



Sask  
Forage  
Council

# FIELD GUIDE

## Identification of Common RIPARIAN Plants of Saskatchewan

**Cover photo:** The Frenchman River south of the Cypress Hills  
on the Caton Ranch.

**Photo credit:** Alicia N. Hargrave



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## Introduction

This field guide is intended for basic plant identification and reviews the common riparian plant species found throughout Saskatchewan riparian areas. Riparian areas are the transition zones between upland and water areas. This field guide is primarily designed for producers, land managers, and extension personnel. For a more complete listing of plants or more detailed identification, please refer to *Budd's Flora of the Canadian Prairie Provinces* (see references).

There are four sections in this guide, corresponding to the main range plant groups:

- **Grasses**
- **Grass-like Plants**
- **Forbs**
- **Shrubs**

Vegetative and flower characteristics are used to describe plants in this guide, in conjunction with plant illustrations. The species habitat, distribution, and height are included. Growth form is listed if not erect (ie. spreading). The perennial growth habit applies to all species unless otherwise noted (ie. annual, biennial). The season of flowering for the forbs and shrubs is also included. Grasses can have one of two designations: cool season or warm season. These designations refer to differences in how plants perform photosynthesis. Warm season species have photosynthetic processes that are more efficient in warmer, drier environments. Therefore, growth of warm season species is later in the growing season while cool season species grow in the spring and early summer. The cool season designation applies to all grass species in riparian areas throughout Saskatchewan unless otherwise noted.

Some of the plant species in this field guide have a “Similar Species” box next to the illustration. These plants are closely related to the illustrated plant, but have distinguishing features. To differentiate between species, only these distinguishing features are listed.

With ongoing research in taxonomy, the grouping of plants is continually changing where individual species are placed in relation to others. With this reorganization, comes a change in the scientific name. New Latin names are listed in the index in brackets behind the commonly used Latin names.

To help in identifying common riparian plants in your area, first start in an ungrazed or lightly grazed location. Flowering heads and seeds will assist in the identification process. Then use the following steps to identify the species:

1. Determine the range plant group for the specimen using the key on page one (ie. Grasses, Grass-like Plants, Forbs, Shrubs).
2. Review the basic plant characteristics for each plant group on the introductory page of each section (ie. Grass Plant Parts, Sedge Plant Parts, Leaf Morphology for Forbs and Shrubs).
3. Identify the species by using the illustrations and identifying characteristics.

Three other guides exist in this series to identify plants in other areas or habitats of Saskatchewan. Please contact the Saskatchewan Forage Council (SFC), as well as local Saskatchewan Agriculture and Food (SAF) or Agriculture and Agri-Food Canada - Prairie Farm Rehabilitation Administration (AAFC-PFRA) district offices, for copies of this publication and the field guides listed below.

- *Field Guide: Identification of Common Range Plants of Southern Saskatchewan*
- *Field Guide: Identification of Common Range Plants of Northern Saskatchewan*
- *Field Guide: Identification of Common Seeded Plants for Forage and Reclamation in Saskatchewan.*

## Acknowledgements

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Illustrations in this field guide were copied and used with permission from a number of sources. Elaine L. Muth of Saskatoon, Saskatchewan produced two of the illustrations, as noted on page 59.

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# Table of Contents

<b>Common Range Plants</b> .....	1
----------------------------------	---

## Grasses

<b>The Grass Plant Parts</b> .....	2
<b>Grass Flowering Heads</b> .....	3
Spangletop .....	4
Tufted Hair Grass .....	4
Slough Grass .....	5
Alkali Cord Grass .....	5
Narrow Reed Grass .....	6
Northern Reed Grass .....	6
Marsh Reed Grass .....	7
Reed Canary Grass .....	7
Common Reed Grass .....	8
Awned Wheatgrass .....	8
Redtop .....	9
Rough Hair Grass .....	9
Tall Manna Grass .....	10
Fowl Manna Grass .....	10
Nuttall's Alkali Grass .....	11
Salt Grass .....	11
Foxtail Barley .....	12
Smooth Brome .....	12
Fowl Bluegrass .....	13
Kentucky Bluegrass .....	13
Water Foxtail .....	14
Canada Wildrye .....	14

## Grass-like Plants

<b>The Sedge Plant Parts</b> .....	15
Awned Sedge .....	16
Water Sedge .....	16
Woolly Sedge .....	17
Beaked Sedge .....	17
Creeping Spike-rush .....	18
Baltic Rush .....	18
Great Bulrush .....	19
Viscid Great Bulrush .....	19
Prairie Bulrush .....	20
Three-square Bulrush .....	20
Seaside Arrowgrass .....	21
Cattail .....	21

## Forbs

<b>Leaf Morphology of Shrubs and Forbs</b> .....	22
Water Parsnip .....	23
Water Hemlock .....	23
Cow Parsnip .....	24
Horsetail .....	24
Wild Mint .....	25
Marsh Hedge-nettle .....	25

Water Smartweed .....	26
Western Dock .....	26
Canada Goldenrod .....	27
Marsh Ragwort .....	27
Canada Thistle .....	28
Perennial Sowthistle .....	28
Dandelion .....	29
Sea Milkwort .....	29
Silverweed .....	30
Seaside Buttercup .....	30
MaCoun's Buttercup .....	31
Marsh Marigold .....	31
Common Plantain .....	32

## **Shrubs**

Hoary Willow .....	33
Sandbar Willow .....	33
Yellow Willow .....	34
Beaked Willow .....	34
Basket Willow .....	35
Pussy Willow .....	35
Northern Gooseberry .....	36
Hawthorn .....	36
Saskatoon .....	37
Chokecherry .....	37
Prickly Rose .....	38
Wood's Rose .....	38
Wild Red Raspberry .....	39
Pincherry .....	39
Red-Osier Dogwood .....	40
High-bush Cranberry .....	40
Western Snowberry / Buckbrush .....	41
Wolfwillow / Silverberry .....	41
Canada Buffaloberry .....	42
Thorny Buffaloberry .....	42
Manitoba Maple .....	43
Green Ash .....	43
Green Alder .....	44
Water Birch .....	44
Trembling Aspen .....	45
Balsam Poplar .....	45
Cottonwood .....	46

<b>Grazing Response and Forage Value .....</b>	<b>47</b>
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<b>Glossary .....</b>	<b>50</b>
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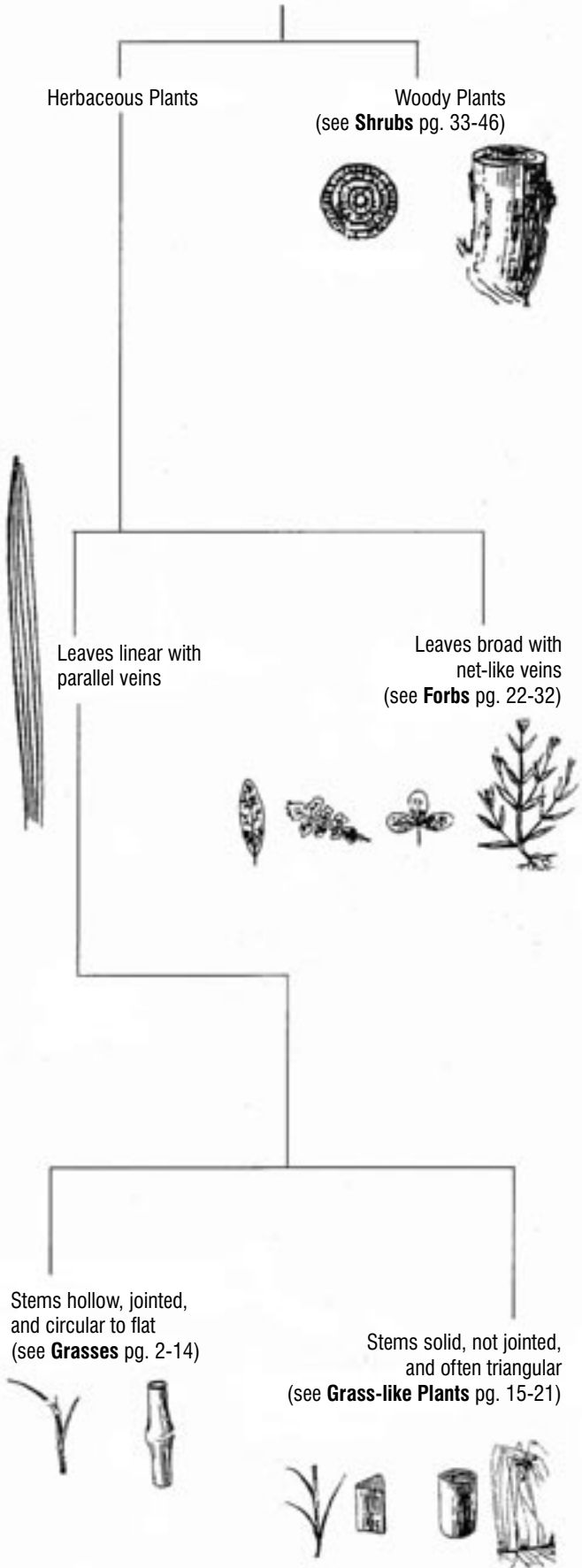
<b>Alphabetical Index by Common Name .....</b>	<b>52</b>
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<b>Alphabetical Index by Latin Name .....</b>	<b>54</b>
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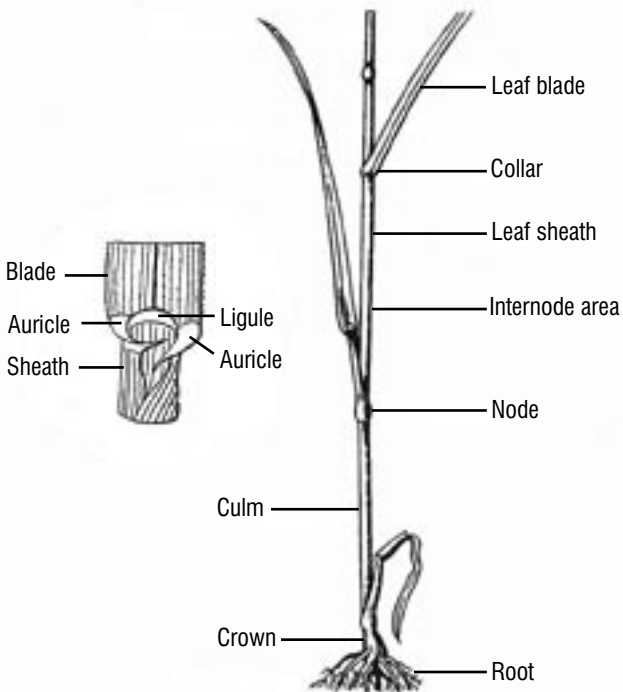
<b>References .....</b>	<b>56</b>
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# Common Range Plants

