
PLANTS

FLORA OF THE BESNARD LAKE AREA, NORTH-CENTRAL SASKATCHEWAN

VERNON L. HARMS, W. P. Fraser Herbarium, University of Saskatchewan,
Saskatoon, Saskatchewan, S7N 0W0, and ANNA LEIGHTON, 328
Saskatchewan Crescent West, Saskatoon, Saskatchewan. S7M 0A4

Introduction Besnard Lake in north-central Saskatchewan is located about 20-30 km south of the Churchill River, 60 km west-northwest of LaRonge, and 40 km east-southeast of Pinehouse Lake Village, at between latitudes 55°17' to 31' N, and longitudes 105°47' to 106°17' W. (See Maps 1 and 2.) The area is accessible via the Besnard Lake Road

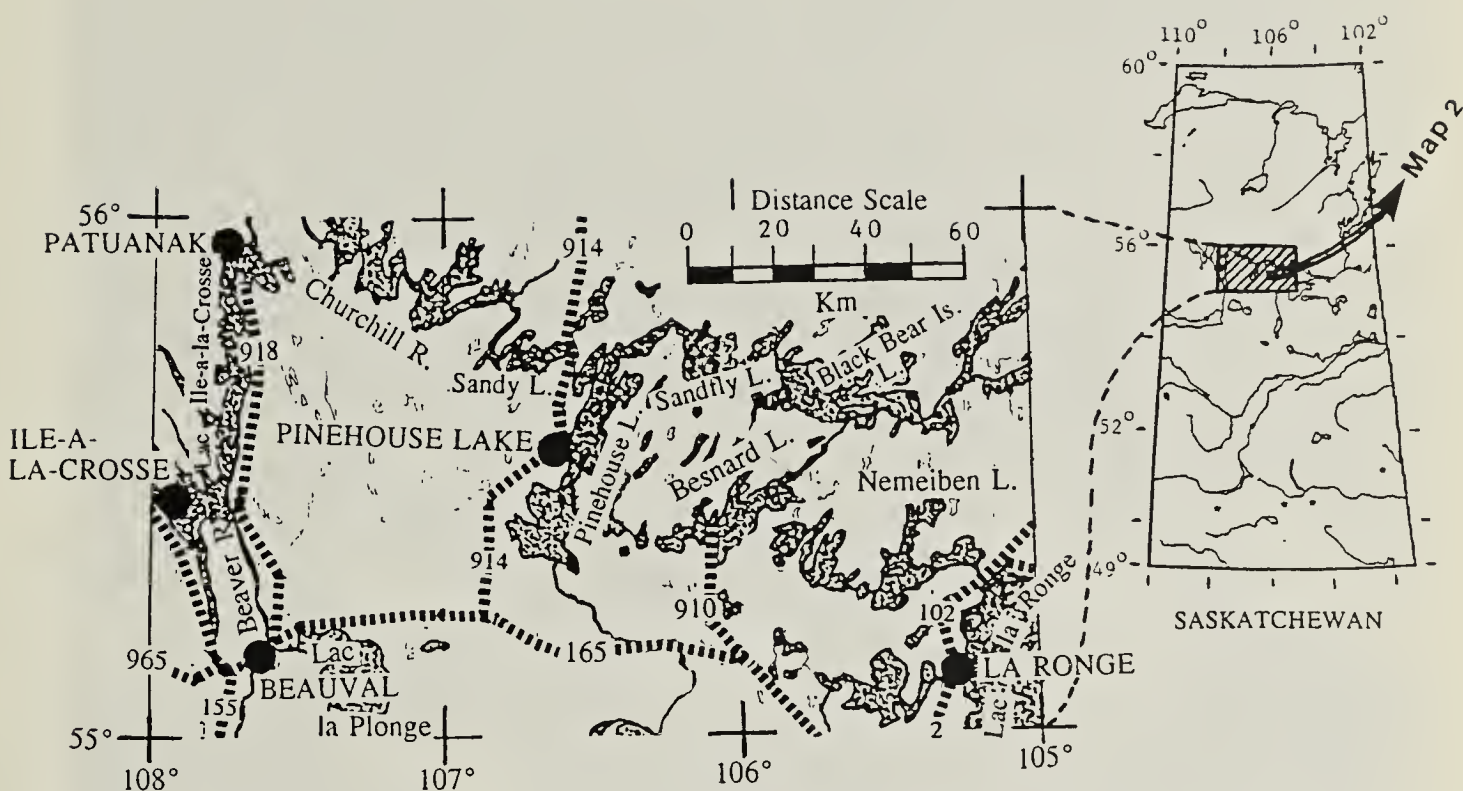
(Hwy. 910) extending north from Hwy. 165 and crossing the Narrows, and the Morning-Clam Lake Road, forking east from the former to skirt Besnard Lake's south side.

