

Thames Talbot Land Trust

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Working together to leave a legacy of healthy landscapes

Butterfly Management Plan For the Skunk`s Misery Natural Area

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Summary:

Skunk's Misery is recognized nationally, provincially and regionally as an area of high conservation value. The forests, swamps and meadow habitats in the area support a rich diversity of plants and animals. Skunk's Misery is recognized as a birding destination and a butterfly "hotspot". Current management of municipal road allowances at Skunk's Misery and elsewhere involves mid summer mechanical cutting of roadside vegetation and herbicide spraying to control broadleaf weeds and shrubs. Mowing and spraying of roadside plants during the summer damages flowers that provide nectar for a wide variety of insect species, including butterflies and other pollinating insects. It also destroys milkweed plants that are habitat for Monarch Butterflies, a species of Special Concern in Ontario and Canada. Application of broadleaf herbicides to roadside vegetation replaces native flowers, which provide food for many insects, including butterfly caterpillars, with non-native grasses that do not provide such a resource. Spraying also damages roadside trees, which are food plants for the caterpillars of several swallowtail butterfly species. This document proposes a simple roadside management plan for the Skunk's Misery area. The proposed management will be low cost or cost saving for the affected municipalities and would help enhance the plant and insect diversity of this important area. The proposal includes the preparation of pamphlets that explain the roadside management practices and identify the affected areas, adoption of roadside mowing only in the fall, and "no-spray" areas identified by mapping and signage. Although this document focuses on butterflies, many other insect species are similarly affected, including important pollinators. Maintaining a healthy diversity of insects will also help sustain local populations of breeding birds.

Butterflies of the Skunk's Misery Natural Area

Southern Ontario, which includes the Carolinian Life Zone, is habitat for about 110 species of butterfly. This number includes about twenty seasonal vagrants from the United States, plus eleven species that migrate regularly to breed in southern Ontario. Most vagrant species of butterfly in southern Ontario, are rarely encountered and do not breed successfully. Over 80 species of butterfly have been recorded in the Skunk's Misery census area. Since 2000 between 41 and 57 species are recorded here on the annual butterfly count day in early July. This compares favourably with other areas in southwestern Ontario known for their rich butterfly fauna, such as Long Point in Norfolk County and Ojibway Prairie in Essex County. The actual number of species and individuals seen on the count day at Skunk's Misery depends to some extent on the weather conditions. Because the count is always done in July, some butterflies with earlier or later flight times are often missed.

Skunk's Misery is a hotspot for several rare and charismatic butterflies in Ontario. Most of these species are tracked by the Natural Heritage Information Centre (NHIC) in Peterborough Ontario because of their vulnerable to imperiled provincial rankings.

Vegetation management along rural roads at Skunk's Misery

The Skunk's Misery Natural Area captures the four municipal jurisdictions of Southwest Middlesex (Middlesex County), West Elgin (Elgin County), Dawn-Euphemia (Lambton County) and Chatham-Kent. Each of these municipalities has its own set of practices regarding the management of road verges and the control of problematic vegetation (often referred to as "weeds and brush") on rural road allowances. Typically management involves mechanical cutting of the roadside vegetation, sometimes combined with the spraying of broadleaf herbicides. The control of roadside vegetation with herbicides is regarded by many municipalities as required for public safety and as such is exempted under the provincial Cosmetic Pesticides Ban Act 2008. Nevertheless, many local municipalities have adopted no-spray practices in recent years.

Roadside mowing and cutting: All four municipalities in the Skunk's Misery area "groom" their rural roadsides mechanically at least twice each growing season. This is typically done in mid-summer and again in the early fall. The first cutting is typically "single-width" (i.e., 2 - 3.5 m (6-12 ft) wide from the road's edge) while the second cut is "double-width" (up to 7.5 m (24 ft) wide, up to the property line). The first cut usually precedes the annual Skunk's Misery butterfly count, which is always held on the first Sunday in July. This timing is unfortunate because it destroys most of the flowers at a time many recently emerged butterflies are actively seeking nectar to build up energy for their reproductive activity. Southwest Middlesex has been approached about re-timing this mowing, but it is generally scheduled according to work timetables rather than natural heritage considerations. West Elgin delays the final cutting of its roadside verges along Gray Line until the migration period of the endangered Monarch butterfly has passed (by late September). This practice was initiated at the request of the West Elgin Nature Club.

Herbicide spraying: Most municipalities in the Skunk's Misery area have annual herbicide-spraying programs to control roadside vegetation, administered under the Pest Control Products Act (Canada). Southwest Middlesex sprays the broadleaf herbicides Milestone (Aminopyralid, PCP registration #28137) and 2,4 D Amine 600 (PCP #5931). Roadside spraying occurs between mid-May and mid-June, weather permitting. The weed-spraying contract for Southwest Middlesex's roads is part of a county-wide contract administered by the County of Middlesex. Chatham-Kent uses herbicide spraying for the selective control of Canada Thistle and Sow Thistle on its rural road allowances. Diphenoprop (PCP#15027) is used in addition to the two broadleaf herbicides mentioned above. In 2009 the program ran from May 14 to September 30. Dawn-Euphemia also sprays broadleaf herbicides to control unwanted vegetation on the township roadsides.