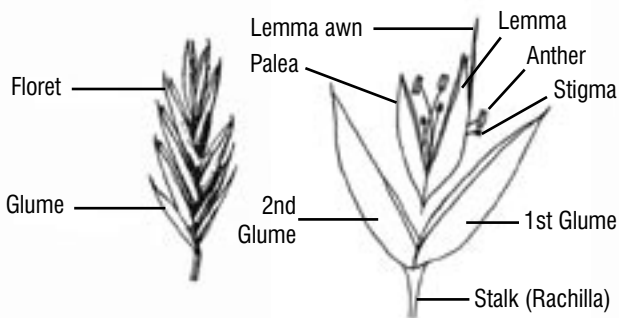


# The Grass Plant Parts



## Spikelet

## Floret



## Fibrous Roots

## Rhizomatous Roots



# Grass Flowering Heads

## A. Spike

Unbranched, terminal flowering head with spikelets attached directly to the central axis (Example: wheatgrass).



## B. Comb-like Spike

Unbranched flowering head with spikelets attached directly to the central axis and arranged on one side like a comb; spikes may not be terminal (Example: alkali cord grass).



## C. Raceme

Unbranched flowering head with spikelets borne on stalks attached to the central axis.



## D. Panicle

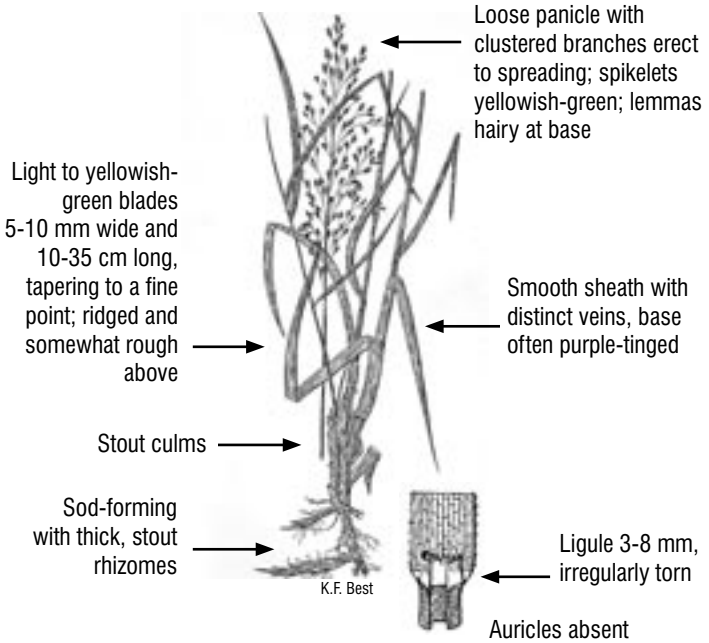
Branched flowering head with spikelets borne on stalks and lower branches longest and flowering first (Examples: bluegrasses, needle grasses, reed grasses).



# Spangletop

## *Scolochloa festucacea*

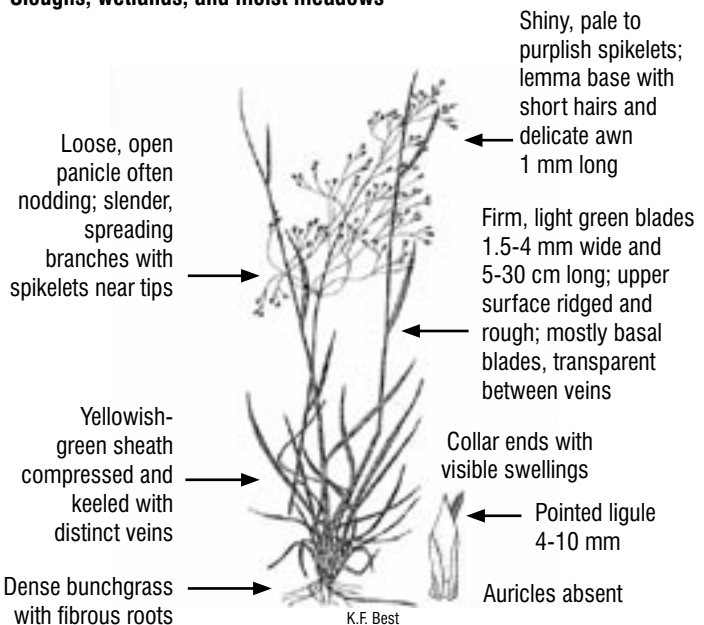
- Culm 80-150 cm, panicle 15-20 cm
- Shallow sloughs, marshes, and streams



# Tufted Hair Grass

## *Deschampsia caespitosa*

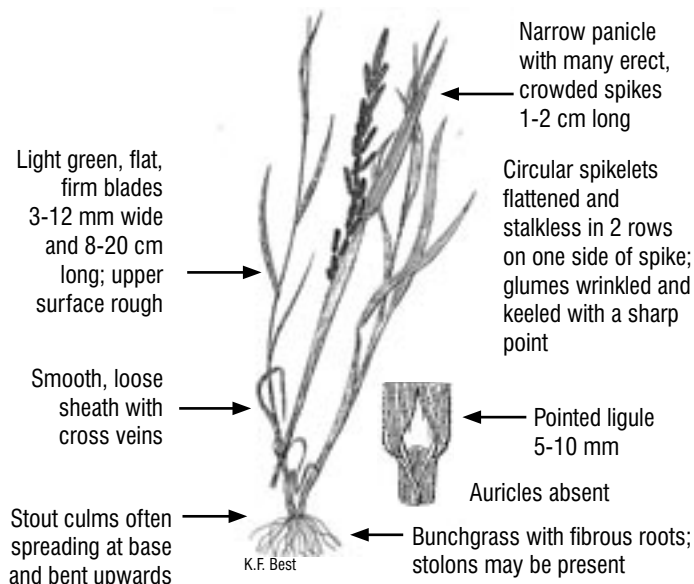
- Culm 60-120 cm, panicle 10-25 cm
- Sloughs, wetlands, and moist meadows



## Slough Grass

### *Beckmannia syzigachne*

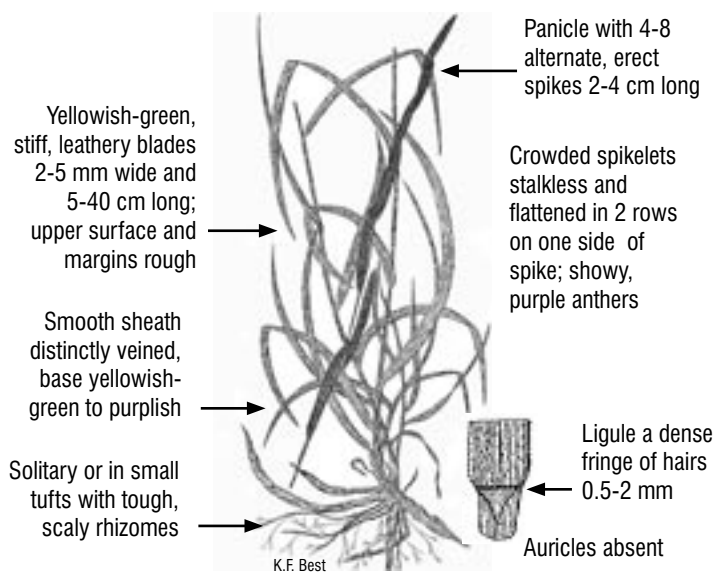
- Culm 30-70 cm, panicle 10-25 cm
- Sloughs, wet meadows, lakes, and streams
- Annual or biennial



## Alkali Cord Grass

### *Spartina gracilis*

- Culm 60-100 cm, panicle 6-15 cm
- Warm-season species
- Moderately saline meadows and sloughs, sandy sites



