy knoll or islets of tangled floating vegetation - marshes most southern Ontario sites are now historical; most active sites are on Lake Huron chiefly a breeding bird of northern and central temperate Asia number of nests in North America is slowly increasing
Louisiana Waterthrush	<i>Seiurus motacilla</i>	S3B	SC	VUL	<ul style="list-style-type: none"> Lake Ontario, Lake Erie, Lake Huron only a few of the recorded nesting sites are in protected areas 		<ul style="list-style-type: none"> deep forested ravines with tumbling waters, occasionally forested swamps and linear woodland sloughs common across eastern U.S.; rare in Ontario - northern extent of the species

Appendix S: Significant Bird Species Reported in Ontario's Great Lakes Coastal Wetlands

COMMON NAME	SCIENTIFIC NAME	NHIC S-RANK	COSEWIC	COSSARO	LAKE/CONNECTING CHANNEL		HABITAT DESCRIPTION
					Breeding	Non-Breeding	
Northern Shoveler	<i>Anas clypeata</i>	S3S4B	-	-	<ul style="list-style-type: none"> occasional breeder in Great Lakes coastal wetlands: St. Lawrence River, Lake Ontario, Lake Erie, Detroit River, Lake Huron (& Georgian Bay), Lake Superior Lake Superior 	<ul style="list-style-type: none"> primary use of coastal wetlands is during migration 	<ul style="list-style-type: none"> short grass areas, large highly productive marshes, sewage lagoons and water impoundments provide nesting habitat Ontario is the eastern periphery of its breeding area
Peregrine Falcon <i>anatum</i> subspecies	<i>Falco peregrinus anatum</i>	S2B	THR	END-R		<ul style="list-style-type: none"> feeds in wetlands particularly during migration 	<ul style="list-style-type: none"> cliffs and crags situated near water wetlands important feeding areas during migration suffered serious decline in 1960s due to DDT pesticide contamination
Prothonotary Warbler	<i>Protonotaria citrea</i>	S1S2B	END	END-R	<ul style="list-style-type: none"> Lake Erie 		<ul style="list-style-type: none"> nest in deciduous swamp, Silver Maple-Red Maple swamp, Buttonbush swamp, Black Willow-maple-ash floodplains nests made of moss - critical habitat requirement tree cavities used as nest sites nest nearly always closely associated with an open pool of standing or flowing water species has a narrow habitat tolerance number of nesting sites is declining
Redhead	<i>Aythya americana</i>	S2B	-	-	<ul style="list-style-type: none"> vast majority of Ontario birds breed in Lake St. Clair coastal wetlands also confirmed breeding sites: St. Lawrence River, Lake Ontario, Lake Erie, and Lake Huron (Georgian Bay) most breeding sites are in Great Lakes wetlands 	<ul style="list-style-type: none"> important migration areas 	<ul style="list-style-type: none"> cattail, bulrush and fens are preferred nesting areas, but will nest on islands and in meadows nests constructed in emergent vegetation above shallow water most common in prairies, but may become more widespread in Ontario (like lagoons) low population abundance across North America
Red-necked Grebe	<i>Podiceps grisegena</i>	S3B	NAR	NIAC	<ul style="list-style-type: none"> rarely breed in coastal wetlands 	<ul style="list-style-type: none"> important during spring migration: Lake Ontario, Lake Huron (& Georgian Bay) and possibly Lake Superior 	<ul style="list-style-type: none"> shallow water marshes loss of breeding habitat in southern Ontario, specifically due to shoreline development
Ruddy Duck	<i>Oxyura jamaicensis</i>	S2B	-	-	<ul style="list-style-type: none"> Lake St. Clair, Lake Erie, Lake Huron 		<ul style="list-style-type: none"> nests are attached to cattails, bulrushes, bur-reeds and sedges nests usually associated with shallow water (often sewage lagoons) situated in the marshy borders of waterbodies primarily a prairie species

Appendix S: Significant Bird Species Reported in Ontario's Great Lakes Coastal Wetlands

