

Albion Road Wetlands: Part 1

by *Albert W. Dugal*

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See also [Part 2](#) (*T&L* 1992;26(3):64-94) and [Part 3](#) (*T&L* 1993;27(4):118-139)

This article presents an overview of the wetlands and concentrates on what is known of the private lands east of Albion Road and south of Leitrim Road. I will discuss two of the better known plant communities and in the discussion I will give a preliminary evaluation of the significance of the wetlands as well as summarize the threat posed by development to the wetlands and the steps taken to save the wetlands.

The Albion Road Wetlands is a complex wetland ecosystem, which is threatened by development, in the city of Gloucester. This is the first of a multi-part article undertaken

- a. to describe the wetlands and its component plant communities
- b. to list the significant plant species (algae, lichens, bryophytes and vascular plants) and
- c. to evaluate and compare this wetland with others in the Ottawa District.

The adjoining peatlands to the north, of which the wetlands is part, will also be examined and evaluated. We hope this study will result in protection of the area.

Part I presents an overview of the wetlands and concentrates on what is known of the private lands east of Albion Road and south of Leitrim Road. I will discuss two of the better known plant communities and in the discussion I will give a preliminary evaluation of the significance of the wetlands as well as summarize the threat posed by development to the wetlands and the steps taken to save the wetlands.

The Albion Road Wetlands is situated along Albion Road in the city of Gloucester at the southeast corner of Ottawa International Airport (Figure 1).

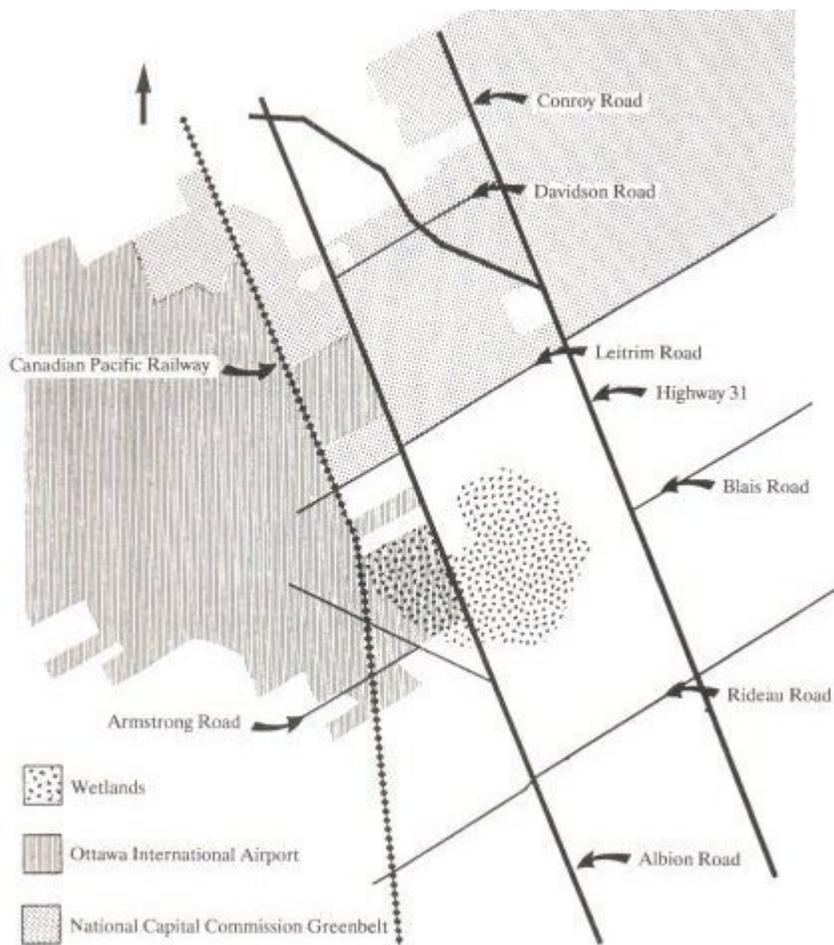


Figure 1: Location of the Albion Road Wetlands

It is the southern part of a C-shaped peatland containing the headwaters of Sawmill Creek and Findley Creek (Figure 2).

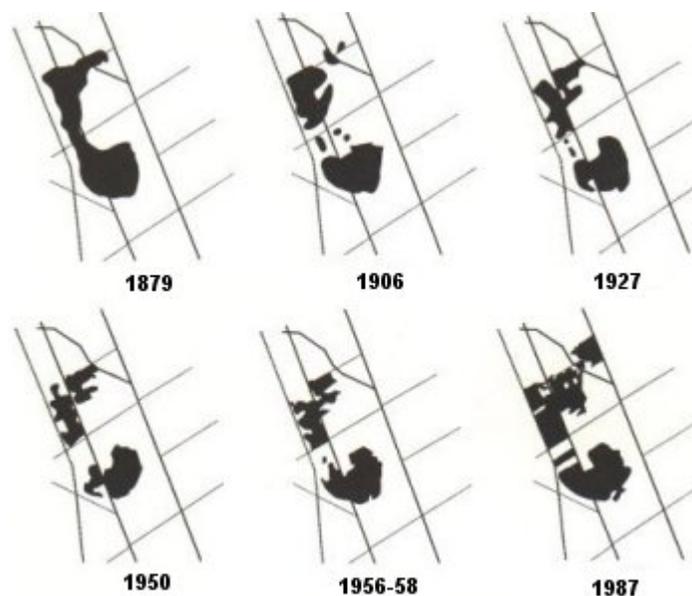


Figure 2: The Albion Road Wetlands from 1879 to 1987 (predominantly wooded areas are shown in black)

According to Belden's *Illustrated Historical Atlas of the County of Carleton*, in 1879 this peatland covered at least 700 hectares and was quite wet. Subsequent land clearing and various drainage schemes (Figure 3) undertaken to bring the rich organic soil into

agricultural use dramatically altered much of the northern and central parts of the peatland. As farming declined, the abandoned fields reverted to woodland, a process that continues today. Several parcels of land were reforested by the National Capital Commission following acquisition for the Greenbelt. The southern part, now encompassing the Albion Road Wetlands, was the least modified by human activity.

