
PLANTS

VASCULAR PLANT SURVEY OF MEADOW LAKE PROVINCIAL PARK, SK

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Meadow Lake Provincial Park (MLPP) is located in west-central Saskatchewan, approximately 45 km northwest of the town of Meadow Lake, on the boundary of the Mid-Boreal Upland and the Boreal Transition Ecoregions. The park is one of the largest protected areas in Saskatchewan and covers approximately 1600 km² of land. The park encompasses a mosaic of ecosystems including forest, wetland, aquatic, and disturbed habitats. The forested ecosystems are divided into several subcategories based on the dominant tree species and associated understory. The wetland ecosystems include bogs, fens, swamps, and marshes, which are distributed throughout the park. Lakes, rivers and streams comprise the aquatic category. Naturally occurring fires and human activities cause disturbance within park ecosystems. MLPP is a popular tourist destination in Saskatchewan. As a consequence, campgrounds, roadsides and hiking trails have played a role in the structure and composition of MLPP flora and have generated additional pressure on the park's natural resources.

Basic ecological information regarding MLPP has been available since 1979, but this is the first detailed list of the vascular flora. Because of the loss of natural habitats in Canada and the need to maintain local and regional diversity as well as preserve existing populations of threatened species, it is important to periodically conduct floristic inventories and to monitor changes in flora. Floristic inventories provide valuable information that can be used to target areas rich in biodiversity. Here we present a list of the vascular plants in MLPP based on a floristic survey designed to investigate species diversity and identify taxonomically rich areas. The survey was not meant to provide a complete list of the flora of Meadow Lake Provincial Park. Plants collected previously in MLPP and housed in the herbarium at the University of Saskatchewan (SASK) have not been included in this list due to the time consuming nature of searching the herbarium for specimens of these plants.

This floristic survey of MLPP was conducted from early June to late August in 2001 at 140 sites located throughout the park. Survey locations were chosen by applying a 1cm² grid to a 1:250 000 scale map of Meadow Lake Provincial Park. The grid was numbered from left to right and from top to bottom and the 140 locations were selected randomly using a random number table. Geographic
Positioning System (GPS) coordinates of known points on the map were used to determine the coordinates of each site. Some sites were inaccessible due to large water bodies or lack of trail or road. Where water bodies prevented access, a replacement site was situated as close as possible to the original randomly-chosen site. Where roads or trails were the limiting factor, a new site was chosen using the random number table. It should be noted that the survey area excluded the Bighead Indian Reserve and the Waterhen Indian Reserve because special permission is required to conduct research on reserve land. As a result, these areas have yet to be surveyed.

At each site, a temporary 10m x 10m quadrat was set up. Species composition was determined within each quadrat. Plants in flower were identified and whenever possible, vegetative material was used to identify the remaining plants. Unknown plants were taken to the herbarium for identification. Plant materials were collected, pressed, and preserved following standard protocols and voucher specimens were deposited in the W. P. Fraser Herbarium (SASK) at the University of Saskatchewan. Nomenclature for the majority of species listed was initially based on the Flora of Alberta, 2nd Edition, but has been updated to current nomenclature in Table 1.1 Previous used names are provided in square brackets in Table 1 for comparative purposes.

A previous floristic study by Blood and Anweiler (1979) reported that MLPP flora consisted of 188 vascular plant species, including 55 families and 137 genera. Our study shows a more diverse flora than previously reported: 271 species in 62 families and 173 genera (Table 1). MLPP flora represents approximately 17% of the provincial flora, which is estimated to be approximately 1,625 species (V. Harms, pers. comm.). Of the 271 species, 72 taxa are newly published records for MLPP flora, though several of these species have likely been previously collected in MLPP. Our data indicate that only eight species are listed as being at risk by the Saskatchewan Conservation Data Center.4 These species are Tall Larkspur (Delphinium glaucum), Rough Daisy Fleabane (Erigeron strigosis), Tall White Daisy Fleabane (Trimorpha elata), Dwarf Thistle (Cirsium drummondii), Cyperus-like Sedge (Carex pseudocyperus), Sparrow’s Egg Lady’s-slipper (Cypripedium passerinum), Slender Ladies’-tresses (Spiranthes lacera), and Leathery Grape Fern (Botrychium multifidum) (Table 2).