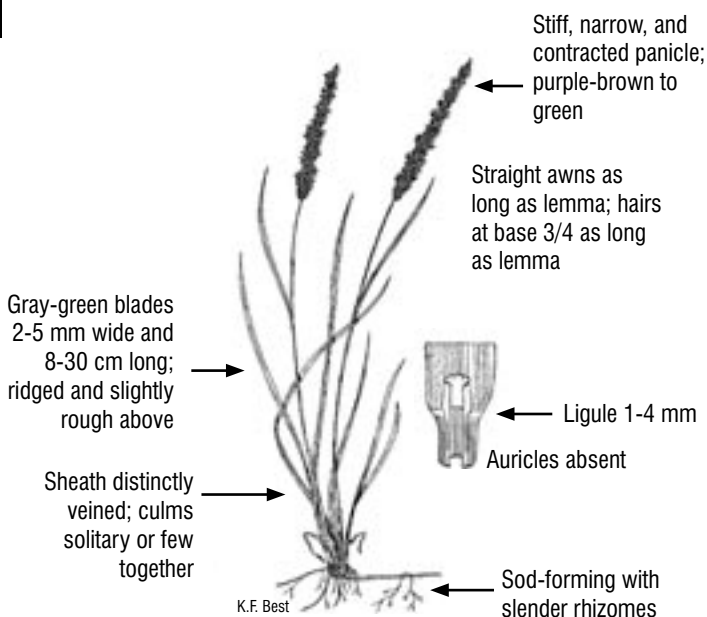
#### Similar Species: Prairie Cord Grass (*S. pectinata*)

- eastern Saskatchewan, 50-200 cm tall
- drooping blades 5-15 cm wide and 10-60 cm long with distinct veins
- 10-20 spikes 4-8 cm long; 1st glume awn-tipped, 2nd glume awn 4-10 mm

## Narrow Reed Grass

### *Calamagrostis neglecta*

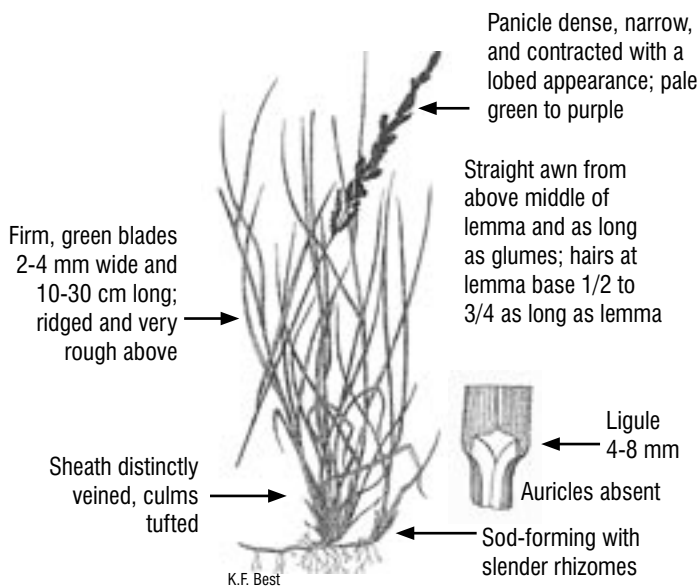
- Culm 30-100 cm, panicle 5-10 cm
- Moist areas, often with other reed grasses in wet, acid soils
- Can hybridize with northern reed grass



## Northern Reed Grass

### *Calamagrostis inexpansa*

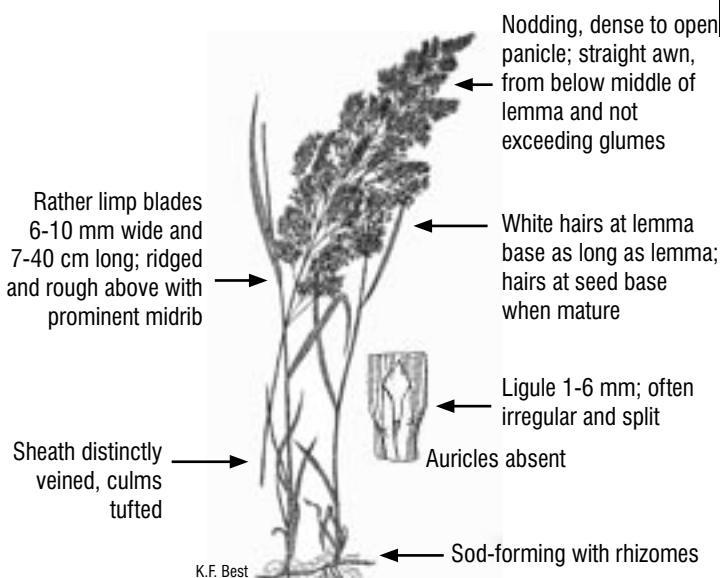
- Culm 40-100 cm, panicle 5-15 cm
- Marshes, sloughs, and wet meadows
- Can hybridize with narrow reed grass



## Marsh Reed Grass

### *Calamagrostis canadensis*

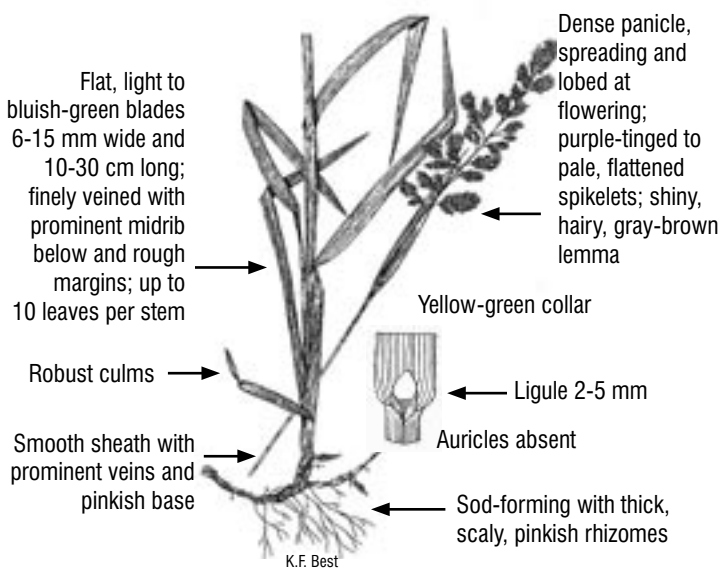
- Culm 60-150 cm, panicle 10-20 cm
- Marshes, sloughs, lakeshores, and moist woods



## Reed Canary Grass

### *Phalaris arundinacea*

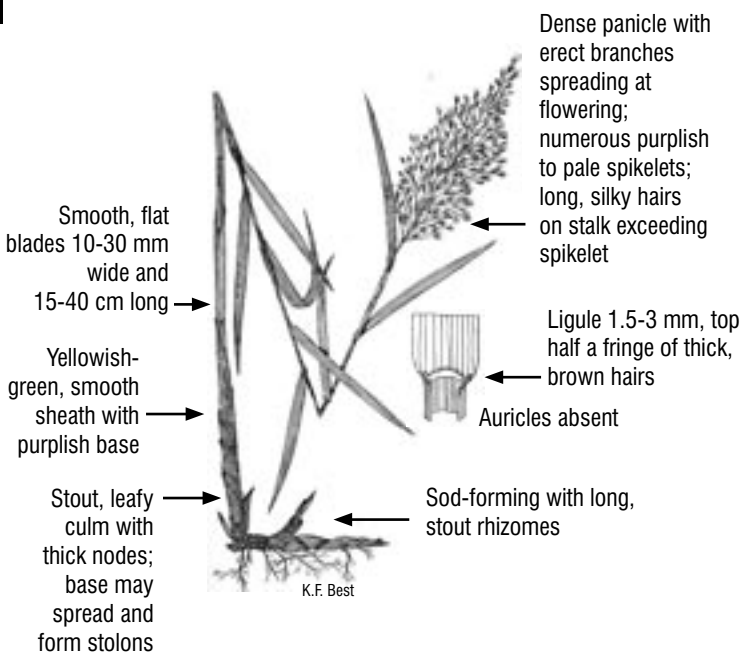
- Culm 60-200 cm, panicle 10-20 cm
- Sloughs, marshes, shores, and hayland
- Native or introduced, invasive in waterways



# Common Reed Grass

## *Phragmites communis*

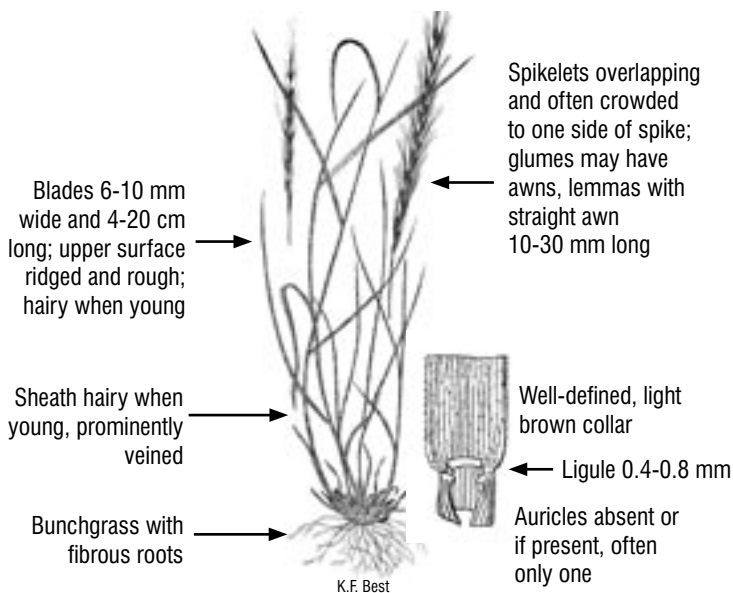
- Culm 100-400 cm, panicle 15-40 cm
- Warm-season species
- Tallest native grass
- Marshes, lakes, streams, and springs



