Rare Species Surveys and Stewardship Activities by the Manitoba Conservation Data Centre, 2010

Manitoba Conservation Data Centre Report No. 2010-01

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Cover image: top left: Rough Agalinis (*Agalinis aspera*); bottom right: Gattinger's Agalinis (*Agalinis gattingeri*).

Executive Summary

Information on 82 rare and uncommon plant and animal species was documented by the Manitoba Conservation Data Centre (CDC) in 2010 through field surveys, acquisition of data from partners, and reports submitted to the CDC by other sources.

Field surveys conducted by CDC staff were focused on Canadian Species at Risk in Manitoba. Provincially rare species were surveyed as time permitted. Four plant species specifically targeted in 2010 were:

Rough agalinis (*Agalinis aspera*)

Gattinger's agalinis (*Agalinis gattingeri*)

Small white lady's-slipper (*Cypripedium candidum*)

Western silvery aster (*Symphyotrichum sericeum*)

In addition to these species, the CDC conducted surveys for a number of plant, butterfly and moth species in the mixed-grass and sandhill prairie areas of Manitoba. Plant species of particular interest in these areas included Hairy prairie clover (*Dalea villosa* var. *villosa*), Western spiderwort (*Tradescantia occidentalis*) and Smooth Goosefoot (*Chenopodium subglabrum*). However, the primary targets of surveys in these prairie areas were the following Lepidoptera (butterfly and moth) species:

Dakota skipper (*Hesperia dacotae*)

Ottoe skipper (*Hesperia ottoe*)

White flower moth (*Schinia bimatris*)

Gold-edged gem (*Schinia avemensis*)

Dusky dune moth (*Copablepharon longipenne*)

Fifty-nine properties (approximately 9440 acres) were surveyed in 2010; 28 of these properties were privately owned. In addition, numerous sites in right-of-ways were also surveyed. Many sites were surveyed for multiple species. Data collected in the field by the CDC on targeted plant species resulted in updates to 20 previously known occurrences and the documentation of four new occurrences. Lepidoptera specimens are awaiting identification by a taxonomic expert. A summary of other species and occurrences surveyed by the CDC and associates are also included.

Highlights include the discovery of two new Gattinger's agalinis occurrences, two new Rough agalinis occurrences, and the discovery of hundreds of Rough agalinis and Western silvery aster plants on several properties south of Birds Hill Provincial Park. New occurrences of Smooth goosefoot and Hairy prairie clover were also discovered.

Acknowledgements

Several other associates joined CDC staff in the field as well as providing habitat and rare species information. Dave Roberts assisted with a survey near Lockport and at several sites in the south Interlake. Megan Krohn and Del Friesen assisted with Small White Lady's-slipper surveys. Jaimee Dupont helped with fieldwork in some sandhill and mixed grass prairie areas. Laura Reeves and Christie Borkowsky of the Manitoba Tall Grass Prairie Preserve provided data on rare species occurrences in and around the Preserve as well as reviewing management summaries. Special thanks to Dr. Richard Westwood at the University of Winnipeg for his assistance with the Lepidoptera surveys.

We would also like to thank the following individuals for providing information on rare species occurrences and habitats: Doris Ames, Doug Cattani, Dan Chranowski, Nicole Firlotte, Jason Greenall and Eugene Reimer.

Our appreciation extends to all landowners who granted permission to access private land for rare species surveys.

We thank Sarah Garner for her work on a predictive habitat model for Small White Lady's-slippers in Manitoba.

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Introduction and Methods

This report summarizes rare species surveys and stewardship activities conducted by the Manitoba CDC in 2010. As a project funded in part by the Habitat Stewardship Program for Species at Risk, priority was given to species designated by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) as nationally "at risk" (Environment Canada 2007; COSEWIC 2008). Information on provincially rare species was collected in the field as time permitted. Much of the information on provincially rare species was gathered from data submitted to the CDC from other sources.

CDC surveys of the nine target species (four plants, five Lepidoptera) were focused on searching for new occurrences as well as monitoring and expanding existing occurrences. Searches were conducted in appropriate habitat in the southwest (Small white lady's-slipper, Lepidoptera species), the area south of Birds Hill Provincial Park (Rough agalinis, Western silvery aster), southeastern Manitoba (Small white lady's-slipper) and the southern Interlake region (Gattinger's agalinis, Rough agalinis, Small white lady's-slipper) from June through August.

Information associated with previously documented rare plant and Lepidoptera occurrences and geospatial data were used to determine potential survey sites. For Small White Lady's-slipper surveys, a predictive habitat model was used to identify potential sites. Where required, landowners were contacted by telephone prior to surveys. Most Lepidoptera sites were visited several times over the course of the summer to maximize the chance that at least one survey would be conducted during the flight period and in appropriate weather conditions. Data collected while surveying an occurrence included location (mapped with a GPS), plant abundance, habitat characteristics, threats, photographs and specimens when necessary to confirm identification (as was the case for all Lepidoptera). For species tracked in the CDC's database, data gathered in the field and from other sources were entered into the geographic information system (GIS) and associated database (Biotics) using NatureServe's standard methodology (NatureServe 2008). Information on negative search results was entered into a separate GIS theme.