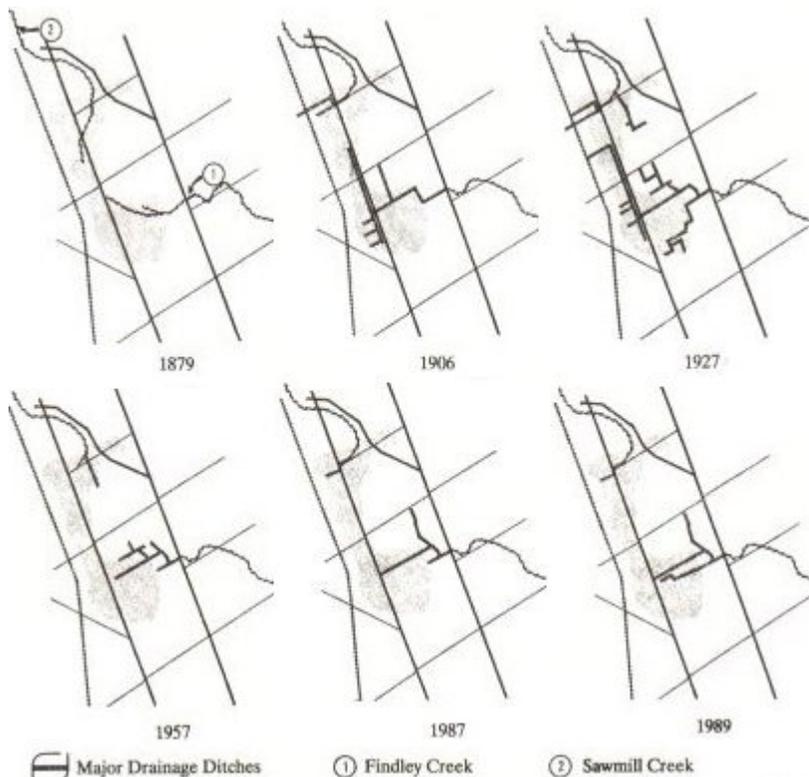


Figure 3: Drainage ditches in the Albion Roads Wetlands from 1879 to 1989 (based on 1:50,000 topographic maps of Ottawa [Beldon's *Illustrated historical atlas of the county of Carleton*])

The wetland probably dates back several thousand years to some time after the retreat of the Champlain Sea. It most likely had a dual development — part originating as an infilling of a small freshwater lake and the remainder developing on gently sloping ground fed by water emerging from gravelly highlands to the south (over limestone bedrock) and from runoff streams from the northwest. Protection of the natural flow of water is critical to this wetland's survival (Figure 4).

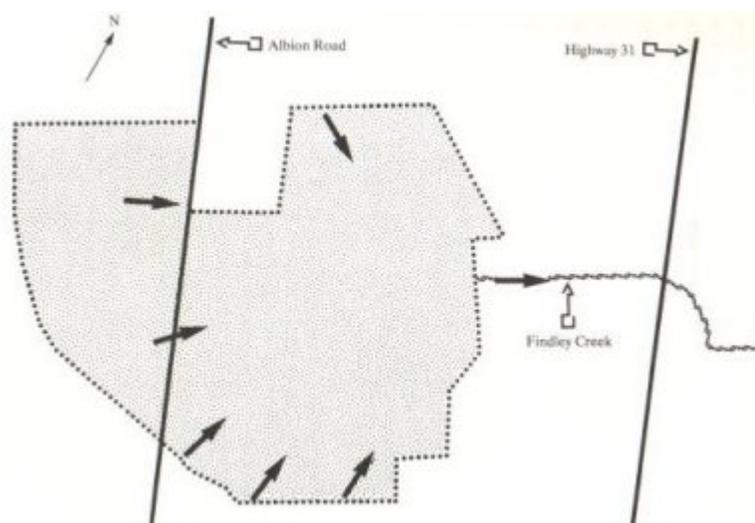


Figure 4: Basic water flow in the wetlands

The Albion Road Wetlands straddles Albion Road. Most of the land on the west side of the road is part of the airport lands, while that on the east is privately owned.

THE PRIVATE LANDS EAST OF ALBION ROAD

Covering approximately 225 hectares (556 acres), these lands are underlain by a layer of peat ranging in thickness from less than 0.5m to at least 2 m. Much of the terrain is wooded and is traversed by at least four small streams, which flow all year long and feed Findley Creek. This waterway is a branch of the North Castor River, which is part of the South Nation River watershed.

Notwithstanding a low elevation, the area is uneven, dropping about 4.5 m from west to east and approximately 6 m from south to north. The underlying peat acts like a giant sponge and dam, storing enormous quantities of water. A new drainage ditch, pushed through the northern third of this section about two years ago, proves this point. Although the ditch was dug to the visible peat base and is, in places, nearly 2 m deep, little water flows through it, in direct contrast to the vast quantities of moisture retained by the surrounding organic sediments. Most of the water springs from the western third of the ditch, and, during the late summer drought of 1989, appeared to be diminishing as it travelled through the wetland.