# Awned / Bearded Wheatgrass

## *Agropyron subsecundum*

- Culm 50-100 cm, spike 5-20 cm, erect or slightly nodding
- Moist, well-drained, fertile soils

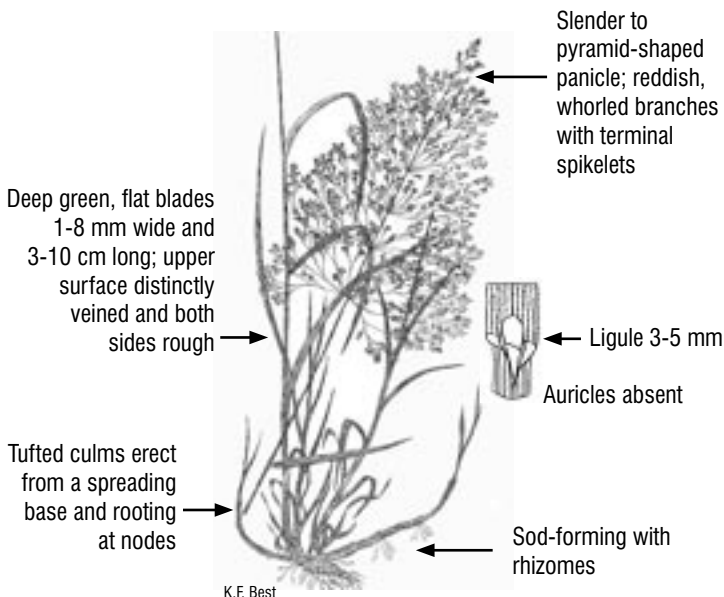




## Redtop

### *Agrostis stolonifera*

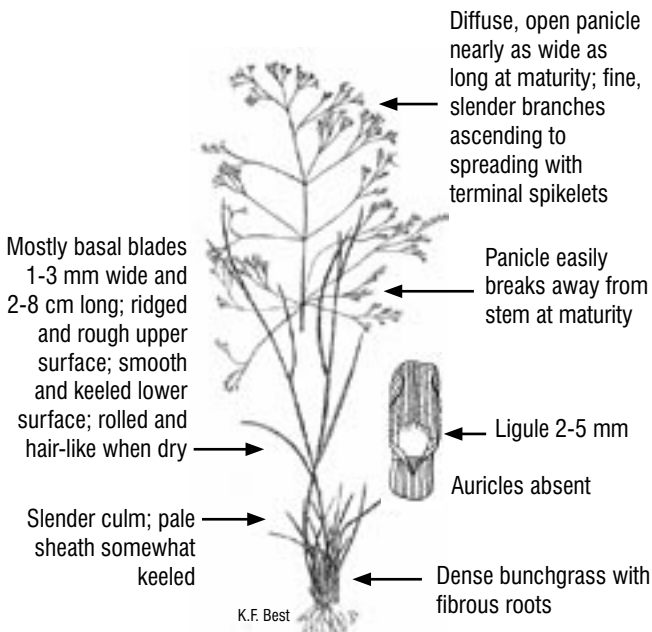
- Culm 20-100 cm, panicle 5-30 cm
- Moist areas
- Introduced and native forms



## Rough Hair Grass

### *Agrostis scabra*

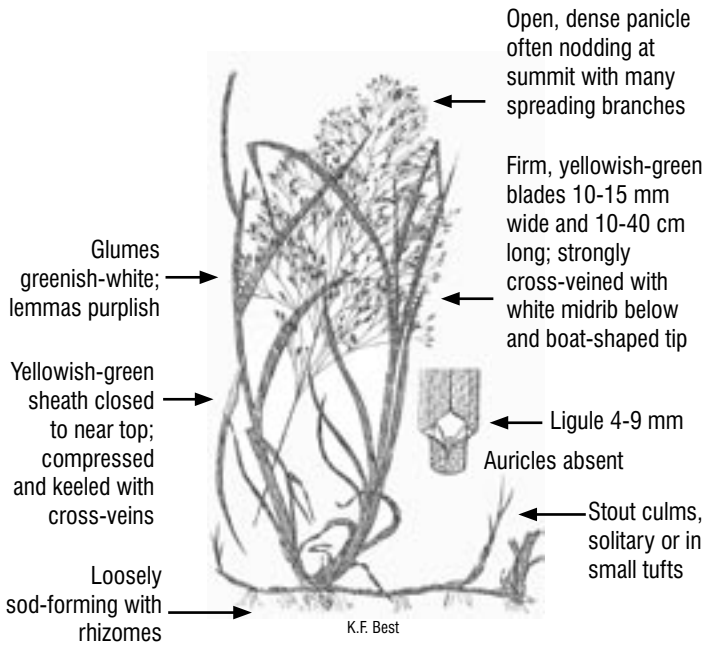
- Culm 30-70 cm, panicle 15-25 cm
- Meadows, moist prairie, open woods, and waste places



# Tall Manna Grass

## *Glyceria grandis*

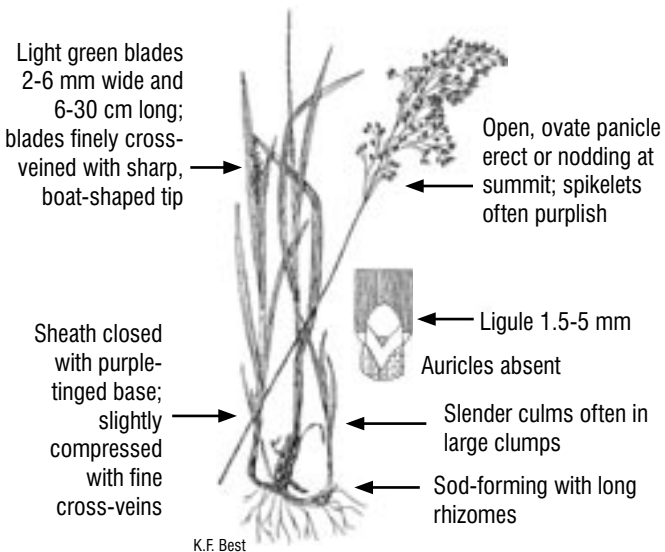
- Culm 100-200 cm, panicle 20-40 cm
- Sloughs, streams, lakeshores, and wet meadows



# Fowl Manna Grass

## *Glyceria striata*

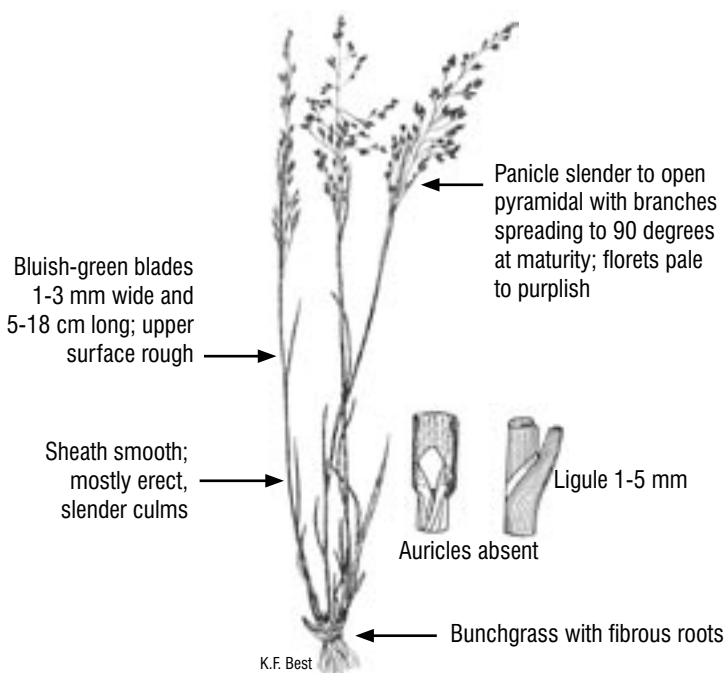
- Culm 30-80 cm, panicle 10-20 cm
- Sloughs, streams, shallow water, and wet meadows



## Nuttall's Alkali Grass

### *Puccinellia nuttalliana*

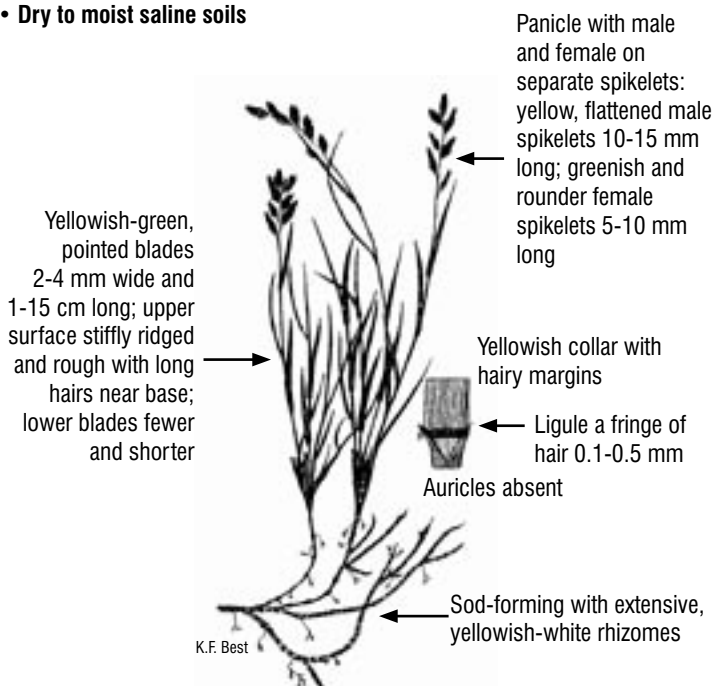
- Culm 30-60 cm, panicle 10-20 cm
- Moist to dry saline soils
- Often in association with salt grass