Each species has been assigned global, national and subnational ranks (G, N and S ranks, respectively) to indicate the status of the species at each geographic scale. The rank is a number (1-5) following a letter (G, N or S) and the lower the number, the rarer the species. For more information on species ranks, see NatureServe's explanation of ranks (http://www.natureserve.org/explorer/ranking.htm) or that of the Manitoba CDC (http://www.gov.mb.ca/conservation/cdc/consranks.html).

Results

The results of surveys for the four rare plant species targeted by the CDC are summarized in Table 1 with detailed descriptions for these species provided in separate sections below. A summary of other occurrences updated or documented by the CDC is provided in Table 2. While results of the Lepidoptera surveys are pending identification of specimens by a specialist, background information and survey methodology can be found in the section on Lepidoptera surveys and in last year's report (Friesen & Murray 2010).

Table 1. Summary of CDC surveys for target rare plant species, 2010.

Scientific Name	Common Name	Sites* Surveyed	Private Land Parcels Surveyed	Known Occurrences** Monitored	New Occurrences** Documented
Agalinis aspera	Rough agalinis	26	5	7	2
Agalinis gattingeri	Gattinger's agalinis	17	5	1	2
Cypripedium candidum	Small white lady's-slipper	22	11	12	0
Symphyotrichum sericeum	Western silvery aster	5	0	1	0
Total		**70**	**21**	**21**	**4**

*Sites are defined as discrete survey locations. Each parcel of private land was considered a site. Sites surveyed for one Agalinis species were often surveyed for the other as well, and these are counted twice in this table.

**A plant occurrence is generally defined as a plant population that is separated by 1 km from the next nearest population when the habitat between the two is not suitable, OR by 2 km when the intervening habitat is suitable. An occurrence may be comprised of one or more sites.

Table 2. Summary of rare and uncommon occurrences updated or documented using data collected by or submitted to the CDC (other than the occurrences listed in Table 1).

Scientific Name	Common Name	Conservation Status	Known Occurrences Updated	New Occurrences Documented
Plants				
Achnatherum hymenoides	Indian rice grass	S2	1	0
Agalinis tenuifolia	Narrow-leaved gerardia	S2S3	0	3
Ambrosia acanthicarpa	Sandbur	S1S2	1	0
Amorpha fruticosa	False indigo	S1S2	0	2
Arabis arenicola var. *pubescens*	Arctic rock cress	SU	1	0
Arctophila fulva	Pendant grass	S3	1	0
Arethusa bulbosa	Arethusa	S2	0	1
Arnica fulgens	Shining arnica	S2	1	2
Asclepias lanuginosa	Hairy milkweed	S2	1	2
Botrychium multifidum	Leathery grape-fern	S3	0	1
Bouteloua curtipendula	Side-oats grama	S2S3	1	1
Calamagrostis montanensis	Plains reed grass	S3	1	0
Calopogon tuberosus	Swamp-pink	S2	0	1
Carex bigelowii	Stiff sedge	S3	1	0
Carex capitata ssp. *arctogena*	Capitate sedge	S3	1	0
Carex crinita	Long-haired sedge	S1	0	1
Carex maritima	Seaside sedge	S2	1	0
Carex rariflora	Scant sedge	S3	1	0
Carex tetanica	Rigid sedge	S2	1	0
Celtis occidentalis	Hackberry	S1	3	0
Chamaesyce geyeri	Prostrate spurge	S1	1	0
Chenopodium subglabrum	Smooth goosefoot	S1	1	0
Clematis virginiana	Virgin's-bower	S2	0	1
Coryphantha vivipara	Pincushion cactus	S2	8	2
Cymopterus acualis	Plains cymopterus	S2S3	1	0
Cyperus houghtonii	Houghton's umbrella-sedge	S2	1	0
Cyperus schweinitzii	Schweinitz's flatsedge	S2	6	7
Cypripedium arietinum	Ram's head lady's-slipper	S2S3	0	2
Dalea villosa var. *villosa*	Silky prairie-clover	S2S3	5	2
Dicanthelium linearifolium	White-haired panic-grass	S2	1	0
Dicanthelium wilcoxianum	Sand millet	S2	2	0
Eriophorum scheuchzeri	One-spike cotton-grass	S2?	0	1
Festuca hallii	Plains rough fescue	S3	2	0
Hypoxis hirsuta	Yellow stargrass	S4	1	0
Krascheninnikovia lanata	Winterfat	S2	1	0
Krigia biflora	Cynthia	S2	1	3
Linum sulcatum	Grooved yellow flax	S3	0	1
Lotus unifoliolatus	Prairie trefoil	S2S3	1	0
Malaxis paludosa	Bog adder's-mouth	S1	0	1
Malaxis unifolia	Green adder's-mouth	S2?	0	1
Myosurus minimus ssp. m*inimus*	Least mousetail	S1	1	0
Nassella viridula	Green needle grass	S3	1	0
Orobanche ludoviciana	Louisiana broom-rape	S2	1	1
Oxytropis sericea	Early yellow locoweed	S1	0	2
Piptatherum micranthum	Little-seed rice grass	S2	1	0