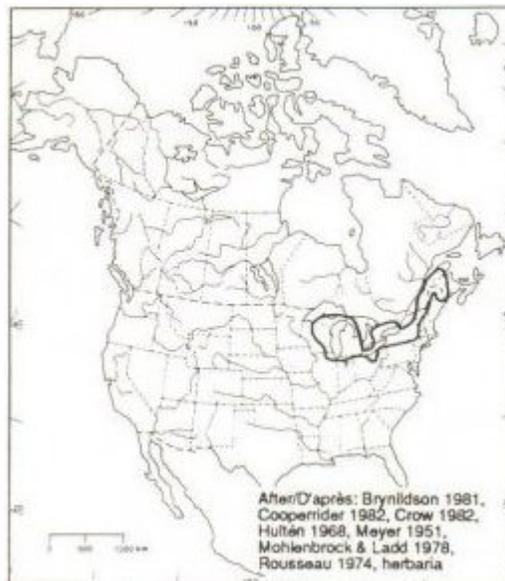
Marl, a clay-like material resulting from the precipitation of calcium carbonate inlake water, was discovered at the bottom of the ditch in the wetland's fen area. An abundance of small white shells intermixed with this deposit also illustrates the lacustrine environment. The actual extent of the old lake is uncertain, as is the depth of marl. Whether or not the marl is interlayered with peat as in the Stoco fen (Vreeken 1981) is also not known.

A variety of woodland communities, willow thickets, marshy areas, old fields and a fen make up this intricate peatland. Much of this land has been lumbered; the most recent cutting appears to have occurred about 30 years ago (excluding those trees cleared for the new ditch about two years ago).

A great deal of this area remains to be explored. In 1984, several botanical excursions yielded 38 significant plant species, the discovery of various woodland communities, including a virgin cedar stand, and the realization that this wetland was regionally significant. More extensive investigations began in 1989 when the City of Gloucester's proposed development plan was made public.

Figure 5: Distribution of Marsh Valerian (*Valeriana sitchensis* ssp. *uliginosa*) from Argus et al. (1987)

During the summer and fall of 1989, I undertook many botanical excursions into the wetlands with members of the Botany Division, National Museum of Natural Sciences (R. R. Ireland, L. M. Ley, P.Y. Wong and P. Hamilton), as well as Joyce Reddoch, our expert on local peatlands, Martha Camfield, and other naturalists. Unexpected botanical findings included three new records of vascular plants for the Ottawa District, one of which, Marsh Valerian (*Valeriana sitchensis* ssp. *uliginosa*) (Figure 5), is provincially rare. Marsh Valerian is rare not only in Ontario but also, according to



Argus et al. (1987), in Quebec: "Possibly extirpated in Ohio; endangered in Illinois, Indiana, New Hampshire, and Vermont; threatened in New York and Wisconsin; rare in Maine." We also discovered seven new lichens and five new bryophytes for Ottawa-Carleton (Table 1), By the end of the 1989 collecting season, the number of significant plants had expanded from 38 to 135 (Table 1). Since much of the area remains to be studied on a spring–fall seasonal basis, I expect the number of significant plants to be augmented by at least 30 species.

Table 1. Significant vascular plants, lichens, bryophytes and algae in the Albion Road Wetlands (based on collections and identifications made by members of the Botany Division, National Museum of Natural Sciences).

Vascular Plants New to the Ottawa District

<i>Triglochin palustris</i>	Arrow Grass
<i>Zygadenus glaucus</i>	White Camas
<i>Valeriana sitchensis</i> ssp. <i>uliginosa</i>	Marsh Valerian

Lichens New to Ottawa-Carleton

<i>Micarea peliocarpa</i>	<i>Multiclavula mucida</i>
<i>Mycocalicium subtile</i>	<i>Rinodina efflorescens</i>
<i>Lecanactis chloroconia</i>	Gyalectaceae
<i>Arthonia byssacea</i>	

Bryophytes (Mosses and Liverworts) New to Ottawa-Carleton

<i>Moerckia hibernica</i>	<i>Cephaloziella rubella</i>
<i>Mylia anomala</i>	<i>Calliargon richardsonii</i> (rare in southern Ontario)
<i>Riccardia multifida</i>	

Other Significant Lichens

<i>Anisomeridium nyssaegenum</i>	<i>Strigula stigmatella</i>
<i>Micarea prasina</i>	

Other Significant Bryophytes

<i>Rhizomnium pseudopunctatum</i>	<i>Campylium stellatum</i>
<i>Sphagnum warnstorffii</i>	

Other Significant Vascular Plants

(based on Gillett and White's *Checklist of Vascular Plants of the Ottawa-Hull Region, Canada*)

Rare

<i>Carex limosa</i>	Mud Sedge
<i>Carex livida</i>	Lead-coloured Sedge
<i>Carex prairea</i>	Prairie Sedge
<i>Eleocharis elliptica</i>	Elliptic Spike-rush
<i>Streptopus amplexifolius</i>	Twisted Stalk
* <i>Rumex maritimus</i>	Golden Dock
<i>Geum laciniatum</i>	Slashed Avens
<i>Galium tabradoricum</i>	Bog Bedstraw
<i>Galium tinctorium</i>	Dyer's Bedstraw
<i>Lonicera villosa</i>	Northern Honeysuckle
<i>Aster acuminatus</i>	Whorled Wood Aster
* <i>Crepis tectorum</i>	Hawk's-beard