Physiographically, Besnard Lake occurs at the southern border of the Canadian Precambrian Shield, with the shield landforms north of the lake



Tamarack (Larix laricina) buds

Wayne Lynch

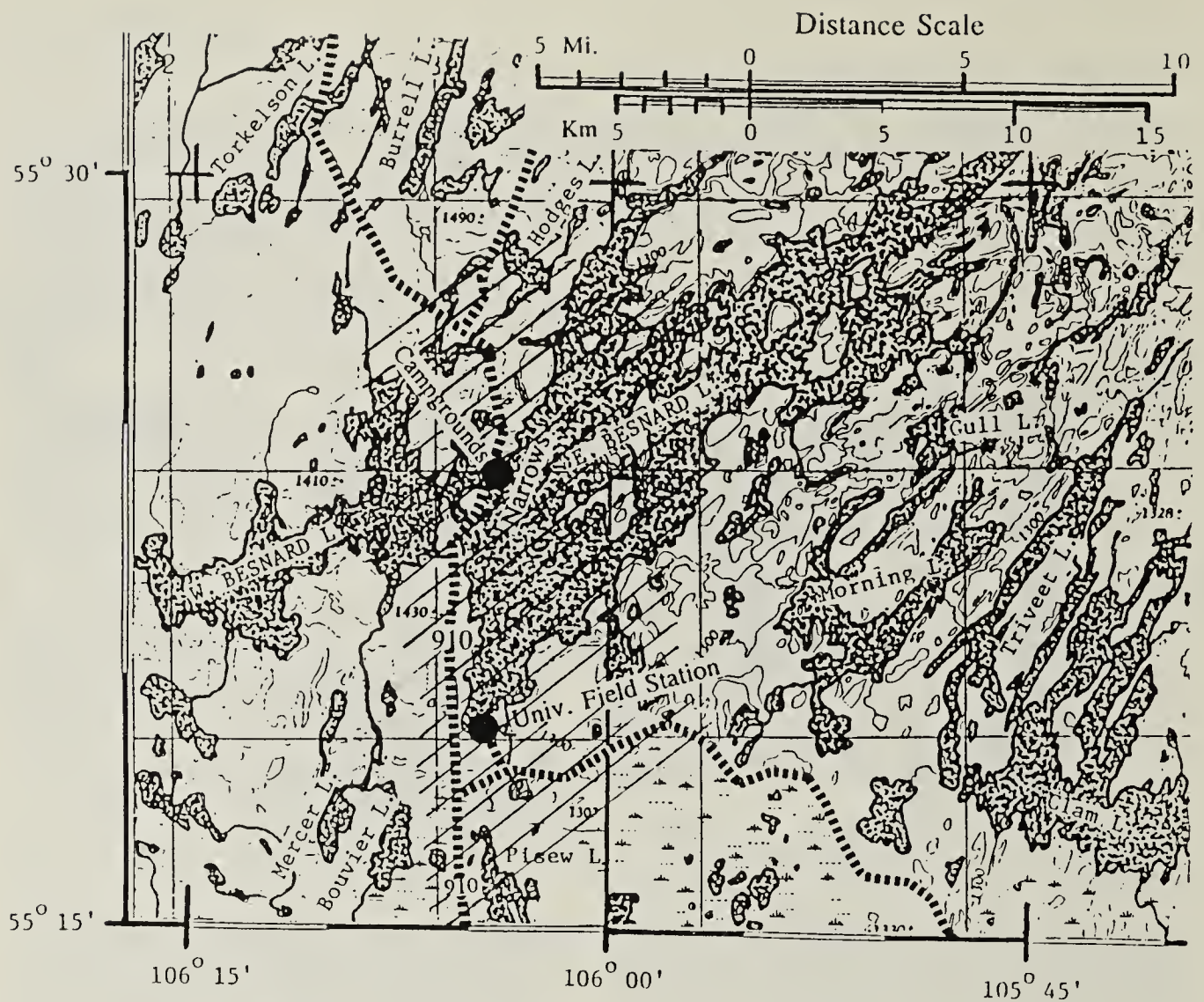


Map 1. LOCATION OF BESNARD LAKE IN NORTH-CENTRAL SASKATCHEWAN.

characterized by numerous granitic rock outcroppings and shallow soil, and the non-shield landforms south of Besnard Lake characterized largely by sandy, lacustrine or till soils, except locally where organic peaty substrates have developed under bogs and fens. This general area of low relief below the 1500-foot contour between the Precambrian Shield to the north and the Saskatchewan Uplands to the south was considered distinctive enough to be separately recognized by Rowe as the Upper Churchill Section (#B.20).² It is situated between the Northern Coniferous (#B.22) and the Mixedwood (#B.18a) sections of the Boreal Forest Region of Canada.² It was occupied by the post-glacial Lake Hyper-Churchill, resulting in the generally flat to undulating surfaces now present. Apparently, the sandy lacustrine and till deposits were originally derived from thin basal sandstone on the Precambrian basement to the north.²

The original Jack Pine forests that predominated on the sandy upland plains and ridges in the Besnard Lake area have been destroyed to a large extent by extensive forestry clearcutting. The lower, moister sites are largely characterized by Black Spruce woods, often admixed with some White Spruce. Limited stands of aspen-dominated deciduous woods and mixedwoods of various combinations of all the aforementioned tree species, plus also Balsam Poplar, White Birch and River Alder, exist mainly near lake shores and some stream margins. Balsam Fir is uncommon and occurs mostly as small, understory shrubs less than 1 m high in the mixed and spruce woods. Some Tamarack occur with Black Spruce in most treed bogs. Open bogs and fens characterize low, wet, poorly drained depressions.