## Salt Grass

### *Distichlis stricta*

- Culm 10-40 cm, panicle 2-6 cm
- Warm-season species
- Dry to moist saline soils



## Foxtail Barley

### *Hordeum jubatum*

- Culm 30-80 cm, spike 5-10 cm
- Sloughs, disturbed sites, and moist, saline areas

Bluish-green, flat, and often twisted blades 2-6 mm wide and 5-15 cm long; long, soft hairs above and minute hairs below; blades rough and distinctly veined

Bluish-green to purplish sheath with prominent veins and soft hairs

Culm bases erect or spreading



K.F. Best

Dense, nodding spike light green to purplish to pale; nearly as wide as long at maturity with entire spikelets breaking from stalk

Spikelets 3 per node with 2 sterile, lateral spikelets reduced to 1-3 awns; fertile spikelet with spreading, awn-like glumes 2.5-9 cm long and slender lemma awns as long as glumes awns

Auricles often absent but may be present on some leaves 0.5 mm long

Ligule 0.2-1 mm

Pale green to purplish collar

Dense bunchgrass with fibrous roots

## Smooth Brome

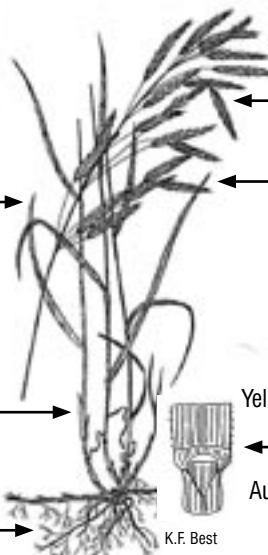
### *Bromus inermis*

- Culm 50-100 cm, panicle 6-20 cm
- Introduced, invasive in natural areas
- Throughout area in moist prairie, open woods, and roadsides

Dark green, flat blades 5-12 mm wide and 15-40 cm long; mostly smooth both sides (rarely hairy or rough) with distinct veins below; 4-7 stem leaves often with 'M' constriction near middle

Closed, prominently veined sheath rarely hairy; old sheaths papery

Sod-forming with long rhizomes



K.F. Best

Panicle open and later contracted with branches often drooping to one side

Flattened spikelets purple to brown at maturity; papery lemmas may have hairy base, awnless or awn 3 mm long

Yellow-green collar

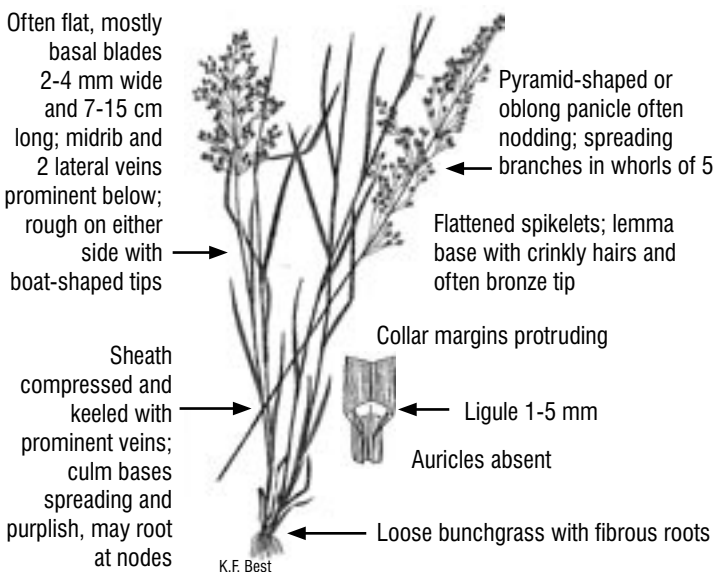
Ligule 0.5-1 mm

Auricles absent

## Fowl Bluegrass

### *Poa palustris*

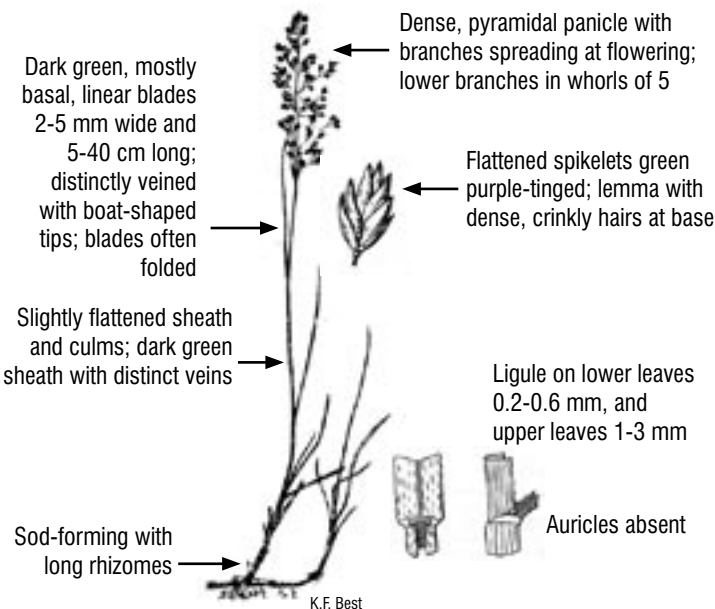
- Culm 30-100 cm, panicle 10-30 cm
- Marshes, moist meadows, open woods, lakes, and riverbanks



## Kentucky Bluegrass

### *Poa pratensis*

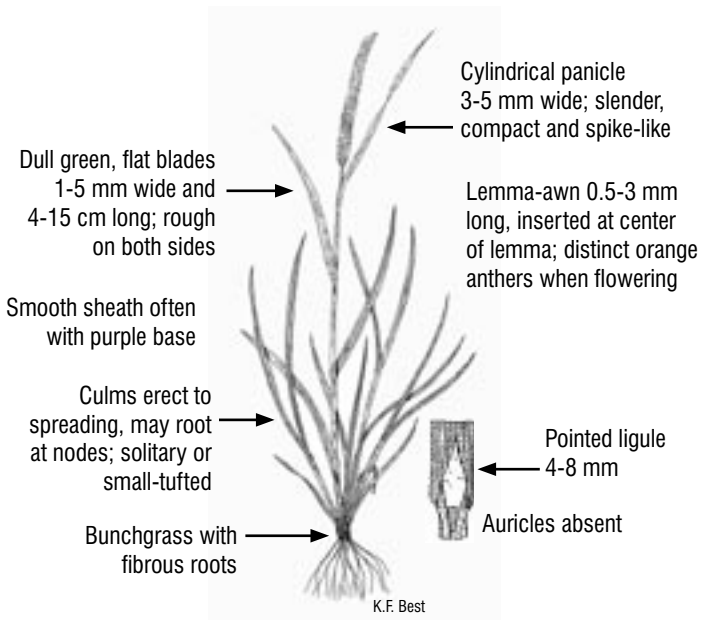
- Culm 30-100 cm, panicle 5-15 cm
- Moist, fertile soils
- Common on moist, overgrazed sites
- Possibly introduced, invasive in natural areas



# Water / Short-awned Foxtail

## *Alopecurus aequalis*

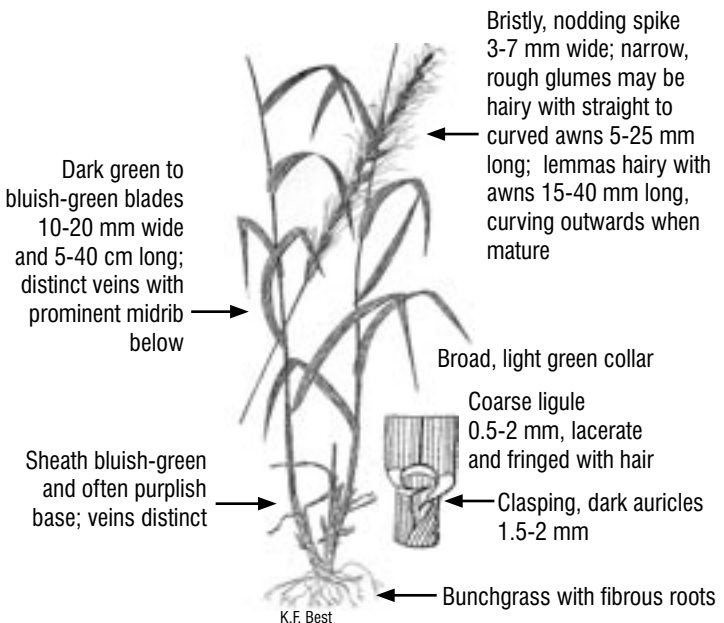
- Culm 15-60 cm, panicle 2-7 cm
- Sloughs, lakes, streams, and shady sites in north