Sparse

<i>Adiantum pedatum</i>	Maidenhair Fern
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<i>Dryopteris clintoniana</i>	Clinton's Fern
<i>Dryopteris x dowellii</i>	a hybrid Wood Fern
<i>Cinna latifolia</i>	Drooping Woodreed
<i>Muhlenbergia glomerata</i>	Agglomerated Muhlenbergia
<i>Carex echinata</i>	Prickly Sedge
<i>Carex trisperma</i>	Three-fruited Sedge
<i>Cladium mariscoides</i>	Twig-rush
<i>Eriophorum viridi-carinatum</i>	Green Cotton Grass
<i>Rhynchospora alba</i>	White Beak-rush
<i>Scirpus hudsonianus</i>	Hudsonian Club-rush
<i>Trillium cernuum</i>	Nodding Trillium
<i>Malaxis monophyllos</i>	White Adder's-mouth
<i>Platanthera obtusata</i>	Blunt-leaved Orchid
<i>Spiranthes romanzoffiana</i>	Hooded Ladies-tresses
<i>Salix candida</i>	Hoary Willow
<i>Stellaria calycantha</i>	Northern Starwort
<i>Ribes triste</i>	Wild Currant
<i>Sorbus americana</i>	American Mountain-ash
* <i>Euphorbia helioscopia</i>	Sun Spurge
<i>Viola incognita</i>	Large-leaved White Violet
<i>Epilobium coloratum</i>	Purple-leaved Willow-herb
<i>Epilobium leptophyllum</i>	Narrow-leaved Willow-herb
<i>Orthilia secunda</i>	One-sided Pyrola
<i>Agalinis tenuifolia</i>	Slender Gerardia
<i>Linnaea borealis</i>	Twinflower
<i>Lonicera oblongifolia</i>	Swamp Fly-honeysuckle
<i>Aster umbellatus</i>	Umbellate Aster
<i>Aster borealis (junciformis)</i>	Rush Aster
<i>Bidens tripartita</i>	Beggarticks
<i>Gnaphalium obtusifolium</i>	Sweet Everlasting
* <i>Helianthus annuus</i>	Common Sunflower
* <i>Sonchus oleraceus</i>	Annual Sow Thistle
* <i>Tussilago farfara</i>	Colts-foot

Locally Common

(common in the habitat, but the habitat is sparse to rare)

<i>Picea mariana</i>	Black Spruce
<i>Smilacina trifolia</i>	Three-leaved False Solomon's Seal
<i>Cypripedium reginae</i>	Showy Lady-slipper
<i>Calopogon tuberosus</i>	Grass Pink
<i>Sarracenia purpurea</i>	Pitcher-plant
<i>Andromeda glaucophylla</i>	Bog Rosemary
<i>Kalmia augustifolia</i>	Sheep Laurel
<i>Ledum groenlandicum</i>	Labrador Tea
<i>Vaccinium corymbosum</i>	High Bush Blueberry
<i>Vaccinium oxycoccos</i>	Small Cranberry
<i>Menyanthes trifoliata</i>	Buckbean

Uncommon

<i>Lycopodium annotinum</i>	Bristly Clubmoss
<i>Botrychium simplex</i>	Dwarf Grape Fern
<i>Athyrium thelypteroides</i>	Silvery Spleenwort
<i>Dryopteris cristata</i>	Crested Wood Fern
<i>Dryopteris x boottii</i>	a hybrid Wood Fern
<i>Dryopteris x triploidea</i>	a hybrid Wood Fern
<i>Taxus canadensis</i>	Canada Yew
<i>Agrostis scabra</i>	Tickle Grass
<i>Bromus ciliatus</i>	Fringed Brome Grass
<i>Muhlenbergia mexicana</i>	Mexican Muhlenbergia
<i>Carex disperma</i>	Two-seeded Sedge

<i>Carex hystericina</i>	Porcupine Sedge
<i>Carex stricta</i>	Stiff Sedge
<i>Medeola virginiana</i>	Indian Cucumber-root
<i>Cypripedium calceolus</i>	Yellow Lady-slipper
<i>Malaxis unifolia</i>	Green Adder's-mouth
<i>Populus deltoides</i>	Cottonwood
<i>Salix serissima</i>	Autumn Willow
<i>Betula populifolia</i>	Gray Birch
<i>Boehmeria cylindrica</i>	False Nettle
<i>Polygonum convolvulus</i>	Black Bindweed
<i>Rumex orbiculatus</i>	Great Water Dock
<i>Chenopodium capitatum</i>	Strawberry-blite
<i>Ranunculus scleratus</i>	Cursed Crowfoot
<i>Ribes lacustre</i>	Swamp Currant
<i>Amelanchier humilis</i>	Shadbush
<i>Fragaria vesca</i>	Wood Strawberry
<i>Geum canadense</i>	White Avens
<i>Callitriche verna</i>	Common Water-starwort
<i>Circaea alpina</i>	Alpine Enchanter's Nightshade
<i>Aralia racemosa</i>	Spikenard
<i>Moneses uniflora</i>	One-flowered Wintergreen
<i>Gaultheria hispidula</i>	Creeping Snowberry
<i>Pyrola asarifolia</i>	Pink Pyrola
<i>Gaylussacia baccata</i>	Huckleberry
<i>Lysimachia thyrsiflora</i>	Tufted Loosestrife
<i>Chelone glabra</i>	Turtlehead
<i>Galium trifidum</i>	Small Bedstraw
<i>Sambucus canadensis</i>	Common Elder
<i>Lonicera dioica</i>	Wild Honeysuckle
<i>Viburnum trilobum</i>	Highbush-cranberry
<i>Bidens vulgata</i>	Tall Beggar-ticks
<i>Erechtites hieracifolia</i>	Pilewort
<i>Gnaphalium uliginosum</i>	Low Cudweed
<i>Lactuca biennis</i>	Blue Lettuce
<i>Solidago uliginosa</i>	Bog Goldenrod