Besnard Lake is noted for its Bald Eagle nesting sites.¹ With the present



Map 2. BESNARD LAKE AND VICINITY.

location there of a University of Saskatchewan research station under the direction of Dr. Gary R. Bortolotti, it has also become an important study area for other wildlife, especially American Kestrels and other birds of prey, and their rodent prey species.

The following list of 210 species of higher (i.e., vascular) plants (Table 1) was compiled by the authors, based primarily on plant collections made in the general Besnard Lake vicinity by V. L. Harms in June 1992 and by Anna Leighton in 1977-78, but with these supplemented by the 1978 collections of Jon, Naomi and Peter Gerrard, Doug Whitfield and Stacy Tessaro. Despite the wider coordinates given earlier for the general Besnard Lake area, almost all plant collections were made in the Narrows region, on the central islands, and along the south side,

between longitudes $105^{\circ}57'$ and $106^{\circ}05'$ W (see hatched area on Map 2).

The 210 species of vascular plants recorded in the overall area are grouped into 134 genera and 58 families. They include 15 species of pteridophytes (i.e., ferns and fern-allies), 6 species of coniferous gymnosperms, and 189 species of angiosperms (i.e., flowering plants). Less than 4% (i.e., only 8 of 210 species) represent introduced plants (i.e., either invasive weeds or escaped cultigens), which are indicated by asterisks in the subsequent list. The following three plants recorded from the Besnard Lake area are considered rare in Saskatchewan: *Poa arctica* (Arctic Bluegrass), *Polygonum punctatum* var. *confertiflorum* (Dotted Water Smartweed) and *Lilium philadelphium* var. *andinum*



Bunch Berry (Cornis canadensis L.)

Frank A. Switzer

forma immaculata (Immaculate Yellow Lily). Voucher specimens documenting all listed plants are filed in the W.P. Fraser Herbarium, at the University of Saskatchewan, Saskatoon, Saskatchewan.