Twenty-seven of the species previously recorded by Blood and Anweiler were not found in this study.1 These are indicated by an asterisk in Table 1. Several explanations can be made regarding the presence or absence of species in the area under study. Our sampling method was more efficient in identifying a large number of species in the study area than the previous study. In addition, the previous report dates back 25 years, and some areas of MLPP have changed. It is not unreasonable to assume that some of the previously reported species had restricted or limited distribution or specific soil and nutrient requirements and may have been eliminated from the park. Another important factor regarding the discrepancy in species number lies in fundamental issue of synonymy. Since multiple names can be used for a single biological entity, this affects final estimates in a region or area. In fact, disagreements in species number are often the result of studies underestimating synonymy rates.5 Synonymy rates refer both to species cited under different names and to species for which the taxonomy is unclear and which may be considered two species by one authority and one species by another.

Among the 62 plant families recorded in MLPP, the aster (Asteraceae) and rose (Rosaceae) families are the most widely occurring of the dicotyledons, with 34 and 20 representative species respectively. The buttercup (Ranunculaceae), legume (Fabaceae), and willow (Salicaceae) families are the next most commonly encountered families in the park, with 12, 11, and 9 representative species respectively (Table 1). Among the monocotyledons, the dominant plant families include the grasses (Poaceae), with 15 species, and the sedges (Cyperaceae), with 13 species (Table 1).

Overall, plant diversity appears to be evenly distributed throughout MLPP. No particular species-rich areas were identified in this study. As expected, disturbed areas held the highest concentrations of invasive species. Some recent introductions of invasive species include Smooth Brome (Bromus inermis), Alfalfa (Medicago sativa), White Sweetclover (Melilotus alba), Yellow Sweetclover (Melilotus officinalis), and Alsike Clover (Trifolium hybridium), which are widely distributed as roadside vegetation. Because of their aggressive growth and successful reproductive strategies, these species have the potential to spread and displace native species.

Additional pressures may lead to the extirpation of species at risk from MLPP. Fortunately, park management is aimed at maintaining plant diversity and there are policies and practices to address conservation issues in MLPP such as encouraging the use of designated roads and trails, and restrictions against the removal of plants from the park.

Because changes in flora occur over time due to many factors, we suggest periodic floristic surveys be conducted to monitor species at risk for more effective management of plant resources. Additionally, periodic floristic surveys may provide new species records for MLPP as well as provide information on changes in distribution of invasive species. Most importantly, the eight species at risk identified in this survey should be monitored periodically to ensure that their populations are maintained in the wild.


Table 1. List of Vascular Plants of the Meadow Lake Provincial Park.