Significant Algae

Rare

<i>Achnanthes delicatula</i>	<i>Diploneis smithii</i>
<i>Achnanthes microcephala</i>	<i>Frustulia rhomboides</i>
<i>Cyclotella meneghiniana</i>	<i>Neidium iridis</i>
<i>Synedra capitata</i>	<i>Neidium pfitzer</i>
<i>Cymbella aspera</i>	<i>Pinnularia gibba</i>
<i>Brachysira vitrea</i>	

*Naturalized or adventive

This wetland supports a variety of animals including insects, fishes, amphibians, birds and mammals. Tracks, droppings and shed antlers attest to the presence of deer in several of the plant communities. If the plant component is any indication, a thorough zoological inventory may prove exceptionally interesting.

Plant Communities of the Private Lands East of Albion Road

This part of the wetland is a mosaic of numerous plant communities: old fields, marshy areas, fen and fen lenses (small, lens-shaped patches of fen), willow thickets, coniferous woodlands, hardwood stands and mixed woods (Figure 6). The woodland components exhibit varied age structures ranging from approximately 30 to over 200 years. Descriptions of the fen and the ancient cedar woods follow.

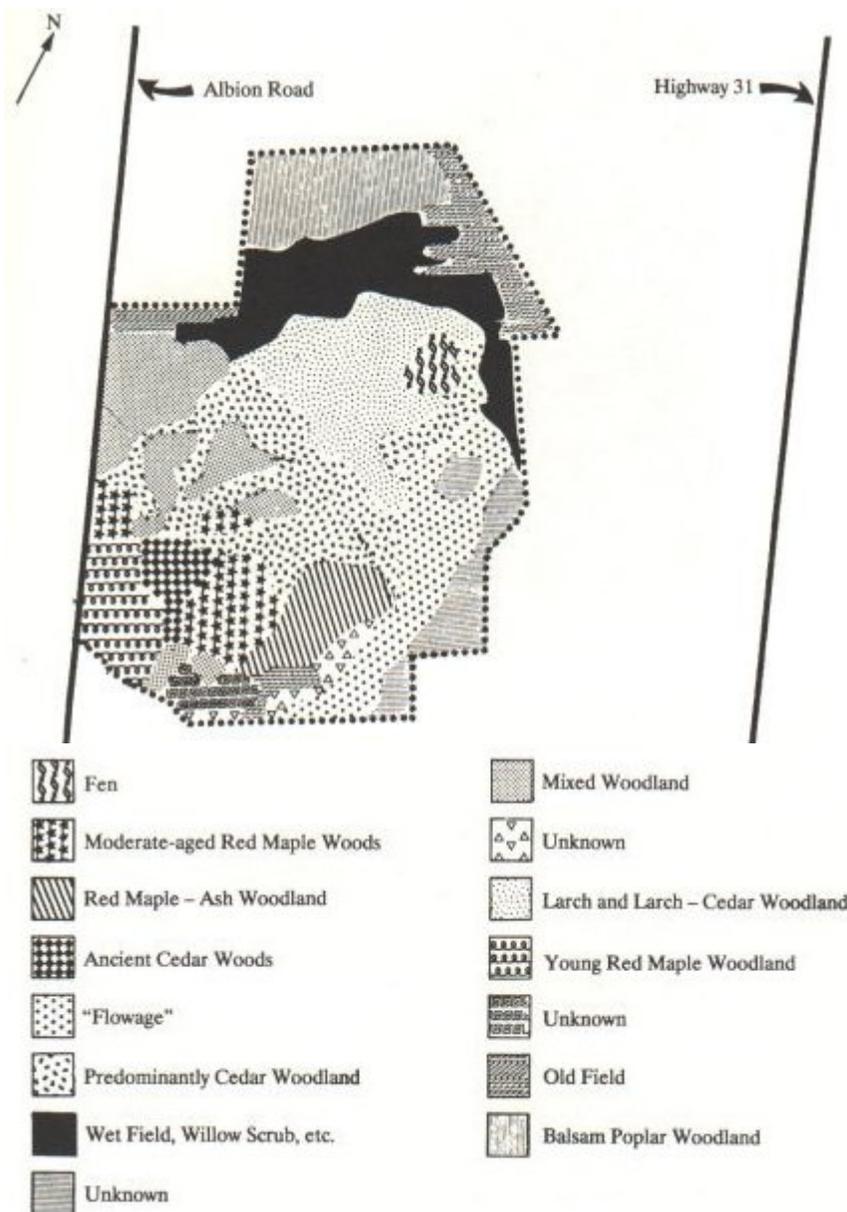


Figure 6: Plant communities of the private lands east of Albion Road

The Fen

Marl sediments below the peat layer indicate that the fen evolved from the infilling of a small calcareous freshwater lake. The peat stratum (1.5 to 2 m in thickness) possesses excellent moisture-retention qualities. The water level of this infilled fen is at the surface or above in the spring, fall and winter and near or at the surface during the summer, based on the colour in aerial photographs taken in June 1983, long before construction of the new drainage ditch now bisecting the fen began (Figure 7). At that time, a very shallow stream, 2.5 to 3 m wide, meandered through the centre. Although flooded areas occupied parts of the fen, most exhibited the same water regime as adjacent low-lying fields (i.e. water at or close to the soil surface).