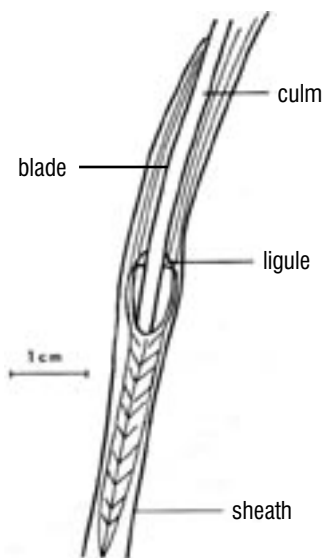
# Canada Wildrye

## *Elymus canadensis*

- Culm 100-150 cm, spike 10-25 cm
- Sandy areas, streambanks, and wooded areas



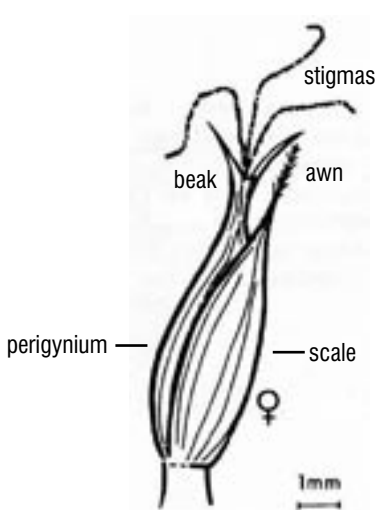
## The Sedge Plant Parts



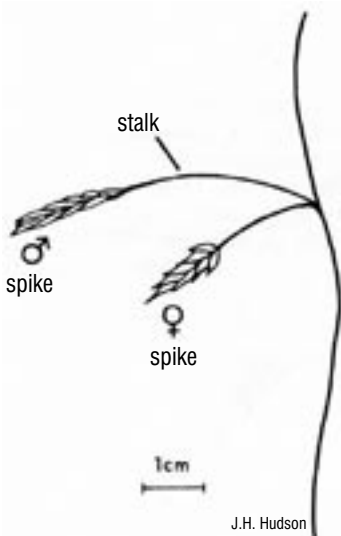
Leaf-sheath and blade.



A solitary spike arrangement with male florets above female. Other possibilities include female above male or a mixture of both sexes.



A female floret.



Separate male and female spikes.

## Distinguishing Characteristics of Sedges

- Stems solid, often triangular, and not jointed (no nodes)
  - Leaves arise from 3 sides of stem
  - Sheath usually closed
    - Indistinct collar
    - Auricles absent
- Flower whorls reduced to bristles and bracts; each true flower subtended by single bract (scale)

## Awned Sedge *Carex atherodes*

- Culm 40-100cm, spike to 25 cm
- Sloughs, marshes, and moist sites
- Tolerates drying more than water and beaked sedge

GRASS-LIKES

Deep green, firm, flat blades 4-8 mm wide with minute knobs and lower surface with sparse hairs

Inflorescence with 1-5 terminal, erect, overlapping male spikes 2-7 cm long; 2-4 lateral, erect female spikes 3-6 cm long and 1-1.5 cm wide, each separated by 10-20 cm and mostly short-stalked; leaf-like spike bracts at base with distinct sheath

Stout stems in loose tufts with 10-15 mm wide base

Hairy, reddish-purple sheaths shredding with age; basal sheaths bladeless; plants in standing water may lack hair

Extensive, slender but heavy rhizomes forming solid stands



## Water Sedge *Carex aquatilis*

- Culm 40-100 cm, spike 10-20 cm
- Sloughs, marshes, and wet meadows

Erect inflorescence with 2-4 terminal male spikes 2-5 cm long and 2-5 mm wide (terminal spike longest and stalked)

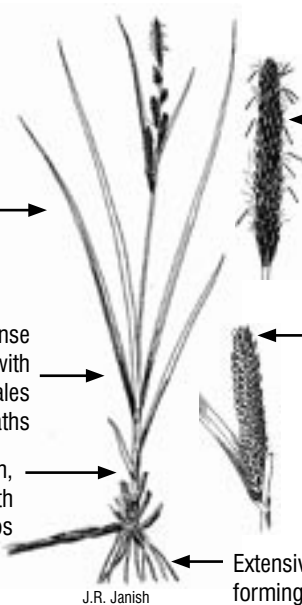
Light to bluish green, flat to folded leaves 2-5 mm wide; often longer than inflorescence but curving over

Stems in large, dense tufts; bases thick with dark brown scales turning into sheaths

Smooth, thin sheath, reddish at base with minute knobs

Two to four erect, female spikes 2-8 cm long and 4-6 mm wide on short stalks and slightly overlapping; lowest spike bract leaf-like and longer than inflorescence

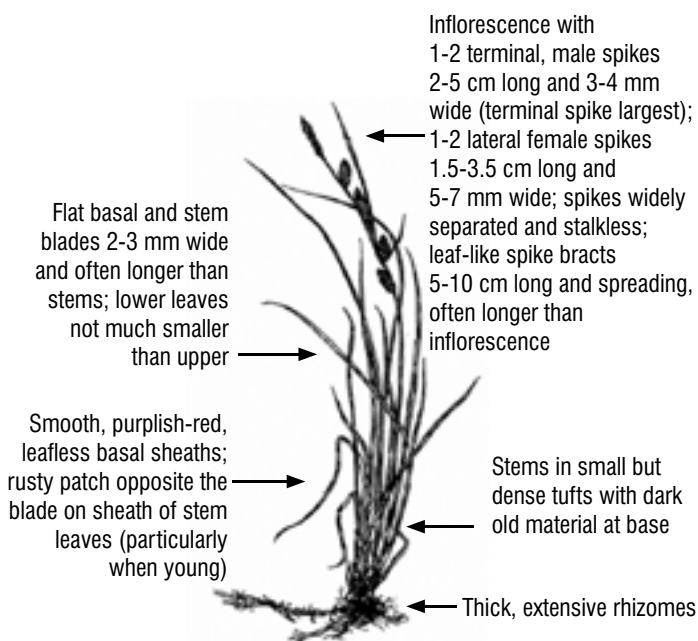
Extensive, thick rhizomes forming solid stands





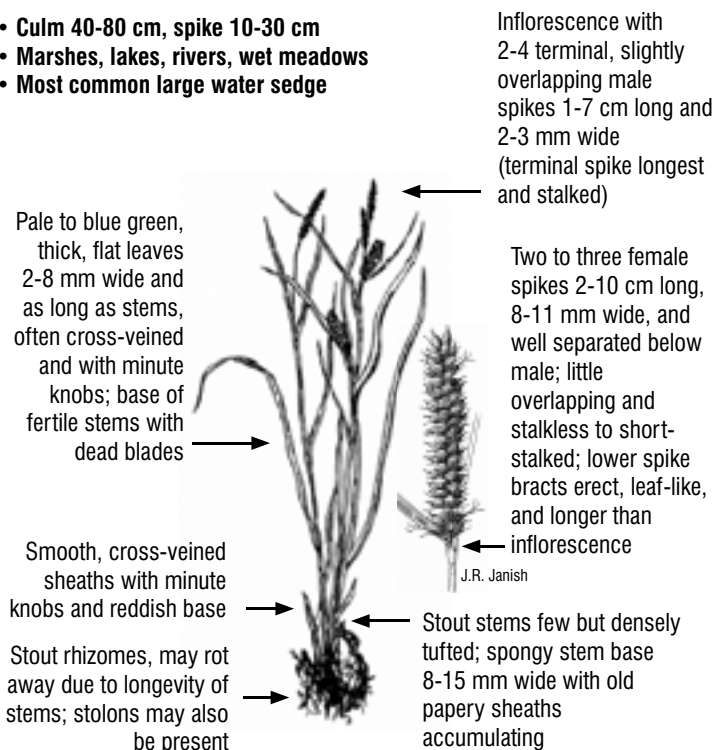
## Woolly Sedge *Carex lanuginosa*

- Culm 20-60 cm, spike 5-20 cm
- Sloughs, marshes, and moist sites
- More common in south half of province; often in dry sloughs



## Beaked Sedge *Carex rostrata*

- Culm 40-80 cm, spike 10-30 cm
- Marshes, lakes, rivers, wet meadows
- Most common large water sedge

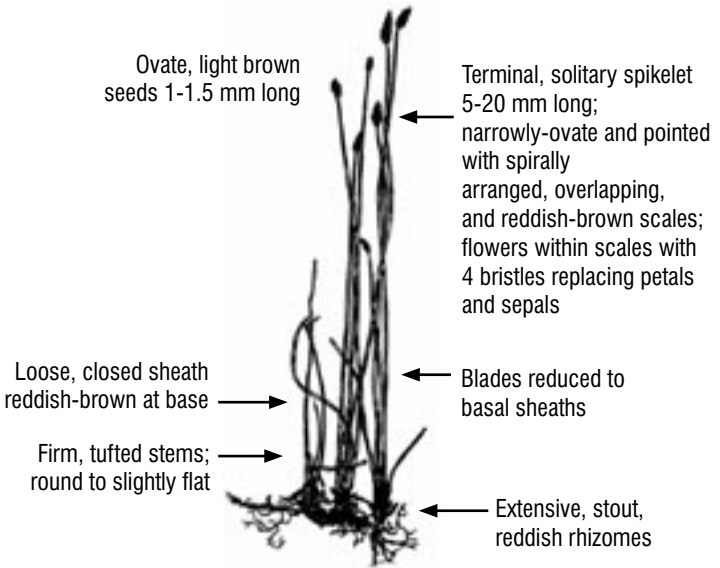


# Creeping Spike-rush

## *Eleocharis palustris*

- 10-60 cm tall
- Sloughs, lakes, mud flats, and wet sites; often in shallow water