<table>
<thead>
<tr>
<th>Scientific Name</th>
<th>Common Name</th>
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<tbody>
<tr>
<td><strong>PTERIDOPHYTES</strong></td>
<td></td>
</tr>
<tr>
<td>Equisetaceae</td>
<td></td>
</tr>
<tr>
<td><em>Equisetum arvense</em> L.</td>
<td>Common Horsetail</td>
</tr>
<tr>
<td><em>E. hyemae</em> L.</td>
<td>Scouring Rush</td>
</tr>
<tr>
<td><em>E. scirpoide</em> Michx.</td>
<td>Dwarf Horsetail or Scouring-Rush</td>
</tr>
<tr>
<td><em>E. sylvaticum</em> L.</td>
<td>Woodland Horsetail</td>
</tr>
<tr>
<td><strong>LYCOPODIACEAE</strong></td>
<td></td>
</tr>
<tr>
<td><em>Diphasiastrum complanatum</em> (L.) Holub. [=L. complanatum L.]</td>
<td>Ground Cedar</td>
</tr>
<tr>
<td><em>Lycopodium annotinum</em> L.</td>
<td>Stiff Club-moss</td>
</tr>
<tr>
<td><em>L. clavatum</em> L.</td>
<td>Tree Club-moss</td>
</tr>
<tr>
<td><em>L. dendroides</em> Michx.</td>
<td></td>
</tr>
<tr>
<td>[=L. obscurum L.]</td>
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<tr>
<td><strong>OPHIOGLOSSACEAE</strong></td>
<td></td>
</tr>
<tr>
<td><em>Botrychium multifidum</em> (Gmel.) Rupr.</td>
<td>Leathery Grape Fern</td>
</tr>
<tr>
<td><strong>POLYPODIACEAE</strong></td>
<td></td>
</tr>
<tr>
<td><em>Matteuccia struthiopteris</em> (L.) Todaro var. <em>pensylvanica</em> (Willd.) Morton</td>
<td>Ostrich Fern</td>
</tr>
<tr>
<td><strong>GYMNOSPERMS</strong></td>
<td></td>
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<tr>
<td><em>Pinaceae</em></td>
<td></td>
</tr>
<tr>
<td><em>Abies balsamea</em> (L.) Mill.</td>
<td>Balsam Fir</td>
</tr>
<tr>
<td><em>Larix laricina</em> (Du Roi) K. Koch</td>
<td>Tamarack</td>
</tr>
<tr>
<td><em>Picea glauca</em> (Moench) Voss</td>
<td>White Spruce</td>
</tr>
<tr>
<td><em>P. mariana</em> (Mill.) B.S.P.</td>
<td>Black Spruce</td>
</tr>
<tr>
<td><em>Pinus banksiana</em> Lamb.</td>
<td>Jack Pine</td>
</tr>
<tr>
<td><strong>ANGIOSPERMS: DICOTYLEDON</strong></td>
<td></td>
</tr>
<tr>
<td><em>Asteraceae</em></td>
<td></td>
</tr>
<tr>
<td><em>Achillea millefolium</em> L.</td>
<td>Bulb-bearing Water-hemlock</td>
</tr>
<tr>
<td><em>A. sibirica</em> Ledeb.</td>
<td>Water-hemlock</td>
</tr>
<tr>
<td><em>Antennaria neglecta</em> Greene</td>
<td>Cow-parsnip</td>
</tr>
<tr>
<td><em>A. parviflora</em> Nutt. *</td>
<td>Snakeroot</td>
</tr>
<tr>
<td><em>Aruncaria chamissonis</em> Less.</td>
<td>Water-parsnip</td>
</tr>
<tr>
<td><em>A. fulgens</em> Pursh. *</td>
<td>Heart-leaved Alexanders</td>
</tr>
<tr>
<td><em>Artemisia campestris</em> L.</td>
<td></td>
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<tr>
<td><em>Bidens cernua</em> L.</td>
<td>Spreading Dogbane</td>
</tr>
<tr>
<td><em>Cirsium arvense</em> (L.) Scop.</td>
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<tr>
<td><em>C. drummondii</em> Torr. Gray</td>
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<tr>
<td><em>Crepis tectorum</em> L.</td>
<td></td>
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<tr>
<td><em>Erigeron glabellus</em> Nutt.</td>
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<tr>
<td><em>E. philadelphicus</em> L.</td>
<td></td>
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<tr>
<td><em>E. strigosus</em> Muhl.</td>
<td></td>
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<tr>
<td><em>Gaillardia aristata</em> Pursh</td>
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<tr>
<td><em>Helenium nuttallii</em> T. &amp; G.*</td>
<td></td>
</tr>
<tr>
<td><em>Hieracium umbellatum</em> L.</td>
<td></td>
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<tr>
<td><em>Liatris liguliflora</em> (A. Nels.) K. Schum.</td>
<td></td>
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<tr>
<td><em>Matricaria discoidea</em> DC.</td>
<td></td>
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<tr>
<td>[=M. matricarioides* (Less.) Porter]</td>
<td>Pineappleweed</td>
</tr>
<tr>
<td><em>Petasites palustris</em> (Ait.) A. Gray</td>
<td></td>
</tr>
<tr>
<td><em>P. sagittatus</em> (Pursh) A. Gray</td>
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<tr>
<td><em>Senecio congestus</em> (R.Br.) DC.</td>
<td></td>
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<tr>
<td><em>S. pauperculus</em> Michx.</td>
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<tr>
<td><em>Solidago canadensis</em> L. [s.lat.]</td>
<td></td>
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<tr>
<td><em>S. missourensis</em> Nutt.</td>
<td></td>
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<tr>
<td><em>S. spathulata</em> DC. *</td>
<td></td>
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<tr>
<td><em>Sonchus arvensis</em> L.</td>
<td></td>
</tr>
<tr>
<td><em>Symphyotrichum ciliolatum</em> (Lindl.) A.&amp;D.Löve</td>
<td>Lindsley's Aster</td>
</tr>
<tr>
<td>[=Aster ciliolatus Lindl.]</td>
<td></td>
</tr>
<tr>
<td><em>S. laeve</em> (L.) A.&amp;D.Löve var. geyeri (Gray)</td>
<td>Nesom</td>
</tr>
<tr>
<td>[=A. laevis L.]</td>
<td></td>
</tr>
<tr>
<td><em>S. puniceum</em> (L.) A.&amp;D.Löve.</td>
<td>Purple-stemmed Aster</td>
</tr>
<tr>
<td>[=A. puniceus L.]</td>
<td></td>
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<tr>
<td><em>Tanacetum vulgare</em> L.</td>
<td></td>
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<tr>
<td><em>Taraxacum officinale</em> Weber</td>
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<tr>
<td><em>Tragopogon pratensis</em> L.</td>
<td></td>
</tr>
<tr>
<td><em>Trimmophila elata</em> (Hook.) Nesom*</td>
<td>Tall White Daisy Fleabane</td>
</tr>
<tr>
<td>[=Erigeron elatus* (Hook.) Greene]</td>
<td></td>
</tr>
<tr>
<td><strong>BETULACEAE</strong></td>
<td></td>
</tr>
<tr>
<td><em>Alnus viridis</em> (VIII.) Lam.&amp; DC. ssp. <em>crispa</em> (Ait.) Turrill</td>
<td></td>
</tr>
<tr>
<td>[=A. crispa (Ait.) Pursh]</td>
<td>Green Alder</td>
</tr>
<tr>
<td><em>A. incana</em> (L.) Moench spp. <em>tenuifolia</em> (Nutt.)</td>
<td>Breit</td>
</tr>
<tr>
<td>[=A. rugosa* (Du Roi) Spreng.]</td>
<td>River Alder</td>
</tr>
<tr>
<td><em>B. pumila</em> L. var. <em>glandulifera</em> Reg</td>
<td>Bog Birch</td>
</tr>
<tr>
<td><em>B. papyrifera</em> Marsh.</td>
<td></td>
</tr>
<tr>
<td><em>Corylus cornuta</em> Marsh.</td>
<td></td>
</tr>
</tbody>
</table>