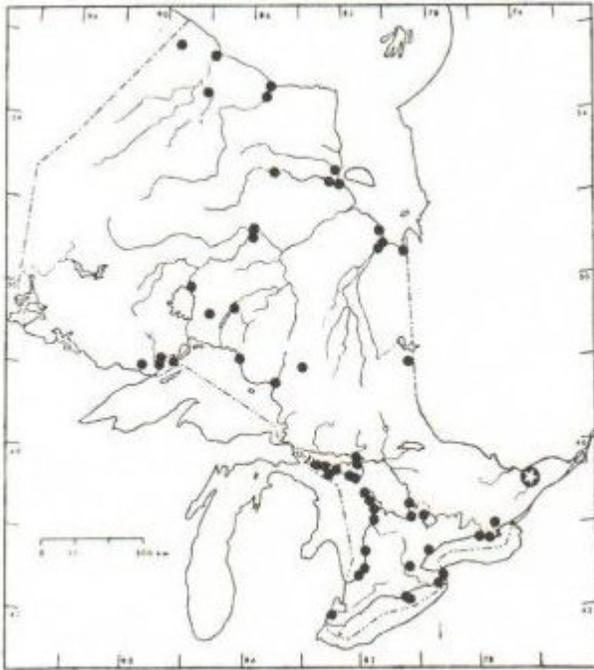


Figure 7: Linda M. Ley standing on the bank of the new drainage ditch where it enters the fen

In September 1989 the fen appeared dry — a result of the prolonged summer drought. But moist peat was just beneath the surface. The ditch, albeit nearly 2 m deep in places and displacing most of the stream, seems to have had a minimal effect on the vegetation. This drainage channel, however, enables us to determine peat depth, the underlying substrate, and the water-retention capacity of the organic sediments; it also provides a convenient, time-saving route through the northern third of the wetlands. The unsightly channel could easily be refilled and returned to nature.

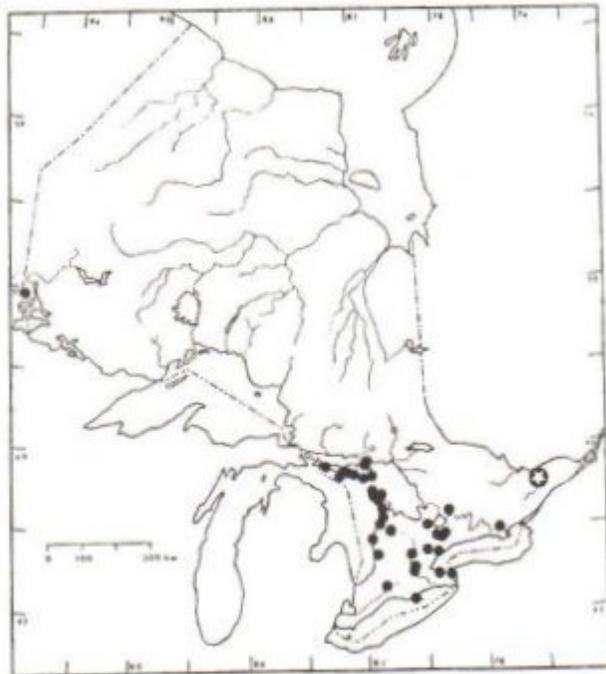
The fen's small size (approximately 7 hectares) belies its botanical value. So far, we have discovered 36 significant species of vascular plants as well as three species new to the Ottawa District. More can be expected from this area, as it was explored only in September 1989. Although this community contains many plants found in calcareous fens of the Ottawa District (Reddoch 1989), it is unusual. The Marsh Valerian, White Camas (*Zygadenus glaucus*) and Arrow Grass (*Triglochin palustris*) are not only new to the Ottawa District but also disjunct from their populations in Ontario (Figures 8a, 8b and 8c). Several plants rare in the Ottawa District and previously unobserved in local fens are also present. These include Slashed Avens (*Geum laciniatum*), Elliptic Spike-rush (*Eleocharis elliptica*) and Northern Honeysuckle (*Lonicera villosa*).

The fen is defined by a network of open areas and low treed hummocks surrounded by Larch or Cedar–Larch woodland (Figure 9). The glades are predominantly carpeted with herbaceous plants, although in places the ground cover is minimal or even non-existent.



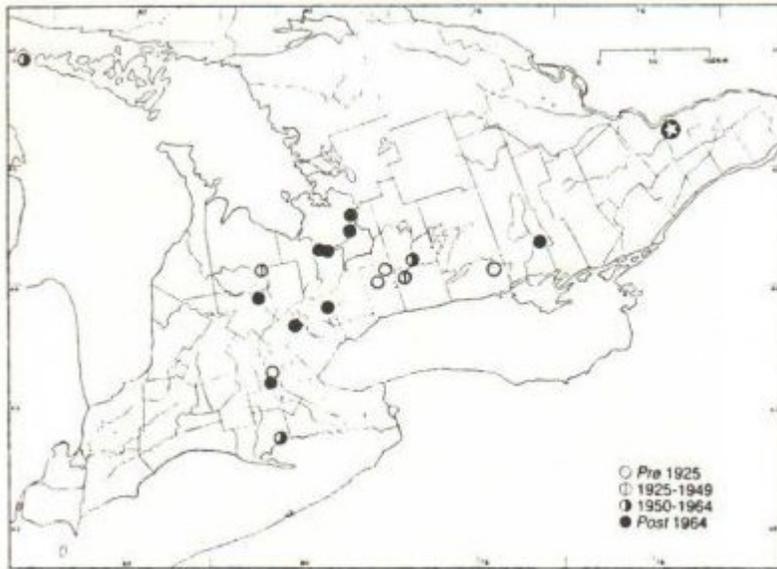
★ Albion Road Wetlands

Figure 8a: Distribution of Arrow Grass (*Triglochin palustris*) in Ontario base on specimens from CAN, DAO, HAM, MTMG, OAC, QK, UWO (herbarium acronyms follow Holmgren et al. 1981)