COMMON NAME	SCIENTIFIC NAME	NHIC S-RANK	COSEWIC	COSSARO	LAKE/CONNECTING CHANNEL		HABITAT DESCRIPTION
					Breeding	Non-Breeding	
Short-eared Owl	<i>Asio flammeus</i>	S2N	SC	-	<ul style="list-style-type: none"> St. Lawrence River; Lake Ontario also breeds in James Bay and Hudson Bay 	<ul style="list-style-type: none"> overwinters in Great Lakes coastal wetlands 	<ul style="list-style-type: none"> frequents meadows, bogs and marshes nest is made of dead grass placed among vegetation on wet ground cosmopolitan - found on all continents except Australia and Antarctica; found in northern and southern Ontario, but its distribution is uneven and highly correlated with its specialized habitat requirements destruction of wetlands by drainage for agriculture and housing is likely the single most important factor responsible for its steady decline
Tundra Swan	<i>Cygnus columbianus</i>	S3B	-	-	<ul style="list-style-type: none"> no breeding locations in the Great Lakes 	<ul style="list-style-type: none"> species migrates across most of Ontario, particularly through the southern Great Lakes (Lake Erie & Lake St. Clair) 	<ul style="list-style-type: none"> breeding swans were extirpated in Ontario and Hudson Bay during the fur trade; the population is recovering and is expected to expand
White-eyed Vireo	<i>Vireo griseus</i>	S2B	-	-	<ul style="list-style-type: none"> Lake Erie, Detroit River most nesting sites in Ontario are coastal; typically in the southwest 		<ul style="list-style-type: none"> occupies wet and dry habitats - dense shrubbery of overgrown fields, young second growth woodlands, woodlot edges and clearings and open swampy woodlands concentration in eastern U.S.; has been expanding its range northwards and may become more abundant in the future
Wilson's Phalarope	<i>Phalaropus tricolor</i>	S3B	-	-	<ul style="list-style-type: none"> only confirmed coastal sites: eastern Lake Ontario and Lake Erie two probable sites on Lake Huron (& Georgian Bay) 		<ul style="list-style-type: none"> generally breed in ponds and lakes close to wet meadow vegetation in southern Ontario most often closely associated with sewage lagoons with lush grassy or sedgy margins or in marshes historical records indicate this species has only recently become established in southern Ontario
Yellow Rail	<i>Coturnicops noveboracensis</i>	S3S4B	SC	VUL	<ul style="list-style-type: none"> Lake Ontario breeds primarily in coastal areas of James Bay and Hudson Bay 		<ul style="list-style-type: none"> large dense grass and sedge marshes emergent marsh vegetation historically had a widespread breeding distribution in Ontario (prior to draining of wetlands)
Yellow-headed Blackbird	<i>Xanthocephalus xanthocephalus</i>	S3B	-	-	<ul style="list-style-type: none"> Lake Erie and Lake St. Clair 	<ul style="list-style-type: none"> occasional migrant found in Lake Superior 	<ul style="list-style-type: none"> permanent deep marshes or sloughs, marshy zones of lakes or river impoundments in which there are stands of cattails or <i>Phragmites</i> spp. spreading south and west into Ontario

Appendix T: Significant Lepidopteran Species Reported in Ontario's Great Lakes Coastal Wetland Evaluations

COMMON NAME	SCIENTIFIC NAME	NHIC S-RANK	COSEWIC	COSSARO	LAKE/CONNECTING CHANNEL	HABITAT DESCRIPTION
Duke's Skipper	<i>Euphyes dukesi</i>	S2	-	-	Lake Erie, Lake St. Clair	<ul style="list-style-type: none"> marshy or wet areas with long grass and sedges larval food plants: <i>Carex lacustris</i> and <i>Carex hyalinolepis</i>
Mulberry Wing	<i>Poanes massasoit</i>	S3	-	-	Lake Ontario, Lake Erie, Detroit River, Lake Huron (south & central)	<ul style="list-style-type: none"> marshy or wet areas with long grass and sedges favourite food: <i>Carex lacustris</i>
Two-spotted Skipper	<i>Euphyes bimacula</i>	S3S4	-	-	St. Lawrence River, Lake Ontario, Lake Erie, Detroit River, Lake Huron (north and Georgian Bay)	<ul style="list-style-type: none"> marshy areas and damp meadows sedge food: <i>Carex stricta</i> marshes

Appendix U: Unconfirmed Records of Significant Vascular Plant Species Reported in OMNR Wetland Evaluations for Great Lakes Coastal Wetlands