Blue Jay

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BORAGINACEAE
Mertensia paniculata (Ait.) G. Don

BRASSICACEAE
Arabis davicarpa A. Nels.*
Arabis divicarpa A. Nels.*
A. lyrata L.
Capsella bursa-pastoris (L.) Medic
Descurainia sophia (L.) Webb
Erysimum cheiranthoides L.
Lepidium densiflorum Schrad
Rorippa palustris (L.) Besser
Thlaspi arvense L.

CAMPANULACEAE
Campanula rotundifolia L.

CAPRIFOLIACEAE
Linnaea borealis L.
Lonicera dioica L.
L. involucrata (Richards.) Banks
Symphoricarpos albus (L.) Blake
S. occidentalis Hook.
Viburnum edule (Michx.) Raf.
V. opulus L. var. americanum Ait.
 [=V. trilobum Marsh.]

CARYOPHYLLACEAE
Minuaria dawsonensis (Britt.) House*
 [= Arenaria dawsoniensis Britt.]*
Moehringia lateriflora (L.) Fenzl.
Stellaria crassifolia Ehrh.
S. longifolia Muhl.
S. media (L.) Cyrill.

CERATOPHYLLACEAE
Ceratophyllum demersum L.*

CHENOPODIACEAE
Chenopodium album L.
C. capitatum (L.) Aschers.

CORNACEAE
Cornus canadensis L.
C. sericea L. ssp. stolonifera (Michx.) Fossb.
[=C. stolonifera Michx.]

DROSERACEAE
Drosera rotundifolia L.

Tail Lungwort

Purple Rock Cress
Purple Rock Cress
Lyre-leaf Rock Cress
Shepherd’s-purse
Flixweed
Wormseed Mustard
Common Pepper-grass
Yellow Cress
Stinkweed

Harebell

Twinflower
Twining Honeysuckle
Involucrate Honeysuckle
Snowberry
Western Snowberry
Low Bush-cranberry
High Bush-cranberry

Rock Sandwort
Grove Sandwort
Fleshy Stitchwort
Long-leaved Stitchwort
Common Chickweed

Coontail

Lamb’s-quarters
Strawberry Blite

Bunchberry

Red-osier Dogwood

Round-leaved Sundew

ELAEAGNACEAE
Shepherdia canadensis (L.) Nutt.

ERICACEAE
Andromeda polifolia L.
Arctostaphylos uva-ursi (L.) Spreng
Chamaedaphne calyculata (L.) Moench.
Kalmia polifolia Wangerin.
Ledum groenlandicum Oeder
Vaccinium caespitosum Michx.*
V. myrtilloides Michx.
V. oxyccoccus L.*
V. vitis-idaea L.

FABACEAE
Astragalus agrestis Dougl.
Caragana arborescens Lam.*
Hedysarum alpinum L.
H. ssp. americanum (Michx.) Fedsch.
Lathyrus ochroleucus Hook.
L. venosus Muhl.
Medicago sativa L.
Melilotus albus Medic.
M. officinalis (L.) Lam.
Oxytropis deflexa (Pall.) DC.
Trifolium hybridum L.
Vicia americana Muhl.

FUMARIACEAE
Corydalis aurea Willd.
C. sempervirens (L.) Pers.

GENTIANACEAE
Gentianella amarella (L.) Borner
Halenia deflexa (Sm.) Griseb.

GERANIACEAE
Geranium bicknelli Britt.

GROSSULARIACEAE
Ribes americanum Mill.
R. hudsonianum Richards.
R. oxyanthoides L.
R. triste Pall.