★ Albion Road Wetlands

Figure 8b: Distribution of White Camas (*Zygadenus glaucus*) in Ontario modified and updated from map prepared by Dr. James H. Soper, National Museum of Natural Scences, based on specimens from CAN, DAO, MTMG, OAC, QK, TRT, TRTE, UWO, WAT (herbarium acronyms follow Holmgren et al. 1981)



★ Albion Road Wetlands

Figure 8c: Distribution of Marsh Valerian (*Valeriana sitchensis* ssp. *uliginosa*) in Ontario updated from map in Argus et al. (1987) based on specimens from AAR, CAN, DAO, LKHD, MTMG, OAC, PWB, QK, TRT, TRTE, WAT (herbarium acronyms follow Holmgren et al. 1981)



Figure 9: View across the fen to the Larch and Larch-Cedar woodland. Two treed hummocks are near the foreground

Some plants such as Bog Goldenrod (*Solidago uliginosa*), Cattail (*Typha latifolia*), Blue Violet (*Viola sororia*), White Beak-rush (*Rhynchospora alba*), Hudsonian Club-rush (*Scirpus hudsonianus*), Pitcher-plant (*Sarracenia purpurea*), Agglomerated Muhlenbergia (*Muhlenbergia glomerata*), Marsh Valerian and several sedges are widespread, whereas Twig-rush (*Cladium mariscoides*), Arrow Grass and White Camas are more restricted in their distribution. White Camas, for example, has been noted only south of the ditch.

The treed hummocks are dominated by Eastern White Cedar (*Thuja occidentalis*) Larch (*Larix laricina*), and Black Spruce (*Picea mariana*). Small in stature (3 to 6 m), these trees are, according to the more than 40 growth rings, much older than their appearance suggests. A variety of shrubby and herbaceous plants such as Labrador Tea (*Ledum groenlandicum*), Hoary Willow (*Salix candida*), Swamp Honeysuckle (*Lonicera oblongifolia*), Small

Cranberry (*Vaccinium oxycoccos*), Twinflower (*Linnaea borealis*) and assorted mosses obscure the ground.

Toward the fen's edges, the open areas decrease and the hummocks gradually become confluent, eventually merging into the surrounding coniferous woodlands.

Ancient Cedar Woods

Splendid virgin cedar trees approximately 200 years old dominate this extraordinary community covering several hectares. About two dozen large White Pine (*Pinus strobus*), some exceeding a metre in diameter, grow along and within the periphery. Towering above the forest canopy, these pines are visible from Highway 31. Bordering the southwestern edge is a tiny stand of aged Hemlock (*Tsuga canadensis*), some 0.6 m in diameter. How these trees survived the axe is a mystery. Inaccessibility was probably the major factor, as two streamlets traverse this area of saturated soil.

The profound beauty of this woods continues to amaze me (Figures 10 to 13). The compelling primeval landscape will enthrall both naturalist and photographer. Only the screaming descent of jets to the adjacent airport and the drone of traffic penetrating this graceful wilderness jolt one back to urban reality.



Figure 10: Martha Camfield admiring an enormous Eastern White Cedar in the ancient cedar woods



Figure 11: Martha Camfield embracing an old White Pine in the ancient cedar woods



Figure 12: Bryophytes (mosses and liverworts) carpeting the floor of the ancient cedar woods



Figure 13: Ancient cedar woods showing deadfalls, tilted trees and ground cover

Many of the ancient trees are tilted, some at precarious angles, and provide a dramatic effect. Deadfalls abound and, depending on the extent of decay, furnish a substrate for assorted mosses and vascular plants. The terrain is varied — hummocky in places, fairly flat in others, and, elsewhere, modified by beaver.

Most of the substrate is wet, and in some sections I have had to exercise caution to avoid losing my rubber boots in the water-clogged, unstable peat. Two low beaver dams have modified the centre of the community and have drowned some old trees and created ponds. When I first ventured into these woods about a decade ago, there were no beaver. Undoubtedly, their population explosion forced these rodents to enter areas they normally avoid to search for food.

In the cool, moist, shady woodland, mosses and liverworts flourish, colouring much of the substrate in subtle shades of green. Where wet, peaty soil is evident, it often supports dense growths of Touch-me-nots (*Impatiens capensis*) and beggarticks (*Bidens* spp.). Narrow-leaved Willow-herb (*Epilobium leptophyllum*) and Purple-leaved Willow-herb (*Epilobium coloratum*) also prefer this type of habitat. The delicate fronds of Cinnamon Fern (*Osmunda cinnamomea*), Marsh Fern (*Thelypteris palustris*), Lady Fern (*Athyrium filix-femina*), Evergreen Wood Fern (*Dryopteris intermedia*), Spinulose Wood Fern (*Dryopteris carthusiana*), Maidenhair Fern (*Adiantum pedatum*), and Bulblet Fern (*Cystopteris bulbifera*) add an airy quality to the herbaceous layer.

Small creeping vascular plants, such as Dwarf Raspberry (*Rubus pubescens*), Twinflower, Partridge-berry (*Mitchella repens*), and Naked Mitrewort (*Mitella nuda*), are scattered throughout. Among the many other herbaceous plants are such significant species as Drooping Woodreed (*Cinna latifolia*), Whorled Wood Aster (*Aster acuminatus*), Dwarf Grape Fern (*Botrychium simplex*), Spikenard (*Aralia racemosa*), and Blue Lettuce (*Lactuca biennis*).