Platanthera lacera	Fringed orchid	S2	0	1
Polanisia dodecandra spp. *dodecandra*	Clammyweed	S1	1	0
Polygala verticillata	Whorled milkwort	S2	0	1
Puccinellia phryganodes	Salt-meadow grass	S3	1	0
Saxifraga hirculus	Yellow marsh saxifrage	S2	1	0
Shinnersoseris rostrata	Annual skeletonweed	S1S2	1	1
Solidago riddellii	Riddell's goldenrod	S2	1	0
Thermopsis rhombifolia	Golden bean	S2	1	4
Townsendia exscapa	Silky townsend-daisy	S2	1	0
Tradescantia occidentalis	Western spiderwort	S1	1	0
Verbena bracteata	Bracted vervain	S3	2	0
Vernonia fasciculata ssp. *corymbosa*	Western ironweed	S1	3	0
Woodsia glabella	Smooth woodsia	S2	0	1
Total Plants			**65**	**46**
Animals				
Ammodramus bairdii	Baird's sparrow	S1B	2	0
Anthus spragueii	Sprague's pipit	S2B	1	0
Athene cunicularia	Burrowing owl	S1B	4	1
Bufo cognatus	Great Plains Toad	S2	1	4
Buteo regalis	Ferruginous hawk	S1S2B	3	0
Chaetura pelagica	Chimney swift	S2B	6	3
Chelydra serpentina serpentina	Snapping turtle	S3	0	1
Chordeiles minor	Common Nighthawk	S3B	0	1
Cygnus buccinators	Trumpeter swan	S1S2B	0	4
Eumeces septentrionalis	Prairie skink	S1	0	1
Hesperia dacotae	Dakota skipper	S2S3	11	0
Lanius ludovicianus migrans	Loggerhead shrike	S1B	1	0
Lasmigona costata	Flutedshell clam	SNR	0	2
Melanerpes erythrocephals	Red-headed woodpecker	S2B	0	1
Oarisma powesheik	Powesheik skipper	S2	1	0
Quadrula quadrula	Mapleleaf mussel	S2	5	2
Schinia avemensis	Gold-edged gem	S1	1	0
Spea bombifrons	Plains spadefoot toad	S2S23	0	6
Strix varia	Barred owl	S4	5	0
Strophitus undulatus	Creeper	SNR	11	11
Total Animals			**52**	**37**
TOTAL			**117**	**83**

Rough Agalinis (*Agalinis aspera*)

Canada's *Species at Risk Act*: Endangered
NatureServe status: G5, N1, S1S2

Rough agalinis is a relatively small, annual species in the Broomrape family (Orobanchaceae). It can grow to 35 cm (14 inches), but is often shorter (Figure 1). Leaves are narrow and linear, 0.8-1.5 cm (0.3-0.6 inches) wide, and have an opposite arrangement on the stem. The leaves, particularly the upper sides, are rough to the touch, hence the common name of this species. Flowers are somewhat tubular in shape, with the petals flaring outward at the end (see cover photo). Flowers are usually pink though pure white ones have been observed. The interior of the flowers are dotted with purple spots, and have two yellow lines radiating from the centre.

Figure 1. A robust Rough agalinis plant on the margin of an abandoned gravel pit near Birds Hill Provincial Park.

In the field, Rough agalinis can be difficult to distinguish from the other two species of Agalinis in Manitoba, though there are several differences. The leaves of Slender agalinis (*Agalinis tenuifolia*) are not rough to the touch and its flowers are usually smaller than those of Rough agalinis. In addition, the stems of Slender agalinis are sometimes distinctly reddish in color. The plants and flowers of Gattinger's agalinis (*Agalinis gattingeri*) are generally smaller than those of Rough agalinis and the interior of the flowers is usually white rather than pink. The section on Gattinger's agalinis has more information about that species.

In Manitoba Rough agalinis usually occurs in moist, calcareous, sparsely vegetated tall grass prairie areas (Figure 2). Rough agalinis is known from three areas in Manitoba: the south Interlake, south of Brandon, and south of Birds Hill Provincial Park. Seven known occurrences were surveyed in 2010 between August 9 and 17 – six in the south Interlake and one near Birds Hill Provincial Park (BHPP) (Figure 3).

Of the known south Interlake occurrences, four had a population size within the range of past years. The Grosse Isle occurrence appears to have been unharmed by the recent reconstruction of Highway 6; 13 plants were found compared to eight last year. One occurrence, which was reported to be confined to a small area of a single meadow, was surveyed in 2010 and found in a larger area within the meadow as well as several additional meadows on the property.

Two new Rough agalinis occurrences were discovered near St. Laurent in 2010. The largest of the two was found in a meadow on a property which also supports Small white lady's-slippers. Approximately 115 plants were found growing together with Gattinger's agalinis in that part of the meadow that was dominated by Big bluestem (*Andropogon gerardii*) and where vegetation was somewhat thin compared to surrounding areas (Figure 2). More suitable habitat is in the area but could not be surveyed in 2010 due to time constraints.

The second new occurrence was found several miles south of St. Laurent. It consisted of approximately 40 plants growing in a thin band of suitable habitat along the backslope of a roadside ditch. Adjacent habitat should be searched in the future as it could not be surveyed in 2010 due to time constraints.

Figure 2. A tallgrass prairie meadow near St. Laurent that supports both Rough agalinis and Gattinger's agalinis.