HALORAGACEAE
Myriophyllum sibiricum Komar.*
[=M. excalbescens Fernald]

Canadian Buffaloberry

Bog-rosemary
Bearberry
Leatherleaf
Pale Bog Laurel
Labrador-tea
Dwarf Blueberry
Blueberry
Small Bog or Swamp Cranberry
Dry-ground Cranberry

Purple Milk-Vetch
Siberian Pea Shrub
American Hedysarum
Cream-colored Vetchling
Wild Peavine
Alfalfa
White Sweet-clover
Yellow Sweet-clover
Reflexed Locoweed
Alsike Clover
American Vetch

Golden Corydalis
Pink Corydalis

Northern Gentian
Spurred-Gentian

Bicknell’s Geranium

Wild Black Currant
Northern or Wild Black Currant
Wild Gooseberry
Wild Red Currant

Water Milfoil
HIPPURIDACEAE
Hippuris vulgaris L.

HYDROPHYLLACEAE
Phacelia frankii (R. Br.) A. Gray

LAMIACEAE
Agastache foeniculum (Pursh) Ktze.
Draecocephalum parviflorum Nutt. * [=Moldavica parviflora (Nutt.) Britt.]
Galeopsis tetrahit L. ■
Lycopus asper Greene ■
L. uniflorus Michx. ■
Mentha arvensis L.
Scutellaria galericulata L.
Stachys palustris L.

LENTIBULARIACEAE
Urticaria macrorhiza Le Conte. [=U. vulgaris L]
U. intermedia Hayne

MENYANTHACEAE
Menyanthes trifoliata L.

MONOTROPACEAE
Monotropa uniflora L.*

NYMPHACEAE
Nuphar variegatum Dur.

ONAGRACEAE
Circae alpina L. ■
Epilobium ciliatum Raf.
Oenothera biennis L.

PLANTAGINACEAE
Plantago major L.

POLEMONIACEAE
Collomia linearis Nutt.

POLYGALACEAE
Polygala senega L.

POLYGONACEAE
Polygonum amphibium L.
P. aviculare L. ■
P. lapathifolium L. ■
Mare's-tail
Franklin's Scorpionweed

GIANT-HYSSOP
American Dragonhead
Hemp-nettle
Western Water-horehound
Northern Water-horehound
Field Mint
Marsh Skullcap
Marsh Hedge-nettle

COMMON BLADDERWORT
Flat-leaved Bladderwort

BUCK-BEAN
Indian-Pipe

YELLOW POND-LILY

SMALL ENCHANTER’S-NIGHTSHADE
Northern Willowerb
Yellow Evening-Pimrose

COMMON PLANTAIN

COLLOMIA

SENECA SNAKEROWT

SWAMP PERSICARIA
Doorweed
Pale Persicaria

Rumex maritimus L. ■
R. occidentalis S. Wats. ■

PRIMULACEAE
Lysimachia thyrsiflora L.
Trientalis borealis Raf.

PYROLACEAE
Moneses uniflora (L.) Gray* ■
Orthilia secunda (L.) House
Pyrola asarifolia Michx.
P. chlorantha Sw.
P. elliptica Nutt.

RANUNCULACEAE
Actaea rubra (At.) Willd.
Anemone canadensis L.
A. multifida Poir. ■
A. petens L.
A. virginiana L. ■
[A. riparia Fern.]
Aquilegia brevistyla Hook.
Caltha palustris L.
Delphinium glaucum S. Wats. ●
R. aquatila L. var. diffusus Withering *
Ranunculus macounii Britt.
R. seleratus L.
Thalictrum venulosum Trel.

ROSACEAE
Amelanchier alnifolia Nutt.
Dasiphora fruticosa (L.) Rydb. ssp. floribunda
[=Potentilla fruticosa L.]
Fragaria vesca L.
F. virginiana Duchesne
Geum macrophyllum Willd.*
var. perincisum (Rydb.) Raup
G. rivale L.
G. triflorum Pursh
Potentilla anserina L.
P. arguta Pursh ■
P. norvegica L. ■
P. palustris (L.) Scop.
Prunus pensylvanica L. ■
P. virginiana L.
Rosa acicularis Lindl.
R. woodsii Lindl.*
Rubus arcticus L.
var. acaulis (Michx.) Focke

Golden Dock
Western Dock

Tufted Loosestrife
Northern Starflower

One-Flowered Wintergreen
One-sided Wintergreen
Pink Wintergreen
Greenish-flowered Wintergreen
Common Shinleaf