Mountain Maple (*Acer spicatum*) and Black Buckthorn (*Rhamnus frangula*) dominate the shrub layer. Other shrubby species include Alder-leaved Buckthorn (*Rhamnus alnifolia*), Swamp Currant (*Ribes lacustre*), Common Elder (*Sambucus canadensis*) and Canada Yew (*Taxus canadensis*). An unusually tall (12 m) specimen of Striped Maple (*Acer pensylvanicum*) thrives along the southwestern edge of the cedar woodland.

SAVING THE WETLANDS

Our botanical studies to date indicate that the Albion Road Wetlands are regionally and provincially significant. It is undoubtedly one of the more important wetland complexes in the Ottawa District, but more biological studies are required for an exact rating.

Due to the hazard land designation used by the Regional Municipality of Ottawa-Carleton, no serious threat existed to this wetland until May 1988, when Regional Council, unknown to me or other members of the Ottawa Field-Naturalists' Club, began the process of changing the zoning of this to part of the Leitrim urban area. In May 1989 Gloucester made public its Leitrim community concept plan, Leitrim Official Plan Amendment No. 10. This document envisages

- a. large peripheral drains around the wetlands to capture the water supply
- b. connecting Blais Road and Armstrong Road, and
- c. destroying over half of the wetlands east of Albion Road for a subdivision. If executed, this plan would ultimately obliterate the wetlands.

Shortly after Gloucester disclosed its development plans, I wrote to both the City of Gloucester and the Regional Municipality of Ottawa-Carleton Planning Commissioner pointing out that a) no serious environmental impact study or biological inventory had been conducted, b) the area contained at least 38 species of regionally significant plants and several unusual plant communities including a stand of virgin cedar trees, and c) this was a wetland underlain by organic soil and its destruction would affect the flow of water into Findley Creek.

The following excerpt from the Planning Commissioner's reply illustrates the lack of knowledge of the wetlands at that time:

During the course of preparing the development concept plan for Leitrim, the physical attributes of the area were examined. Components of this examination included soils analysis and extensive engineering work related to sewers, water, and stormwater management. The results of this examination have suggested that development of the proposed Leitrim area will not pose any serious adverse impacts on the environment. These same results have been reviewed by the Ministries of the Environment (MOE) and Natural Resources (MNR) as well as the South Nation River Conservation Authority (SNRCA) and no insurmountable problems have emerged thus far.

In response to your question concerning the Region's new Official Plan, Schedule G shows a portion of the proposed Leitrim urban area as having organic soils. The Region's new Official Plan policies on organic soils (Section 7.2.2) permits development in areas identified as having organic soils if there is sufficient soils and engineering information that indicates the area can be made suitable for development.

The Regional Municipality of Ottawa-Carleton forwarded copies of my continued correspondence to the Ministry of the Environment, the Ministry of Natural Resources and the South Nation River Conservation Authority.

No response was ever received from the City of Gloucester. Later, the discover of White Camas prompted me to solicit the assistance of the Ottawa Field-Naturalists' Club in safeguarding the wetlands. The club responded positively and sent a letter to the Ministry of Natural Resources expressing its concern.

In addition to the ongoing correspondence, Dr. Joyce Reddoch made many pertinent telephone inquiries. In early November 1989, these efforts culminated in the Ministry of Natural Resources' contracting a qualified professional, Vivian Brownell Catling, to undertake an environmental assessment of the lands in question (botanical information

collected by members of the Botany Division, National Museum of Natural Sciences, was used in this appraisal).

During a meeting on November 21, 1989, called by the Regional Municipality of Ottawa-Carleton to resolve my objections, it was announced that as a result of the environmental assessment the Albion Road Wetlands qualify as a "Class I wetland of provincial significance." After this announcement, representatives of the South Nation River Conservation Authority stated they would object to Gloucester's development plan if the Ministry of Natural Resources would officially recognize the Albion Road Wetlands as a Class I wetland.

In a follow-up letter to the Regional Municipality of Ottawa-Carleton dated November 30, 1989, the Ministry of Natural Resources stated,

Based on information brought to our attention recently, an inventory of the wetland affected by Official Plan Amendment #10 was carried out. The assessment of this wetland (using "An Evaluation System for Wetlands of Ontario") indicates it is a Class I wetland of provincial significance. This was discussed with Regional planning staff and others at the November 21, 1989 meeting.

Considering the wetland classification work just completed and noting that the development proposed would have an adverse effect on the wetland, we must now object to Official Plan Amendment #10 (Leitrim). Our objection would be withdrawn however, if the wetland is deleted from the area covered by the Official Plan Amendment.

(This means that Gloucester's development plan, Official Plan Amendment No. 10, should be able to proceed with Ministry of Natural Resources approval only if the wetland is excluded from the area covered by the Official Plan Amendment.)

However, we must not assume that the Regional Municipality of Ottawa-Carleton or the Ministry of Natural Resources will automatically fulfil their obligations to protect a significant wetland. In a letter to the Regional Municipality of Ottawa-Carleton dated January 23, 1990, the Ministry of Natural Resources appears to have abdicated its responsibility to defend the wetland ("our objection to the amendment as it affects the wetland area will not be pursued to the Ontario Municipal Board") and appears to be concerned only with that part of the wetlands outside the area covered by Official Plan Amendment No. 10. It is uncertain what will happen next. Further developments will be reported in part 2 of this series.

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Voucher specimens of the vascular plants, bryophytes, lichens and algae collected during this study have been deposited in the National Herbarium of Canada, Ottawa.

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