Rough agalinis was discovered along several roadsides in the Rural Municipality of Springfield (RM of Springfield) south of BHPP in 2009. In 2010, CDC staff surveyed five quarter sections of land owned by the Rural Municipality of Springfield just south of the park. Approximately 2000 plants, often of considerable size (up to 60 flowers per plant!), were found in meadows on these quarters. Within the meadows, plants were typically found in areas with thin vegetation and some bare ground, including mildly disturbed areas such as the margins of infrequently used vehicle trails. Rough agalinis

plants were generally found in areas where Big bluestem was the dominant grass species as opposed to areas where other grasses were dominant. A small patch of white-flowered Rough agalinis was found on one quarter.

Bumblebees (*Bombus* spp.) were observed visiting Rough agalinis flowers at several sites. One bee was observed visiting three flowers on a single plant.

The CDC compiled and synthesized information regarding the management of lands supporting Rough agalinis with the goal of producing a management summary that could be distributed to landowners/managers. This has been completed and a management summary is ready for distribution.

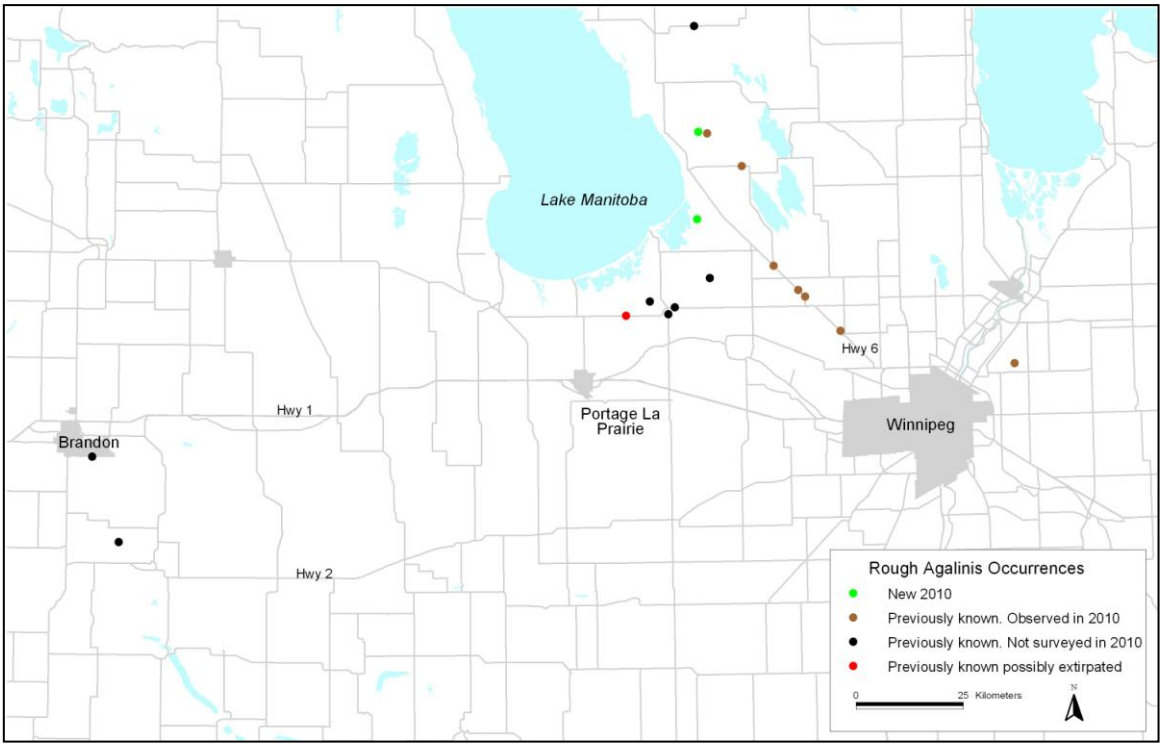

Figure 3. Map of Rough agalinis occurrences in Manitoba.

Gattinger's Agalinis (*Agalinis gattingeri*)

Canada's *Species at Risk Act*: Endangered
NatureServe status: G4, N2, S1

Gattinger's agalinis is a small, annual species of the Broomrape family (Orobanchaceae). It is 8-20 cm (3-8 inches) tall and has a very thin stem and small, narrow leaves (Figure 4). The flowers of this species are tubular. The outer parts of the petals are pink while the interior of the flower is white with purple spots and two yellow lines radiating from the centre (see cover photo). Gattinger's agalinis can be confused with the two other species of Agalinis in Manitoba. Please see the section on Rough agalinis for a discussion of the differences between Agalinis species.

Figure 4. Gattinger's agalinis plants in a tallgrass prairie meadow near St. Laurent.

Like Rough agalinis, Manitoban occurrences of Gattinger's agalinis tend to be found in moist, calcareous, sparsely vegetated tallgrass prairie areas (Figure 2). All known Gattinger's agalinis sites in Manitoba are within 20 km of the southeast corner of Lake Manitoba in the south Interlake (Figure 5).

Part of the existing occurrence east of St. Laurent was surveyed in 2010 and the number of plants was within the range of past years. Two new occurrences were found near St. Laurent.

One new occurrence was found while surveying a known Rough agalinis site. The two species were found growing in the same meadow where vegetation was somewhat thin and thatch was minimal. There were approximately 100 Gattinger's agalinis plants in this meadow. This property also supports Small white lady's-slipper and Dakota skipper, a butterfly species listed as Threatened both provincially and nationally. Additional surveys for Agalinis species on this property are needed.