Red Baneberry
Canada Anemone
Cut-leaved Anemone
Crocus Anemone
Riverbank Anemone

Small-flowered Columbine
Marsh-margold
Tall Larkspur
White Water Crowfoot
Macoun’s Buttercup
Celery-leaved buttercup
Veiny Meadow-Rue

Saskatoon
Shrubby Cinquefoil
American Wild Strawberry
Smooth Wild Strawberry

Yellow Cut-leaf Avens
Purple Avens
Three-flowered Avens
Silverweed
White Cinquefoil
Rough Cinquefoil
Marsh Cinquefoil
Pin Cherry
Red-fruitied Choke Cherry
Prickly Rose
Wood’s Rose
Dwarf Raspberry
<table>
<thead>
<tr>
<th>Family</th>
<th>Species</th>
<th>Common Name</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>RUBIACEAE</strong></td>
<td>Gallium boreale L.</td>
<td>Labrador Bedstraw</td>
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<tr>
<td></td>
<td>G. labradoricum Wieg.</td>
<td>Labrador Bedstraw</td>
</tr>
<tr>
<td></td>
<td>G. trifidum L.</td>
<td>Labrador Bedstraw</td>
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<tr>
<td></td>
<td>G. trifurum Michx.</td>
<td>Labrador Bedstraw</td>
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<tr>
<td><strong>SALICACEAE</strong></td>
<td>Populus balsamifera L.</td>
<td>Balsam Poplar</td>
</tr>
<tr>
<td></td>
<td>P. tremuloides Michx.</td>
<td>Aspen Poplar</td>
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<tr>
<td></td>
<td>Salix bebbiana Sarg.</td>
<td>Beaked Willow</td>
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<tr>
<td></td>
<td>S. candida Fluegge</td>
<td>Hoary Willow</td>
</tr>
<tr>
<td></td>
<td>S. discolor Muhl.</td>
<td>Pussy Willow</td>
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<tr>
<td></td>
<td>S. exigua Nutt.</td>
<td>Sandbar Willow</td>
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<tr>
<td></td>
<td>subsp. interior (Rowlee) Cronq.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>S. lucida Muhl. ssp. lasiandra (Benth.) Murr.</td>
<td></td>
</tr>
<tr>
<td><strong>SANTALACEAE</strong></td>
<td>Comandra umbellata (L.) Nutt.</td>
<td>Western Shining Willow</td>
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<tr>
<td></td>
<td>Geocaulon lividum (Richards.) Fern.</td>
<td>Bag Willow</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Basket Willow</td>
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<tr>
<td><strong>SAXIFRAGACEAE</strong></td>
<td>Heuchera richardsonii R. Br.</td>
<td>Alumroot</td>
</tr>
<tr>
<td></td>
<td>Mitella nuda L.</td>
<td>Bishop's-cap</td>
</tr>
<tr>
<td></td>
<td>Parmassia palustris L.</td>
<td>Meadow Grass-of-Parnassus</td>
</tr>
<tr>
<td><strong>SCROPHULARIACEAE</strong></td>
<td>Castilleja miniata Dougl.</td>
<td>Red Indian Paintbrush</td>
</tr>
<tr>
<td></td>
<td>Melampyrum lineare Desr.*</td>
<td>Cow Wheat</td>
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<tr>
<td></td>
<td>Penstemon procerus Douglas ex R. Grah.*</td>
<td>Slender Blue Beardtongue</td>
</tr>
<tr>
<td></td>
<td>Veronica americana (Raf.) Schw.</td>
<td>American Speedwell</td>
</tr>
<tr>
<td><strong>URTIACEAE</strong></td>
<td>Urtica dioica L.</td>
<td>Stinging Nettle</td>
</tr>
<tr>
<td><strong>VIOLACEAE</strong></td>
<td>Viola edunca J.E. Smith</td>
<td>Early Blue Violet</td>
</tr>
<tr>
<td></td>
<td>V. canadensis L.</td>
<td>Western Canada Violet</td>
</tr>
<tr>
<td></td>
<td>var. rugulosa (Greene) C.L. Hitchc.</td>
<td></td>
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<tr>
<td></td>
<td>V. nephrophylla Greene</td>
<td>Northern Bog Violet</td>
</tr>
<tr>
<td><strong>ANGIOSPERMS: MONOCOTYLEDON</strong></td>
<td>Allium trivale Pursh n</td>