This species inventory list should not be considered a *fait accompli*, but rather a starting point for the finding of additional plant species records from this general area. Conceivably, about 100 more vascular plants might well be expected for an area of this size at this latitude.

Acknowledgements Appreciation is due to Doug Whitfield who hired the junior author as a field assistant in 1977-78, and to the Boreal Institute of the University of Alberta for sup-

porting the former's Bald Eagle studies at Besnard Lake. The voluntary contributions of the Gerrard family, as indicated earlier, are thankfully noted. The senior author's collecting time at Besnard Lake in June 1992 occurred while he was involved with a Boreal Forest Ecology Field Camp sponsored by the University of Saskatchewan Extension Division under the direction of Peter Jonker.

1. GERRARD, J.M. and G.R. BORTOLOTTI. 1988. The Bald Eagle haunts and habitats of a wilderness monarch. Smithsonian Institution, Washington, DC. 177 pp. (Paperback copy published by Western Producer, Saskatoon, SK.)
2. ROWE, J.S. 1972. The forest regions of Canada. Canadian Forestry Service Publ. No. 1300. Ottawa, ON. 172 pp.



Round-leaved Sundew (*Drosera rotundifolia* L.)

Gary W. Seib

Table 1. VASCULAR PLANTS RECORDED AND DOCUMENTED IN THE BESNARD LAKE VICINITY.

* = introduced (i.e., non-native) plants; (R) = plants rare in Saskatchewan

ADIANTACEAE (Maidenhair Family)

Cryptogramma crispera (L.) R.Br. var. *acrostichoides* (R.Br.) Clarke - Parsley Fern

ALISMATACEAE (Water-plantain Family)

Sagittaria cuneata Sheld. - Arum-leaved Arrowhead

APIACEAE (Parsley or Carrot Family)

Cicuta maculata L. var. *angustifolia* Hook. - Western Water Hemlock
Cicuta mackenzieana Raup. - Water Hemlock
Sium suave Walt. - Water Parsnip

APOCYNACEAE (Dogbane Family)

Apocynum androsaemifolium L. - Spreading Dogbane

ARACEAE (Arum Family)

Acorus calamus L. - Sweet Flag
Calla palustris L. - Marsh Calla; Wild Arum; Wild Calla-lily

ARALIACEAE (Ginseng Family)

Aralia hispida Vent. - Bristly

Sarsaparilla

Aralia nudicaulis L. - Wild

Sarsaparilla

ASPLENIACEAE (Spleenwort Family)

Dryopteris carthusiana (Vill.) H.P. Fuchs - Narrow Spinulose Shield Fern

Dryopteris fragrans (L.) Schott. - Fragrant Shield Fern

Gymnocarpium dryopteris (L.) Newm. - Oak Fern

Woodsia ilvensis (L.) R. Br. - Rusty Woodsia

ASTERACEAE (Aster or Composite Family)

Achillea millefolium L. ssp. *borealis* (Bong.) Breit. - Northern Yarrow

Achillea millefolium L. ssp. *borealis* (Bong.) Breit. f. *rhodantha* (LePage) Scoggan - Pink-flowered Northern Yarrow

Achillea millefolium L. ssp. *lanulosa* (Nutt.) Piper - Common Yarrow

Antennaria parvifolia Nutt. - Low or Small Pussytoes or Everlasting

Aster ciliolatus Lindl. - Lindley's Blue Aster

Bidens cernua L. - Smooth Beggar-ticks

Chrysanthemum leucanthemum L. - Oxeye Daisy*

Crepis tectorum L. - Narrow-leaved Hawksbeard*

Erigeron philadelphicus L. - Philadelphia Fleabane

Hieracium umbellatum L. - Canada Hawkweed

Matricaria matricarioides (Less.) Porter - Pineapple Weed*

Petasites palmatus (Ait.) A. Gray - Palmate-leaved Colt's-foot

Senecio indecorus Greene - Unsightly Groundsel

Senecio pauperculus Michx. - Depauperate Groundsel

Solidago canadensis L. var. *salebrosa* (Piper) M.E. Jones - Canada Goldenrod

Solidago hispida Muhl. - Shaggy Goldenrod

Solidago spathulata DC. var. *neoalaskana* (Gray) Cronq. - Mountain Goldenrod

BALSAMINACEAE (Jewelweed Family)