The second new occurrence was found on property that also supports Small white lady's-slippers. Approximately 30 Gattinger's agalinis plants were found growing together with Rough agalinis in a meadow. They grew in that part of the meadow where Big bluestem was the dominant grass species and vegetation was relatively thin compared to other areas in the same meadow. About 30 additional plants were found in the undeveloped right-of-way (ROW) adjacent to this property, but not immediately adjacent to the meadow. The area in the ROW where Gattinger's agalinis plants were found was the same area where Small white lady's-slippers were discovered in the spring.

The CDC compiled and synthesized information regarding the management of lands supporting Gattinger's agalinis with the goal of producing a management summary that could be distributed to landowners/managers. This has been completed and a management summary is ready for distribution.

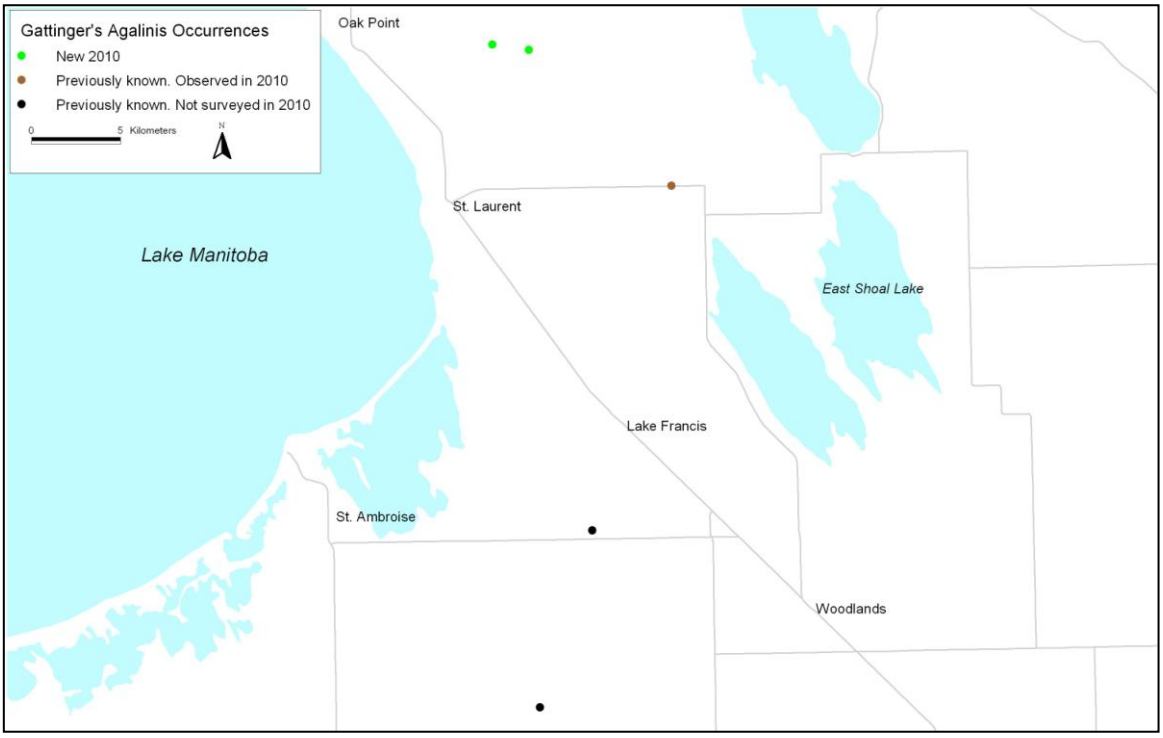

Figure 5. Map of Gattinger's agalinis occurrences in Manitoba.

Small White Lady's–slipper (*Cypripedium candidum*)

Canada's *Species At Risk Act*: Endangered
Manitoba's *Endangered Species Act*: Endangered
NatureServe Status: G4, N2, S2

Small white lady's-slipper (SWLS), a member of the orchid family (Orchidaceae), is a perennial which can produce one to many stems each year. Stems, which are 10-40 cm tall, can be either flowering or non-flowering; a plant may produce both types in the same year. Flowers are small white pouch-like structures, or 'slippers' (Figure 6). Small white lady's-slippers tend to grow in moist prairies or meadows on calcareous soils with thin vegetation and minimal shrub/tree cover. This species can hybridize with Yellow lady's-slippers (*Cypripedium calceolus*) to produce slightly larger plants with cream-coloured flowers.

In Manitoba, this species can be found in several areas: south of Winnipeg from Kleefeld to the United States border, north of Winnipeg in the southern Interlake, and the Brandon area with one occurrence as far west as Oak Lake (Figure 7).

Figure 6. A flowering Small white lady's-slipper.

Prior to the field season, a geographic information system (GIS) – based predictive habitat model for SWLS was produced for the CDC by Sarah Garner (Garner 2010). This model used GIS themes relevant to the biology and ecology of SWLS (ex: soil type) as well as satellite imagery to predict the suitability of habitat for SWLS. The model assigned areas to one of four suitability categories: low, moderate, high, and very high. Much of the survey time for SWLS in 2010 was used to ground-truth the results of this model.