<td>Common Water-plantain</td>
</tr>
<tr>
<td></td>
<td>[-A. plantago-aquatica L.]</td>
<td>Arum-leaved Arrowhead</td>
</tr>
<tr>
<td><strong>ARACEAE</strong></td>
<td>Calla palustris L.</td>
<td>Water Calla</td>
</tr>
<tr>
<td><strong>CYPERACEAE</strong></td>
<td>C. aquatilis Wahl.</td>
<td>Water Sedge</td>
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<tr>
<td></td>
<td>C. aerea Nutt.</td>
<td>Golden Sedge</td>
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<tr>
<td></td>
<td>C. bebbii Olney</td>
<td>Bebb's Sedge</td>
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<tr>
<td></td>
<td>Carex foenea Willd.</td>
<td>Hay Sedge</td>
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<tr>
<td></td>
<td>[-C. aena Fern.]</td>
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<tr>
<td></td>
<td>C. pseudocyperus L.</td>
<td>Cyperus-like Sedge</td>
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<tr>
<td></td>
<td>C. utriculata Boott.</td>
<td>Beaked Sedge</td>
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<tr>
<td></td>
<td>C. viridula Michx.</td>
<td>Green Sedge</td>
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<tr>
<td></td>
<td>Eleocharis palustris (L.) R. &amp; S.</td>
<td>Creeping Spike-rush</td>
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<tr>
<td></td>
<td>Eriophorum angustifolium Honck *</td>
<td>Narrow-Leaved Cottongrass</td>
</tr>
<tr>
<td></td>
<td>[-E. polystachion L.]</td>
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<tr>
<td></td>
<td>E. gracile Koch n</td>
<td>Slender Cotton-grass</td>
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<tr>
<td></td>
<td>Schoenoplectus tabernaemontani (Gmel.)</td>
<td>Palla</td>
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<tr>
<td></td>
<td>[-=Scirpus validus Vahl]</td>
<td>Great Bulrush</td>
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<tr>
<td></td>
<td>Scirpus microcarpus Pers.</td>
<td>Small-fruited Bulrush</td>
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<tr>
<td></td>
<td>Trichophorum alpinum (L.) Pers.</td>
<td>Alpine Cotton-grass</td>
</tr>
<tr>
<td></td>
<td>[-=Scirpus hudsonianus (Michx.) Fern.]</td>
<td></td>
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<tr>
<td><strong>IRIDACEAE</strong></td>
<td>Sisyrinchium montanum Greene</td>
<td>Common Blue-eyed Grass</td>
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<tr>
<td><strong>JUNCACEAE</strong></td>
<td>Juncus alpinoarticulatus Chaix</td>
<td>Alpine Rush</td>
</tr>
<tr>
<td></td>
<td>[-J. alpinus Vill.]</td>
<td></td>
</tr>
<tr>
<td></td>
<td>J. arcticus Willd. var. balticus (Willd.) Traut.</td>
<td>Baltic Rush</td>
</tr>
<tr>
<td></td>
<td>[-J. balticus Willd.]</td>
<td>Knotted Rush</td>
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<tr>
<td><strong>JUNCAGINACEAE</strong></td>
<td>Triglochin maritima L.</td>
<td>Seaside Arrow-grass</td>
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<tr>
<td></td>
<td>T. palustris L.</td>
<td>Marsh Arrow-grass</td>
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<tr>
<td><strong>LEMNACEAE</strong></td>
<td>Lemna minor L.</td>
<td>Lesser Duckweed</td>
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<tr>
<td></td>
<td>Spirodela polyrhiza (L.) Scheid.*</td>
<td>Larger Duckweed</td>
</tr>
<tr>
<td><strong>LILIACEAE</strong></td>
<td>Lilium philadelphicum L.</td>
<td>Wood Lily</td>
</tr>
<tr>
<td></td>
<td>Maianthemum canadense Desf.</td>
<td>Two-leaved Solomon's-seal</td>
</tr>
</tbody>
</table>