Impatiens capensis Meerb. - Spotted Touch-me-not

BETULACEAE (Birch Family)

Alnus crispa (Ait.) Pursh - Green Alder

Alnus rugosa (Du Roi) Spreng. - Speckled or River Alder

Betula neoalaskana Sarg. - Alaska White or Paper Birch

Betula pumila L. var. *glandulifera* Regel - Glandular Shrub Birch

BORAGINACEAE (Borage Family)

Mertensia paniculata (Ait.) G. Don - Tall Lungwort

BRASSICACEAE (Mustard Family)

Arabis divaricarpa A. Nels. var. *stenocarpa* M. Hopkins - Purple Rock Cress

Arabis hirsuta (L.) Scop. var. *glabrata* T&G - Hirsute Rock Cress

Lepidium densiflorum Schrad. -

Common Pepper-grass*

Sisymbrium loeselii L. - Tall Hedge Mustard*

CAMPANULACEAE (Bluebell Family)

Campanula aparinoides Pursh - Marsh Bellflower

Campanula rotundifolia L. - Common Harebell or Bluebell

CAPRIFOLIACEAE (Honeysuckle Family)

Linnaea borealis L. - Twin-flower

Lonicera dioica L. var. *glaucescens* (Rydb.) Butters - Twining Honeysuckle

Viburnum edule (Michx.) Raf. - Low Bush Cranberry

CARYOPHYLLACEAE (Pink Family)

Moehringia lateriflora (L.) Fenzl. - Grove Sandwort

Stellaria calycantha (Ledeb.) Bong. - Northern Chickweed

Stellaria longifolia Muhl. - Long-leaved Stitchwort, Starwort or Chickweed

Stellaria longipes Goldie - Long-stalked Chickweed

CHENOPODIACEAE (Goosefoot Family)

Chenopodium capitatum (L.) Aschers - Strawberry Blite

CORNACEAE (Dogwood Family)

Cornus canadensis L. - Bunch Berry; Dwarf Dogwood

CUPRESSACEAE (Cypress Family)

Juniperus communis L. - Low or Ground Juniper

CYPERACEAE (Sedge Family)

Carex cf. *adusta* Boott. - Browned Sedge

Carex cf. *aenea* Fern - Hay Sedge

Carex aquatilis Wahl. - Water Sedge

Carex atherodes Spreng. - Awned Sedge

Carex aurea Nutt. - Golden Sedge

Carex crawfordii Fern - Crawford's Sedge

Carex disperma Dewey - Soft-leaved or Two-seeded Sedge
Carex houghtonii Torr. - Houghton's Sedge
Carex cf. *lanuginosa* Michx. - Woolly Sedge
Carex rostrata Stokes - Beaked Sedge
Carex stipata Muhl. - Awl-fruited Sedge
Eleocharis palustris (L.) R. & S. - Creeping Spike-rush
Eriophorum angustifolium Honck. - Tall Cotton-grass
Eriophorum brachyantherum Trautv. - Close-sheathed Cotton-grass
Eriophorum chamissonis C.A. Mey. - Chamisso's Cotton-grass
Eriophorum gracile K. Koch - Slender Cotton-grass
Eriophorum vaginatum L. - Sheathed Cotton-grass
Scirpus cyperinus (L.) Kunth - Wool-grass
Scirpus hudsonianus (Michx.) Fern. - Alpine Cotton-grass
Scirpus microcarpus Presl. - Small-fruited Sedge

DROSERACEAE (Sundew Family)
Drosera anglica Huds. - Oblong-leaved Sundew
Drosera rotundifolia L. - Round-leaved Sundew

EQUISETACEAE (Horsetail Family)
Equisetum arvense L. - Common or Field Horsetail
Equisetum fluviatile L. - Swamp or Water Horsetail
Equisetum scirpoides Michx. - Dwarf Scouring-rush; Sedge-like Horsetail
Equisetum sylvaticum L. - Woodland Horsetail
Equisetum variegatum Schleich. - Variegated Horsetail