No new SWLS occurrences were found in 2010, though one new site was identified in an undeveloped road allowance about 400m from a known SWLS site near St. Laurent. In general, many of the areas identified as having high to very high suitability were areas with apparently suitable soil types near known SWLS occurrences. However, many of these areas were cattle pastures that did not support SWLS. It is possible that these areas never did support SWLS or that some land use activity in the past was incompatible with SWLS. These pastures usually had a higher density of weedy exotic species and lower

diversity of native plant species than similar areas of prairie that have been grazed less intensely or have not been grazed at all.

On May 26, CDC staff met with regional Manitoba Conservation staff to discuss management options at several SWLS sites in the south Interlake. On October 20, CDC staff provided on-site guidance and assistance with brush removal at the trail site near Woodlands (Figure 8). Shrub encroachment had been noted as a threat to this site for a number of years and SWLS numbers had dropped considerably during that time (Foster 2008, Krause Danielsen & Friesen 2009; Friesen & Murray 2010).

The CDC compiled and synthesized information regarding the management of lands supporting Small white lady's-slippers with the goal of producing a management summary that could be distributed to landowners/managers. This has been completed and a management summary is ready for distribution.

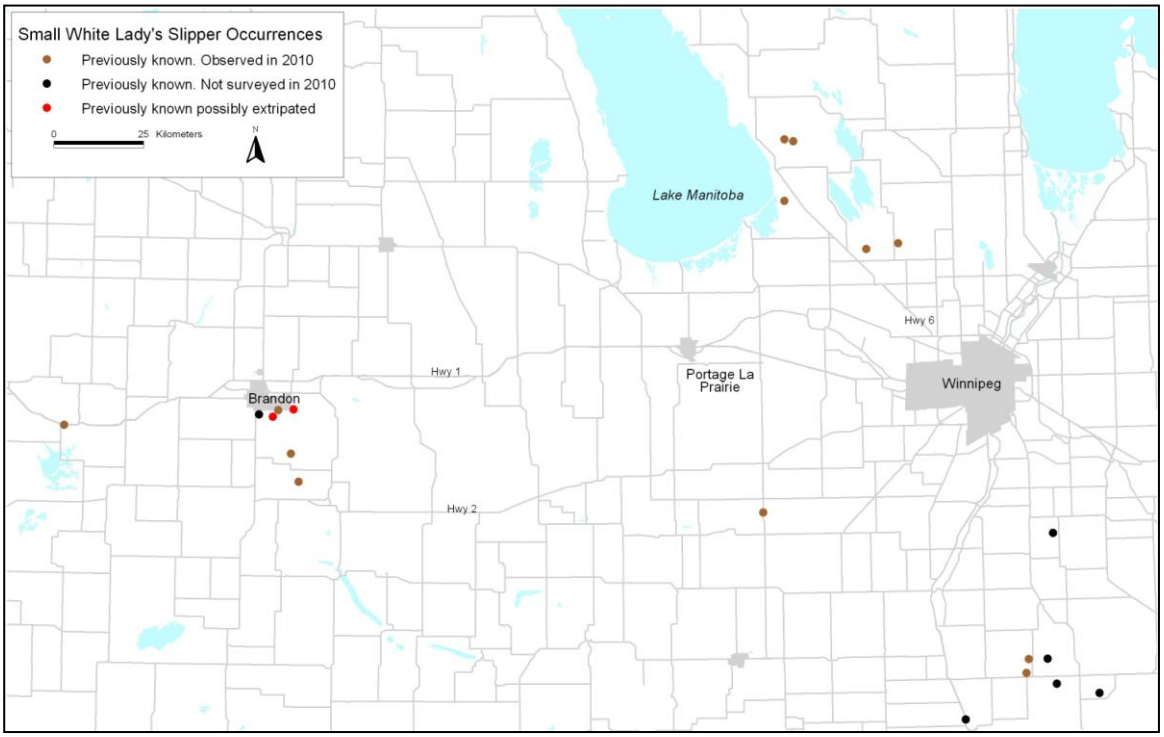

Figure 7. Map of Small white lady's-slipper occurrences in Manitoba.

Figure 8. Brush clearing at the south Interlake trail site where shrub encroachment had been identified as a threat to Small white lady's-slippers growing at this site.

Western Silvery Aster (*Symphyotrichum sericeum*)

Canada's *Species At Risk Act*: Threatened
Manitoba's *Endangered Species Act*: Threatened
NatureServe Status: G5, N2, S2S3

Western silvery aster (WSA) is sparsely branched perennial in the Aster family (Asteraceae) (Figure 9). Plants grow to a height of 30-70 cm and the lance-shaped leaves are densely covered with silky hair, giving them a silvery appearance. Flowers are arranged in daisy-like heads about 2.5 cm across and appear from early August through mid-September and are pollinated by bees and other insects. The ray flowers are violet to pink and surround the central, yellow-brown to rose coloured disc flowers. Seeds mature three to four weeks after pollination and are spread by the wind.

Figure 9. Western silvery aster plant.

This species grows in dry prairies, fields, and openings in bur oak/aspen woodlands where vegetation is relatively sparse. Sites often have course-textured, calcareous, well-drained soils. In Manitoba WSA is known from three main areas: northeast of Winnipeg (especially in and around BHPP), near Richer, and the area south of St. Pierre to the United States border.