**ORCHIDACEAE**

*Coeleglossum viride* (L.) Hartm. var. *virescens* (Muhl. ex Willd.) Luer

*Corallorhiza maculata* Raf.

*Cypridipedium passerinum* Richards.*

*Goodyera repens* (L.) R.Br.

*Platanthera aquilonis* Shev.

*Habenaria hyperborea* (L.) R.Br.

*P. obtusata* (Banks ex Pursh) Lindl. ■

*Spiranthes lacera* (Raf.) Raf. ■

*S. gracilis* (Bigelow) Beck

*S. romanzoffiana* Cham. & Schlecht.

**POACEAE**

*Agrostis scabra* Willd. ■

*Alopecurus aequalis* Sobol. ■

*Avena sativa* L. ■

*Beckmannia syzigachne* (Steud.) Fern. ■

*Bromus inermis* Leyss. ■

*Calamagrostis canadensis* (Michx.) Beauv.

*Calamovilfa longifolia* (Hook.) Scribn.*

*Elymus trachycaulus* (Link) Gould & Shin.

*Festuca ovina* L.**

*Hordeum jubatum* L.

*Leymus innovatus* (Beal) Pilger

*Phalaris arundinacea* L.

*Phragmites australis* (Cav.) Trin.

*Piptatherum pungens* (Torr. ex Spreng.) Barkworth *

*Poa pratensis* L.

**POTAMOGETONACEAE**

*Potamogeton natans* L.

*P. richardsonii* (Benn.) Rydb.

*Stuckenia pectinata* (L.) Boerner

*Zygodon elegans* Pursh ■

**TYPHACEAE**

*Typha latifolia* L.

Common or Broad-leaved Cattail

- Indicates that the species is being tracked by the W. P. Fraser Herbarium but is not currently listed as rare or endangered.
- Indicates a new record of the species for the MLPP
- Indicated that the species was recorded in a previous floristic survey but not located in this survey.
- **Probably *Festuca saximontana*; *Festuca ovina* has not been confirmed in Saskatchewan.

---

*Leathery Grape Fern leaf*  
Elizabeth Reimer
Table 2. List of species provincially at risk in the Meadow Lake Provincial Park.
Status assigned by the Saskatchewan Conservation Data Center: S1 (Extremely rare) = 5 or fewer occurrences in Saskatchewan, or very few remaining individuals; S2 (Rare) = 6 to 20 occurrences in Saskatchewan or few remaining individuals; S3 (Rare-Uncommon) = 21 to 100 occurrences in Saskatchewan, may be rare and local throughout the province or may occur in a restricted provincial range.

<table>
<thead>
<tr>
<th>Scientific Name</th>
<th>SK CDC Rarity Status</th>
<th>Harms (2003) Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leathery Grape Fern</td>
<td>Rare-uncommon (S3)</td>
<td>Uncommon</td>
</tr>
<tr>
<td>Cyperus-like Sedge</td>
<td>Rare to rare-uncommon (S2S3)</td>
<td>Uncommon</td>
</tr>
<tr>
<td>Sparrow’s Egg Lady’s-slipper</td>
<td>Rare (S2)</td>
<td>Uncommon</td>
</tr>
<tr>
<td>Slender Ladies’-tresses</td>
<td>Rare to rare-uncommon (S2S3)</td>
<td>Vulnerable</td>
</tr>
<tr>
<td>Tall Larkspur</td>
<td>Rare to extremely rare (S1S2)</td>
<td>Threatened</td>
</tr>
<tr>
<td>Rough Daisy Fleabane</td>
<td>Rare to rare-uncommon (S2S3)</td>
<td>Uncommon</td>
</tr>
<tr>
<td>Tall White daisy Fleabane</td>
<td>Rare (S2)</td>
<td>Vulnerable</td>
</tr>
<tr>
<td>Dwarf Thistle</td>
<td>Rare-uncommon (S3)</td>
<td>Uncommon</td>
</tr>
</tbody>
</table>

INSECTS

RESULTS OF THE 2005 INTERNATIONAL BUTTERFLY COUNTS IN SASKATCHEWAN

MIKE GOLLOP, 51 Welker Crescent, Saskatoon, SK S7H 3M3 and ANNA LEIGHTON, 328 Saskatchewan Crescent West, Saskatoon, SK S7M 0A4.

The Xerxes Society began a program of organized butterfly counts in 1974. These counts were turned over to the North American Butterfly Association to administer beginning in 1993. Held within the month before or after July 4, they are referred to as Fourth of July Counts (4JC) in the United States and First of July Counts (1JC) in Canada. The first of these counts was held in Saskatchewan in 1986 and the longest running count, the one at Fort Qu’Appelle, has been conducted annually since 1990. Modeled on the Christmas Bird Count, each butterfly count is held within a 24 km circle and all individuals and species seen on count day are recorded. Unlike the Christmas Bird Count, the butterfly count day may be rescheduled if the weather is unfavorable for the target species; butterflies simply don’t fly when the weather is rainy or cold.

In 2005, annual butterfly counts were conducted at eight locations in Saskatchewan: Dundurn Military Reserve, Fort Qu’Appelle, Nisbet Forest, Regina, Saskatoon, Preeceville, Waskesiu River and Woodpile Creek. This is fewer counts than in the past few years: 14 locations in 2004 and 18 in 2003. The reduced number of counts resulted in a total of 57 species counted in 2005 as compared to 79 in 2004 and 84 in 2003. The total number of butterflies counted was 6961, however, compared to 4942 in 2004 and 9634 in 2003. Butterflies per party-hour averaged 86 on the eight counts, which was up from previous years.

Figure 1. Eastern Pine Elfin on Waskesiu River count, 8 June 2005

Michael Williams

Juhachi Asai