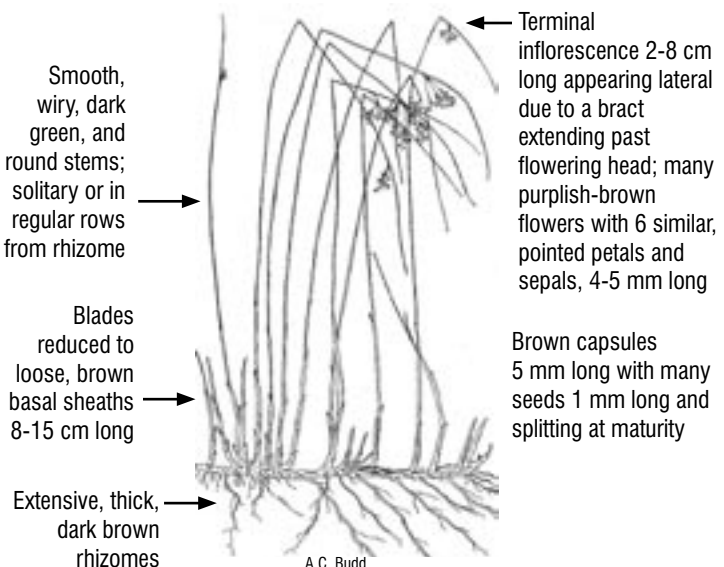
GRASS-LIKES



# Baltic Rush

## *Juncus balticus*

- 20-60 cm tall
- Wet meadows, sloughs, bogs, lakes, and sand hills; often in large numbers



# Great Bulrush

## *Scirpus validus*

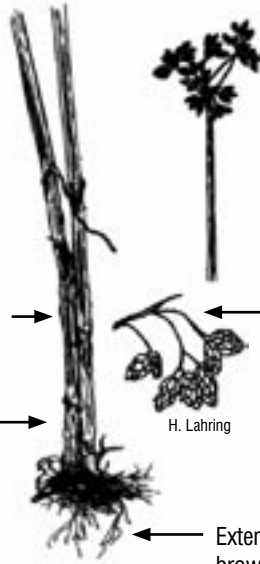
- 50-300 cm tall
- Sloughs, marshes, lakes, and streams

Branches with 1 to several reddish-brown, ovate spikelets 3-7 mm long and mostly stalkless; spikelets with spirally arranged, overlapping scales; flowers within scales with 6 bristles replacing petals and sepals

Ovate, flat, brown seeds 1.4-2.2 mm long

Smooth, veiny sheath often bladeless; firm, flat blades may be present

Pale green, round, soft stems easily flattened; base to 20 mm wide



Terminal, compound inflorescence 5-10 cm long with several, drooping branches 1-7 cm long; erect, leaf-like bract extending past head 1-7 cm long

Extensive, stout, reddish-brown rhizomes and fibrous roots; often forms large colonies

# Viscid Great Bulrush

## *Scirpus acutus*

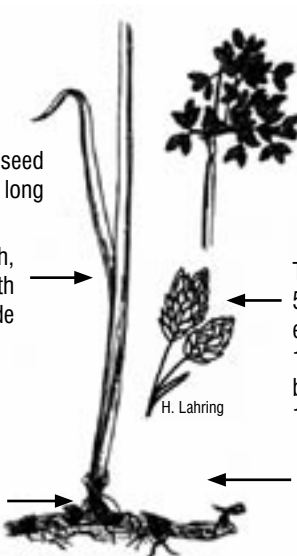
- 50-200 cm tall
- Sloughs, marshes, lakes, and rivers

Branches with 1-5 gray-brown, ovate spikelets 7-20 mm long and mostly stalkless; spikelets with red-dotted, spirally arranged, overlapping scales; flowers within scales with 1-8 bristles replacing petals and sepals

Shiny black seed 2-3 mm long

Firm sheath, bladeless or with a short blade

Extensive, thick, spongy rhizomes; often forms large colonies



Terminal inflorescence 5-15 cm long with mostly erect, dense branches 1-8 cm long; erect, leaf-like bract extending past head 1-4 cm long

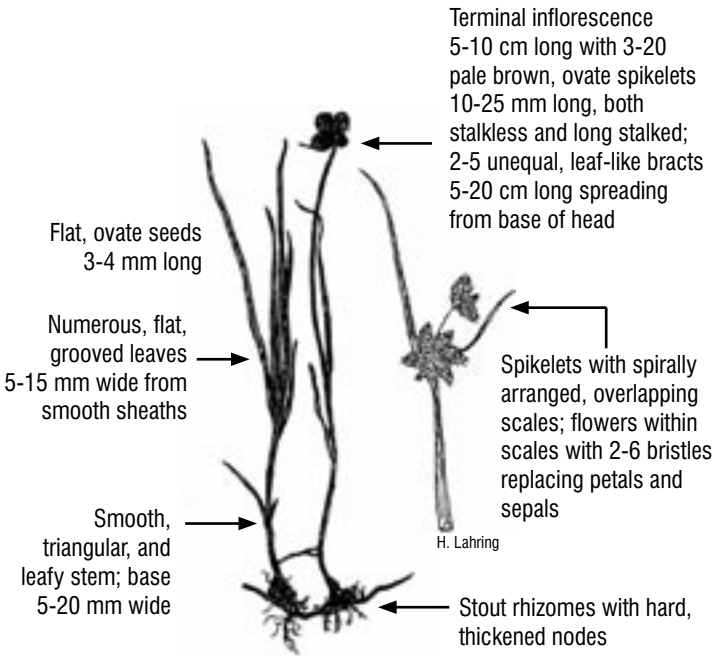
Olive-green, round, firm stems

# Prairie Bulrush

## *Scirpus paludosus*

- 30-120 cm tall
- Sloughs, marshes, and lakes; often in saline sites

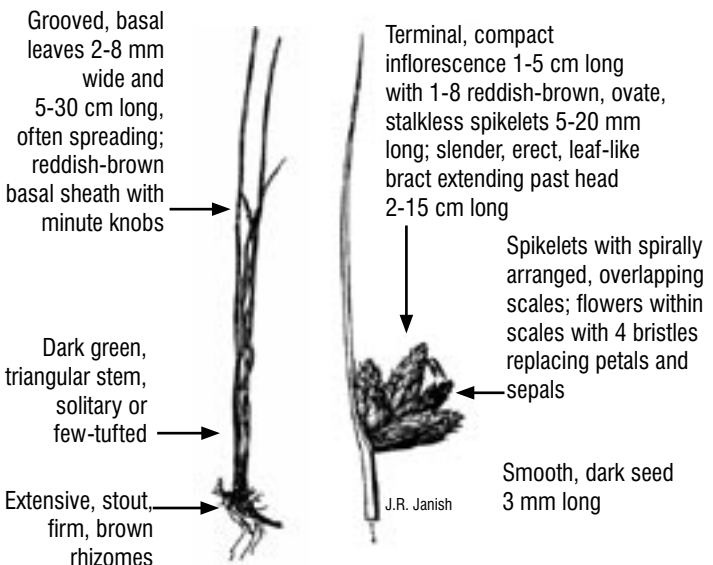
GRASS-LIKES



# Three-Square Bulrush

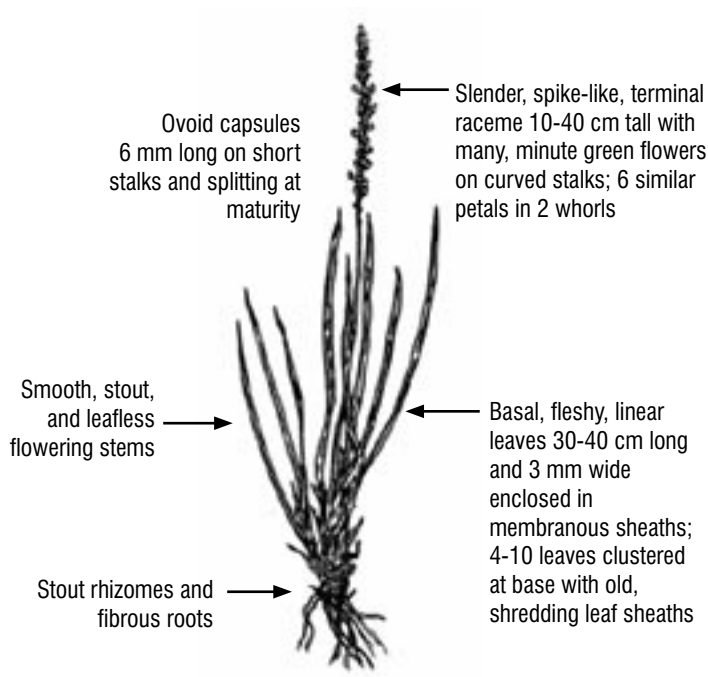
## *Scirpus pungens*

- 20-100 cm tall
- Sloughs, marshes, and sandy shores; often in somewhat saline sites