Rural landowners in these municipalities concerned about the spraying program are informed in local newspapers to erect NO SPRAY signs if they do not want the roadside in front of their properties sprayed.

The Municipality of West Elgin does not spray herbicides along its rural roadsides. The absence of herbicide spraying in the municipality allows uncommon diversity of native

plant species, such as Fringed Gentian (*Gentiana crinita*), Great Lobelia (*Lobelia syphilitica*) and Cardinal Flower (*Lobelia cardinalis*) to thrive in the wet verges and ditches along scenically attractive rural roads near the Lake Erie shoreline, such as Gray Line, which forms a section of the Trans Canada Trail through Elgin County. The verges of Fleming Line and Beattie Line in the West Elgin section of the Skunk's Misery natural area south of the Thames also have a good diversity of native flowers.

Roadsides that are sprayed with broadleaf herbicides are generally dominated by a mixture of grasses, few (if any) of which are native. Spraying also perpetuates the annual reappearance of weed species. These plants offer little by way of native plant biodiversity. Importantly, sprayed roadsides provide habitat of limited value to feeding caterpillars and nectaring butterflies.

Adoption of a simple "no-spray/late-cut" roadside vegetation management practice would greatly improve the quality and area of butterfly habitat in the Skunk's Misery natural area. As a bonus this practice would improve the quality of the forest edges.

The purpose of vegetation control along rural roads

Roadside cutting and spraying policies for secondary roads, with their narrow rights-of-way, are based on road safety and liability concerns. For example, vegetation control:

- improves a motorist's line-of-sight along rural roads;
- prevents brush and tall forbs from encroaching onto the road allowance;
- allows motorists to see wild animals such as white-tailed deer well in advance so that collisions are avoided;
- reduces snowdrift build-up on roadside verges; and
- improves water run-off from the gravel shoulder of the road.

The gravel roads at Skunk's Misery are not conducive to fast driving, suggesting that a long "line-of-sight" or advance warning for deer, i.e., the typical reasons given for weed and brush control, may not be as big a safety concern as on paved roads.

The agricultural community has additional concerns, namely that vegetation control:

- reduces the spread of agriculturally-important weeds into their row crops; and
- helps prevent poisonous broadleaf weeds (registered under the Noxious Weed Act) from invading pastures and cropland.

Some arguments against roadside cutting and spraying

- Cutting destroys the seasonal succession of flowering plants that are a necessary source of energy for nectar-seeking insects including butterflies and economically-important pollinator bees.
- Herbicide spraying reduces biodiversity in roadside meadows that may provide habitat for a wide variety of native plant and animal species.
- Spraying non-selective herbicides kills all broadleaf roadside plants, including rare native species.

- Spray drift damages trees at the margins of the forest blocks. Many of these trees are foodplants for the caterpillars of vulnerable butterflies, and they may already be stressed by edge effects such as road salt and exposure.
- Herbicides may contaminate roadside ditches and other wetland habitats near roads, potentially damaging aquatic biodiversity.
- Pesticides, particularly water-soluble herbicides registered for use on roadside vegetation, may contaminate ground water.

Management Proposal

The following low cost or cost saving practices of local roadside management are recommended:

1. That all roadside cutting along the rural road allowances adjacent to the forested blocks at Skunk's Misery be reduced to one mowing that is delayed until mid-October to ensure that late broods of butterflies have hatched and that there are nectar plants for all butterflies throughout the summer, except where road safety is compromised. In those areas, summer mowing should be restricted to the minimum width required to ensure adequate sight lines for safe driving conditions (see Map).
2. That the Municipalities of Southwest Middlesex, Chatham-Kent and Lambton County adopt a no-spray policy for broadleaf herbicides on the rural road allowances adjacent to the forested blocks at Skunk's Misery (see Map).
3. That roadside verges that are designated as "no-spray" areas at Skunk's Misery be identified and clearly marked and signed with "no-spray" signage. This may take the form of permanent wooden or metal posts that are set on the road verges well back from the road at the beginning and end of each section.
4. That the area at Skunk's Misery affected by these proposed roadside management changes be defined and mapped., In Southwest Middlesex, the suggested perimeter for the area is Coltsfoot Drive to the north, Haggerty Road in the east, Clachan/Limerick Roads to the west and Longwoods Road in the south. In Lambton County, the west side of Limerick Road and part of Euphemia Line are affected (see Map).
5. That a fact sheet be prepared and made available to municipal politicians and staff that explains the revised roadside management policy and clearly outlines the affected area at Skunk's Misery on a map.

Roadside verges adjacent to agricultural (row crop) land in the area defined above could be exempted from the no-spray policy of recommendation 2 if landowners request this. Annually updated mapping would be required by municipal employees and contractors.

Proposed roadsides for the No Spray/Reduced Cutting program in the Skunk's Misery Natural Area