ERICACEAE (Heath Family)
Andromeda polifolia L. - Bog Rosemary
Arctostaphylos uva-ursi (L.) Spreng. - Common Bearberry; Kinnikinnick

Chamaedaphne calyculata (L.) Moench. - Leatherleaf
Kalmia polifolia Wang. - Pale or Bog Laurel
Ledum groenlandicum Oeder - Common Labrador-tea
Oxycoccus microcarpus Turcz. - Small Bog or Swamp Cranberry
Oxycoccus quadripetalus Gilib. - Larger Bog or Swamp Cranberry
Vaccinium myrtilloides Michx. - Canada Blueberry
Vaccinium vitis-idaea L. - Lingenberry; Dry-ground, Mountain, Low or Bog Cranberry; Cowberry

FABACEAE (Legume or Pea Family)
Astragalus canadensis L. - Canada Milk Vetch
Caragana arborescens Lam. - Caragana; Siberian Pea-shrub*
Lathyrus ochroleucus Hook. - Cream-colored Pea-vine or Vetchling
Trifolium repens L. - White Clover*
Vicia americana Muhl. - American Vetch

FUMARIACEAE (Fumitory Family)
Corydalis aurea Willd. - Golden Corydalis
Corydalis sempervirens (L.) Pers. - Pink or Pale Corydalis

GENTIANACEAE (Gentian Family)
Gentiana amarella L. - Northern Gentian

GERANIACEAE (Geranium Family)
Geranium bicknellii Britt. - Bicknell's Wild Geranium

GROSSULARIACEAE (Currant Family)
Ribes glandulosum Grauer - Skunk Currant
Ribes hudsonianum Richards. - Northern Black Currant
Ribes oxycanthoides L. s. lato - Northern or Canada Gooseberry

HALORAGIDACEAE (Water-milfoil Family)
Myriophyllum exalbescens Fern. - American Water-milfoil

HYDROPHYLLACEAE (Water-leaf Family)

Phacelia franklinii (R. Br.) A. Gray - Franklin's Scorpion-weed

HYPERICACEAE (St. John's-wort Family)

Hypericum majus (Gray) Britt. - Large Canada St. John's-wort

JUNCACEAE (Rush Family)

Juncus alpinus Vill. var. *rariflorus* Hartm. - Alpine Rush

Juncus dudleyi Wieg. - Dudley's Path Rush

LAMIACEAE (Mint Family)

Lycopus uniflorus Michx. - Northern Water-horehound

Mentha arvensis L. - Wild or Field Mint

Stachys palustris L. var. *pilosa* (Nutt.) Fern. - Marsh Hedge-nettle

LENTIBULARIACEAE (Bladderwort Family)

Utricularia intermedia Hayne - Flat-leaved Bladderwort

LILIACEAE (Lily Family)

Lilium philadelphicum L. var. *andinum* (Nutt.) Ker. - Western Red Wood Lily

Lilium philadelphicum L. var. *andinum* (Nutt.) Ker forma *immaculatum* Raup - Immaculate Yellow Lily. (R)

Maianthemum canadense Desf. var. *interius* Fern. - Two-leaved Solomon's-seal

Smilacina trifolia (L.) Desf. - Three-leaved Solomon's-seal

LORANTHACEAE (Mistletoe Family)

Arceuthobium americanum Nutt. - Pine or American Mistletoe

LYCOPODIACEAE (Club-moss Family)

Lycopodium annotinum L. - Stiff Club-moss

Lycopodium clavatum L. - Running Club-moss

Lycopodium complanatum L. -

Ground-cedar; Trailing Club-moss

Lycopodium dendroideum Michx. - Ground-pine; Tree Club-moss

MYRICACEAE (Bayberry Family)

Myrica gale L. - Sweet Gale; Bog-myrtle

NYMPHACEAE (Water Lily Family)

Nuphar variegatum Engelm. - Yellow Pond-lily

ONAGRACEAE (Evening-primrose Family)