COMMON NAME	SCIENTIFIC NAME	NHIC S-RANK	COSEWIC	COSSARO	COMMENTS
American Beach Grass	<i>Ammophila breviligulata</i>	S3	-	-	<ul style="list-style-type: none"> • Non-Wetland species • Dune/ Upland species
American Chestnut	<i>Castanea dentata</i>	S3	THR	-	<ul style="list-style-type: none"> • Non-Wetland species • mesic or upland woods habitat
Bashful Bulrush (previously Small-flowered Clubrush)	<i>Trichophorum planifolium</i> (previously <i>Scirpus verecundus</i>)	S1	END	-	<ul style="list-style-type: none"> • Non-Wetland species • Upland species
Biennial Gaura	<i>Gaura biennis</i>	S2	-	-	<ul style="list-style-type: none"> • typically a Non-Wetland species • Upland species
Black Cohosh	<i>Cimicifuga racemosa</i>	S2	-	-	<ul style="list-style-type: none"> • typically a Non-Wetland species
Blunt-leaved Spurge	<i>Euphorbia obtusata</i>	S1	-	-	<ul style="list-style-type: none"> • typically a Non-Wetland species
Carolina Gentian	<i>Frasera caroliniensis</i>	S1	-	-	<ul style="list-style-type: none"> • typically a Non-Wetland species
Climbing Prairie Rose	<i>Rosa setigera</i>	S3	THR	-	<ul style="list-style-type: none"> • Non-Wetland species • Upland species
Coast Jointweed	<i>Polygonella articulata</i>	S3	-	-	<ul style="list-style-type: none"> • Non-Wetland species • open sandy habitats
Common Hoptree	<i>Prelea trifoliata</i>	S3	THR	-	<ul style="list-style-type: none"> • Non-Wetland species • usually Upland species
Dwarf Chinquapin Oak	<i>Quercus prinoides</i>	S2	-	-	<ul style="list-style-type: none"> • Non-Wetland species • Upland species • record probably a misidentification and species actually <i>Quercus muehlenbergii</i>
Fern-leaved False Foxglove	<i>Aureolaria pedicularia</i>	S3	-	-	<ul style="list-style-type: none"> • Non-Wetland species • Upland species
Hairy Bedstraw	<i>Galium pilosum</i>	S3	-	-	<ul style="list-style-type: none"> • Non-Wetland Species • usually Upland species
Hoary Tick Trefoil	<i>Desmodium canescens</i>	S2	-	-	<ul style="list-style-type: none"> • Non-Wetland species • Upland species
Large-flowered Purple False Foxglove	<i>Agalinis purpurea</i>	S1	-	-	<ul style="list-style-type: none"> • record probably a misidentification and actually <i>Agalinis purpurea</i> var. <i>paupercula</i>, which is not rare
Longleaf Dropseed	<i>Sporobolus asper</i>	S1S2	-	-	<ul style="list-style-type: none"> • Non-Wetland Species • probably non-native at this site

Appendix U: Unconfirmed Records of Significant Vascular Plant Species Reported in OMNR Wetland Evaluations for Great Lakes Coastal Wetlands

COMMON NAME	SCIENTIFIC NAME	NHIC S-RANK	COSEWIC	COSSARO	COMMENTS
Narrow-leaved Sedge	<i>Carex amphibola</i>	S2	-	-	<ul style="list-style-type: none"> record probably a misidentification and actually <i>Carex amphibola</i> var. <i>turgida</i> (= <i>Carex grisea</i>), which is not rare occasionally a Wetland species, probably a misidentification usually a Non-Wetland species Non-Wetland species Upland species typically a Non-Wetland species Non-Wetland Species Upland species found in dunes and other dry, open sandy sites Non-Wetland species Upland/Alvar species marginal Wetland Species floodplain, mesic woods not usually a Wetland species Dune species Non-Wetland species dryish upland woods habitat Non-Wetland species Upland species Non-Wetland species Non-Wetland species dry prairie species Non-Wetland species Upland species Wetland species, but probably a misidentification typically not a wetland species found in moist prairie Non-Wetland species Hybrid species
Pale Avens	<i>Geum virginianum</i>	S1	-	-	
Panicled Hawkweed	<i>Hieracium paniculatum</i>	S2	-	-	
Perfoliate Bellwort	<i>Uvularia perfoliata</i>	S1	-	-	
Pitch Pine	<i>Pinus rigida</i>	S2S3	-	-	
Rough Sand Sedge	<i>Cyperus schweinitzii</i>	S3	-	-	
Round-leaf Ragwort	<i>Senecio obovatus</i>	S3	-	-	
Rue Anemone	<i>Senecio obovatus</i>	S3	-	-	
Sand Reedgrass	<i>Calamovilfa longifolia</i>	S3	-	-	
Short's Aster	<i>Aster shortii</i>	S2	NAR	NIAC	
Shrubby St. John's-wort	<i>Hypericum prolificum</i>	S2	-	-	
Stemless Rubberweed	<i>Hymenoxys herbacea</i>	S2	-	-	
Stiff-leaved Goldenrod	<i>Solidago rigida</i>	S3	-	-	
Tall Joe-pyeweed	<i>Eupatorium altissimum</i>	S1	-	-	
Vasey's Rush	<i>Juncus vaseyi</i>	S3	-	-	
Virginia Culver's-root	<i>Veronicastrum virginicum</i>	S2	-	-	
Wood Fern	<i>Dryopteris X triploidea</i>	S3S4	-	-	