The focus of 2010 surveys was obtaining more specific location and population information for several properties just south of BHPP in Rural Municipality of Springfield. This species had been noted as occurring on these properties in the past but no specific location or population information was available.

Five quarter sections owned by the RM of Springfield were surveyed for WSA in 2010: four just south of BHPP and one near Anola. The presence of WSA was confirmed on the four properties near BHPP, with hundreds to thousands of plants on each. These quarter sections are being used, or have been used, for gravel extraction. Meadows and openings that supported WSA often also supported Rough agalinis. No WSA was found at the Anola site as the habitat was inappropriate.

The CDC compiled and synthesized information regarding the management of lands supporting WSA with the goal of producing a management summary that could be distributed to landowners/managers. This has been completed and a management summary is ready for distribution.

Lepidoptera Surveys

The CDC conducted surveys for two butterfly (Dakota Skipper, Ottoe Skipper) and three moth species (White Flower Moth, Gold-edged Gem, Dusky Dune Moth) in 2010. For more information on these species, please refer to last year's CDC report (Friesen & Murray 2010). Fourteen sites on private land and 18 sites on public land were surveyed (Figure 10). Surveyed sites supported mixed-grass prairie and/or sandhill prairie habitats. The skippers and diurnal moth species were collected in the field using nets. An ultra-violet light bucket trap was used to collect nocturnal moth species (Figure 11). Most sites were visited at least twice during the survey period (June 24 – August 5). Butterfly and moth specimens await identification by a taxonomic expert.

A number of other rare and uncommon species were found during these surveys (these are included in Table 2). Highlights include: the re-discovery of a Smooth goosefoot (*Chenopodium subglabrum*) occurrence near Oak Lake – the species was collected in the area in 1959 but had not been seen there since; two new Hairy prairie clover (*Dalea villosa*) occurrences, one of which is near Neepawa and extends the known northern distribution limit in Manitoba; and a new Prairie skink (*Eumeces septentrionalis*) occurrence near Sidney.

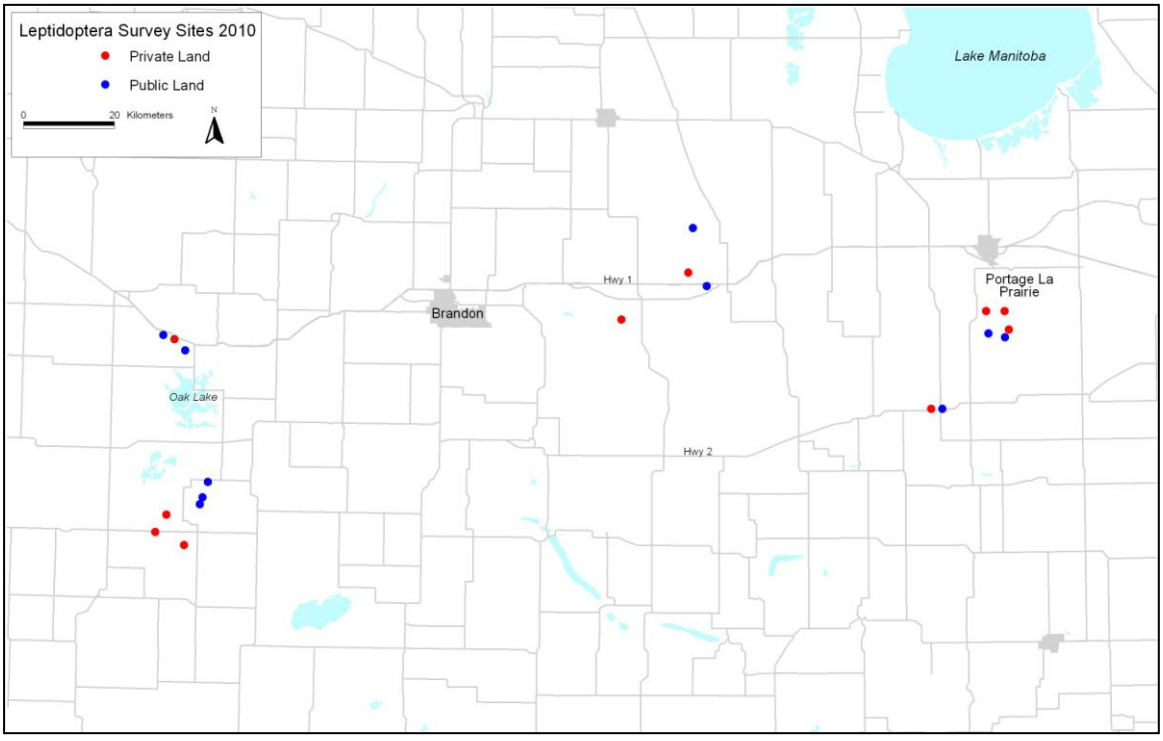

Figure 10. Map of Lepidoptera survey sites. Due to the scale of the map, one dot may represent multiple survey sites where they are in close proximity.

Figure 11. Photos of two bucket trap locations in southwestern Manitoba.

Other Surveys

Western Ironweed (*Vernonia fasciculata*)

Western ironweed is a very rare (S1, N1) perennial in the Aster family (Asteraceae). The stalkless leaves are lanceolate with coarsely-toothed edges. The purple to magenta flowers are grouped in small, terminal clusters. In Manitoba this species is only found in the riparian area along the Rat River and several roadside ditches near Morris and Ste. Agathe.