Circaea alpina L. - Small

Enchanter's-nightshade

Epilobium angustifolium L. - Fireweed

Epilobium ciliatum Raf. - Northern Willow-herb

Epilobium palustre L. - Marsh Willow-herb

ORCHIDACEAE (Orchid Family)

Cypripedium acaule Ait. - Stemless Lady's-slipper

Cypripedium calceolus L. var. *parviflorum* (Salisb.) Fern. - Small Yellow Lady's-slipper

Goodyera repens (L.) R. Br. - Lesser Rattlesnake Plantain

Platanthera hyperborea (L.) Lindl. - Northern Green Bog Orchid

Platanthera obtusata (Banks) Lindl. - Small Northern Bog Orchid

Spiranthes romanzoffiana Cham. & Schl. - Hooded Ladies'-tresses

PINACEAE (Pine Family)

Abies balsamea (L.) Mill. - Balsam Fir

Larix laricina (Du Roi) K. Koch - Tamarack; American Larch

Picea glauca (Moench) Voss - White Spruce

Picea mariana (Mill.) BSP. - Black Spruce

Pinus banksiana Lamb. - Jack Pine

PLANTAGINACEAE (Plantain Family)

Plantago major L. - Common or Broadleaf Plantain; White-man's Foot*

POACEAE (Grass Family)

- Agropyron trachycaulum* (Link)
Malte - Slender or Western
Wheatgrass
- Agrostis scabra* Willd. - Rough Hair-
grass; Tickle-grass
- Alopecurus aequalis* Sobol. - Short-
awned or Water Foxtail
- Calamagrostis canadensis* (Michx.)
Beauv. - Blue Joint; Marsh Reed
Grass
- Elymus innovatus* Beal. - Hairy Wild-
rye
- Glyceria borealis* (Nash) Batch. -
Northern Manna Grass
- Festuca saximontana* Rydb. - Rocky
Mountain Fescue
- Hierochloe odorata* (L.) Beauv. -
Sweet Grass
- Oryzopsis asperifolia* Michx. -
White-grained Mountain-rice
- Oryzopsis pungens* (Torr.) Hitch. -
Slender Mountain-rice
- Phalaris arundinacea* L. - Reed
Canary Grass
- Phragmites australis* (Cav.) Trin. -
Common Reed Grass
- Poa arctica* R.Br. - Arctic Blue
Grass. (R)
- Poa interior* Rydb. - Inland or
Woodland Blue Grass
- Poa palustris* L. - Fowl Blue Grass
- Schizachne purpurascens* (Torr.)
Swallen - Purple Oat-grass

POLYGONACEAE (Buckwheat
Family)

- Polygonum amphibium* L. var.
stipulaceum (Coleman) Fern. var.
hirtuosum (Farw.) Fern. - Water
or Swamp Persicaria or Smart-
weed
- Polygonum cilinode* Michx. - Fringed
Black Bindweed
- Polygonum punctatum* Ell. var.
confertiflorum (Meisn.) Fassett -
Dotted Water Smartweed. (R)
- Rumex triangulivalvis* (Dans.) Rech.
f. - Willow-leaved or Mexican
Dock

POLYPODIACEAE (Polypody
Family)

- Polypodium virginianum* L. -
Common or Virginia Polypody;
Common Rock-tripe

POTAMOGETONACEAE

- (Pondweed Family)
- Potamogeton gramineus* L. - Grass-
leaved Pondweed
- Potamogeton natans* L. - Common
Floating Pondweed
- Potamogeton pusillus* L. - Small
Pondweed
- Potamogeton richardsonii* (Benn.)
Rydb
- Potamogeton zosteriformis* Fern. -
Eel-grass Pondweed

PRIMULACEAE (Primrose Family)

- Lysimachia thyrsoiflora* L. - Tufted
Loosestrife
- Trientalis borealis* Raf. - Northern
Star Flower

PYROLACEAE (Wintergreen
Family)