Prior to CDC surveys in 2006, Western ironweed (sometimes referred to as Fascicled ironweed) had not been reported in Manitoba since the 1950's. Surveys in 2006 and 2009 resulted in the discovery of this species along approximately 14 kilometres of the Rat River (starting at Otterburne and moving downstream) (Foster & Reimer 2007, Friesen and Murray 2010). In 2010, the Rat River was surveyed via canoe from the end point of the 2009 survey to its confluence with the Red River. Western ironweed was present along much of this stretch, though much less regularly than the portion surveyed in 2009. A number of clumps of False indigo (*Amorpha fruticosa*), a rare (S1S2) shrub, were found where PR 305 crosses the Rat River.

A new site was discovered in a ditch along PR 200 just south of the bridge over the Rat River. Foster & Reimer (2007) mention a pasture which reportedly supported Western ironweed had since been cultivated and no plants were found in area ditches in 2006. Surveys in 2010 found Western ironweed plants in ditches adjacent to the property. The Morris River was surveyed via canoe from the community of Riverside to the Red River (approximately 11 km) but no Western ironweed was found. The riparian area along this stretch of the Morris River was generally very thin as cultivated fields and residential yards often came very near the river's edge. There was very little native riparian forest like that found along the Rat River (Figure 12). Much of the riparian vegetation consisted of weedy species (both native and exotic) and/or willows. However, False indigo was noted in several places. The last 1.5 km of Shannon Creek near Morris was also surveyed but no ironweed was observed. Future surveys should continue to target the Red River watershed from Ste.Agathe to Emerson, including roadside ditches.

Figure 12. Top photo: Western ironweed on margin of riparian forest along the Rat River. Bottom photo: Thick, weedy vegetation along the Morris River.

Hackberry (*Celtis occidentalis*)

Hackberry is a very rare (S1) tree species in Manitoba and it is listed as Threatened under the Endangered Species Act. It grows in sandy areas and is only known to occur at several sites in the Lauder sandhills and along the southern shore of Lake Manitoba.

In 2010, CDC staff re-visited several known occurrences in the Lauder area. In some cases no Hackberry was found - including some where elms (*Ulmus* spp.) had been mistaken for Hackberry. A large number of Hackberry trees (mainly small ones) were identified on one property where they had been previously noted but not intensively mapped until the present survey.

The area along Hackberry Road at Delta Beach was surveyed in 2010 and numerous large Hackberry trees were observed between the road and Lake Manitoba. This area should be re-surveyed in 2011 to determine the extent to which a strong windstorm in the fall may have damaged these trees.

Great Plains Toad (*Bufo cognatus*)

The Great plains toad (GPT) is a rare (S2) species in Manitoba and is listed as Threatened under the Endangered Species Act and as Special Concern under the federal Species At Risk Act. It can be distinguished from other toad species in Manitoba by its spotless underside and the light border around the spots on its back (Figure 13). This species can be difficult to detect as it may spend a considerable amount of time underground, especially in hot, dry conditions. Most Manitoba reports are from the Melita area with a few to the south and west as well.

During the summer the CDC received reports of numerous GPT sightings in southwest Manitoba, with some anecdotal suggestions of paved roads becoming slick with dead toads. While CDC staff were unable to survey for GPT during the peak of toad activity, three days at the end of August and start of September were spent surveying along roads in the southwest corner of Manitoba. Numerous GPT were still active and regularly observed on roads. The area in which GPT were observed is bounded by the United States border on the south, PR 345 on the north, Waskada and Napinka on the east, and the Saskatchewan border on the west. Numerous Plains spadefoot toads (*Spea bombifrons*), a rare to uncommon species (S2S3), were also observed. The reason for the large number of toads was likely related to the higher than average spring and summer rainfall, and warm humid weather experienced in the area in 2010.

Figure 13. Great plains toad near Waskada, Manitoba. Photo © Laura Reeves.

Partnerships

One of the CDC's partners in 2010 was the Nature Conservancy of Canada (NCC). Megan Krohn, an NCC summer intern, assisted with Small white lady's-slipper surveys for two days in the south Interlake and southeastern Manitoba. The CDC remains a provider of rare species data to NCC to assist them in conservation planning.

The CDC also partnered with Manitoba Habitat Heritage Corporation to conduct surveys for Small white lady's-slipper at two sites.

Sarah Garner, a student from the Geographic Information Systems Technology program at Red River College, worked with the CDC to construct a predictive habitat model for Small white lady's-slipper in Manitoba. This model was used to guide site selection for SWLS surveys in 2010.

For the Lepidoptera surveys conducted in 2010, the CDC partnered with the Centre for Forest Interdisciplinary Research (C-FIR) at the University of Winnipeg. Dr. Richard Westwood of C-FIR provided background information for several Lepidoptera species, trapping equipment, and specimen pinning and identification assistance. The Critical Wildlife Habitat Program provided lodging for CDC staff during Lepidoptera surveys in the Lauder and Routledge sandhills.

The CDC, along with the staff of the Manitoba Tall Grass Prairie Preserve, marked Western prairie fringed-orchids (*Platanthera praeclara*) in roadside ditches so the plants could be avoided during municipal ditch maintenance activities.

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