- Chimaphila umbellata* (L.) Bart. -
Prince's-pine
- Moneses uniflora* (L.) A. Gray - One-
flowered Wintergreen
- Orthilia secunda* (L.) House - One-
sided Wintergreen or Pyrola
- Pyrola asarifolia* Michx. - Pink
Wintergreen or Pyrola
- Pyrola elliptica* Nutt. - Common
Shinleaf
- Pyrola virens* Schweig. - Green-
flowered Wintergreen or Pyrola

RANUNCULACEAE (Buttercup
Family)

- Actaea rubra* (Ait.) Willd. forma
neglecta (Gilman) Robins - White
Baneberry
- Caltha natans* Pall. - Floating Marsh
Marigold
- Caltha palustris* L. - Marsh-marigold
- Pulsatilla ludoviciana* (Nutt.) Heller -
Crocus Anemone; Pasque-flower;
Prairie-crocus
- Ranunculus flammula* L. - Creeping
Spearwort
- Ranunculus gmelinii* DC. - Small
Yellow Watercrowfoot
- Ranunculus lapponicus* L. - Lapland

Buttercup
Ranunculus pensylvanicus L. f. -
 Bristly Buttercup

ROSACEAE (Rose Family)
Amelanchier alnifolia Nutt. -
 Saskatoon Serviceberry
Fragaria glauca (S. Wats.) Rydb. -
 Smooth Wild Strawberry
Geum aleppicum Jacq. - Yellow
 Avens
Potentilla norvegica L. - Rough
 Cinquefoil
Potentilla palustris (L.) Scop. -
 Marsh Cinquefoil
Potentilla pensylvanica L. var.
pensylvanica - Prairie or
 Pennsylvania Cinquefoil
Prunus pensylvanica L. f. - Pin
 Cherry; Bird Cherry
Rosa acicularis Lindl. ssp. *sayi*
 (Schwein.) Lewis - Prickly Wild
 Rose
Rosa woodsii Lindl. - Wood's Wild
 Rose
Rubus idaeus L. var. *strigosus*
 (Michx.) Maxim. - Wild Red or
 Canada Raspberry
Rubus pubescens Raf. - Dewberry;
 Bramble; Running Raspberry

RUBIACEAE (Madder Family)
Galium boreale L. - Northern
 Bedstraw
Galium trifidum L. - Small Bedstraw
Galium triflorum Michx. -
 Sweet-scented Bedstraw

SALICACEAE (Willow Family)
Populus balsamifera L. - Balsam or
 Black Poplar
Populus tremuloides Michx. -
 Trembling Aspen; White Poplar
Salix pedicellaris Anderss. - Bog
 Willow
Salix petiolaris J.E. Smith - Basket
 Willow
Salix planifolia Pursh - Flat-leaved

Willow
Salix pyrifolia Anderss. - Balsam or
 Pear-leaved Willow

SANTALACEAE (Sandalwood
 Family)
Comandra umbellata A. DC. var
umbellata - Common Comandra;
 Bastard Toad-flax
Geocaulon lividum (Richards.) Fern.
 - Northern Comandra

SAXIFRAGACEAE (Saxifrage
 Family)
Heuchera richardsonii R. Br. -
 Richardson's Alum-root
Mitella nuda L. - Mitrewort;
 Bishop's-cap
Parnassia palustris L. - Northern
 Grass-of-Parnassus
Saxifraga tricuspidata Rottb. -
 Three-toothed Saxifrage

SCROPHULARIACEAE (Figwort
 Family)
Melampyrum lineare Desv. - Cow-
 wheat

SPARGANIACEAE (Bur-reed
 Family)
Sparganium angustifolium Michx. -
 Narrow-leaved Bur-reed
Sparganium eurycarpum Engelm. -
 Broad-fruited Bur-reed

TYPHACEAE (Cat-tail Family)
Typha latifolia L. - Cat-tail

VIOLACEAE (Violet Family)
Viola adunca J.E. Smith - Early Blue
 or Hooked-spur Violet
Viola palustris L. - Marsh Violet
Viola renifolia Gray var. *brainerdii*
 (Greene) Fern. - Kidney-leaved
 Violet

(Voucher specimens are filed in the
 W.P. Fraser Herbarium, University of
 Saskatchewan, Saskatoon, Saskat-
 chewan.)