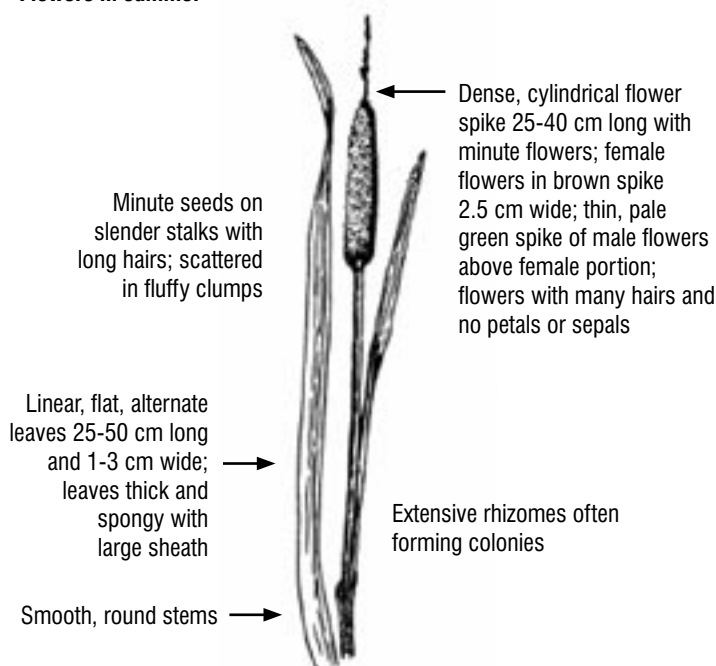
## Seaside Arrowgrass *Triglochin maritima*

- 30-80 cm tall
- Marshes, bogs, and wet, saline sites
- Flowers early summer



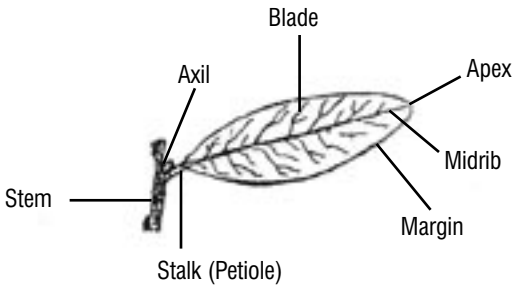
## Cattail *Typha latifolia*

- 1-3 m tall
- Sloughs, marshes, lakes, rivers; preference to shallow water
- Flowers in summer

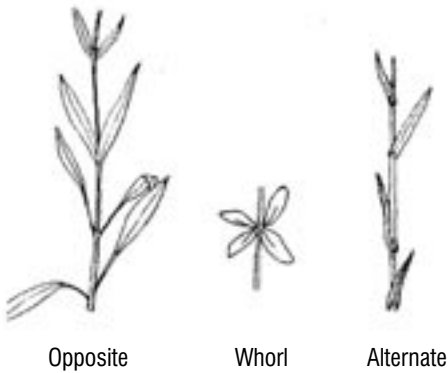


# Leaf Morphology of Forbs and Shrubs

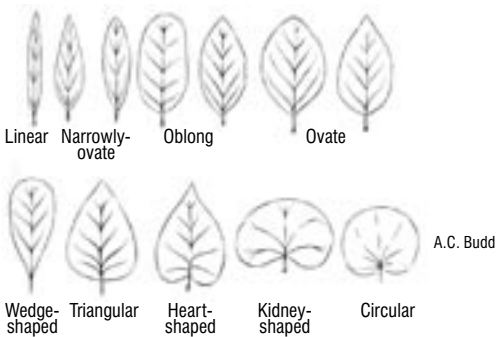
## Leaf Parts



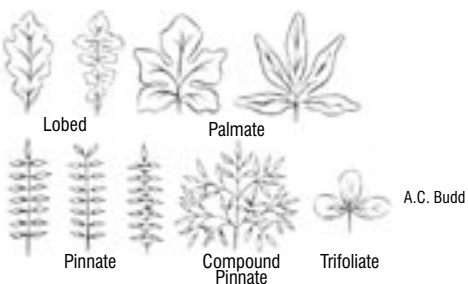
## Leaf Arrangements



## Examples of Simple Leaves



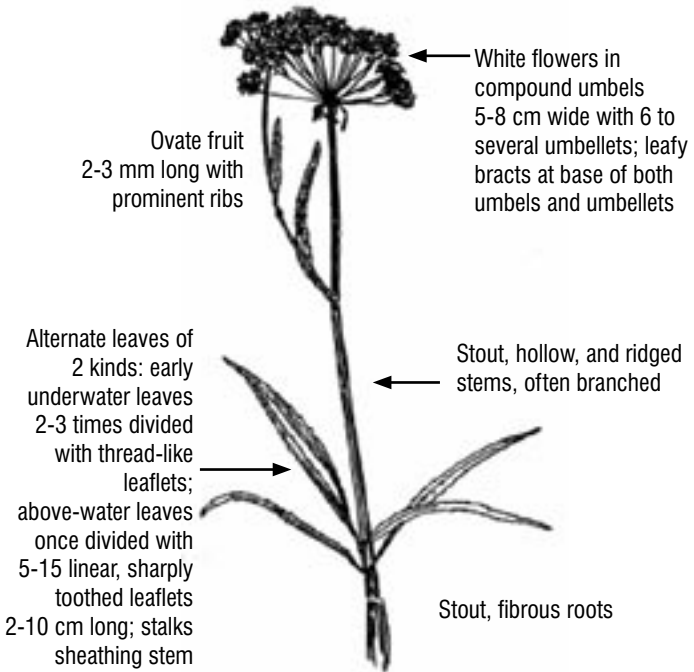
## Examples of Divided Leaves



# Water Parsnip

## *Sium Suave*

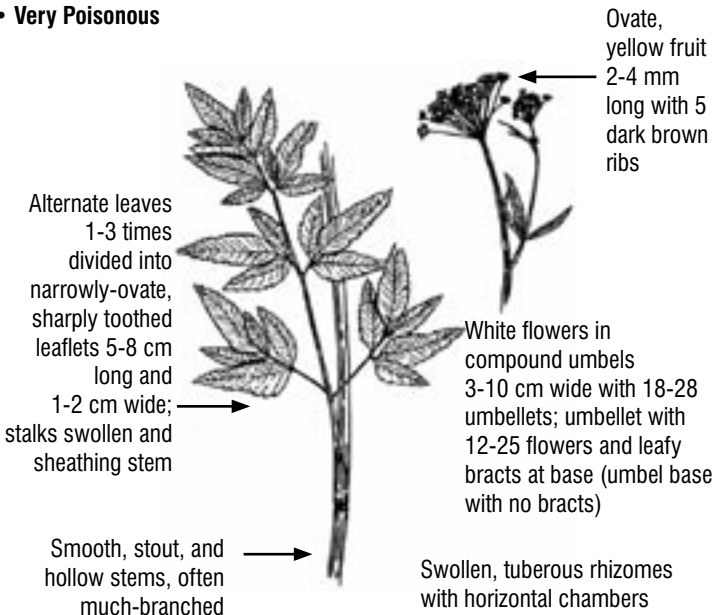
- 60-200 cm tall
- Marshes, wet meadows, and streambanks; tolerance of drier sites than water hemlock
- Flowers in summer



# Water Hemlock

## *Cicuta maculata*

- 50-200 cm tall
- Marshes, lakeshores, and streambanks
- Flowers in summer
- Very Poisonous



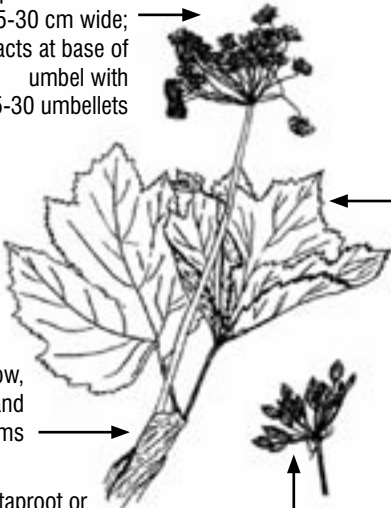
# Cow Parsnip

## *Heracleum lanatum*

- 1-2.5 m tall
- Moist woods, clearings, and streambanks
- Flowers in summer
- Unpleasant odor

Hundred's of white flowers in flat, compound umbels 15-30 cm wide; narrow bracts at base of umbel with 15-30 umbellets

Alternate leaves 10-30 cm wide divided into 3 broad segments; leaves darker green above and very hairy below, with various lobes and coarse teeth; stalks sheathing stem



Coarse, hollow, ribbed, and hairy stems

Stout taproot or fibrous roots

Pale, ovate, and flat fruit 8-12 mm long with very fine hairs and narrow ribs and wings

FORBS

# Horsetail

## *Equisetum arvense*

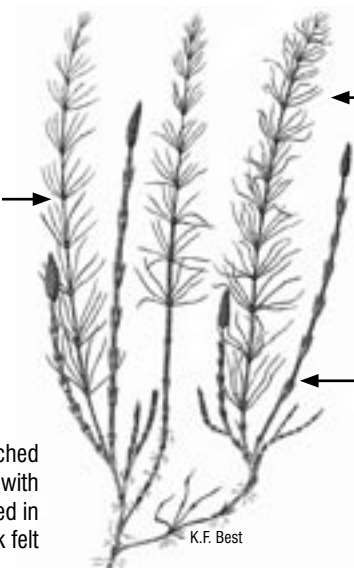
- 10-50 cm tall
- Moist sites, wetlands, and sandy soils
- Primitive, non-flowering

Stems grooved and jointed; hollow internodes and solid nodes surrounded by sheath with 8-12 brown teeth

Sterile, green, much-branched stems 10-50 cm tall; stems solitary or bunched and erect to spreading with whorls of branches; appear after fertile stems

Jointed and branched rhizomes often with tubers and covered in a dark felt

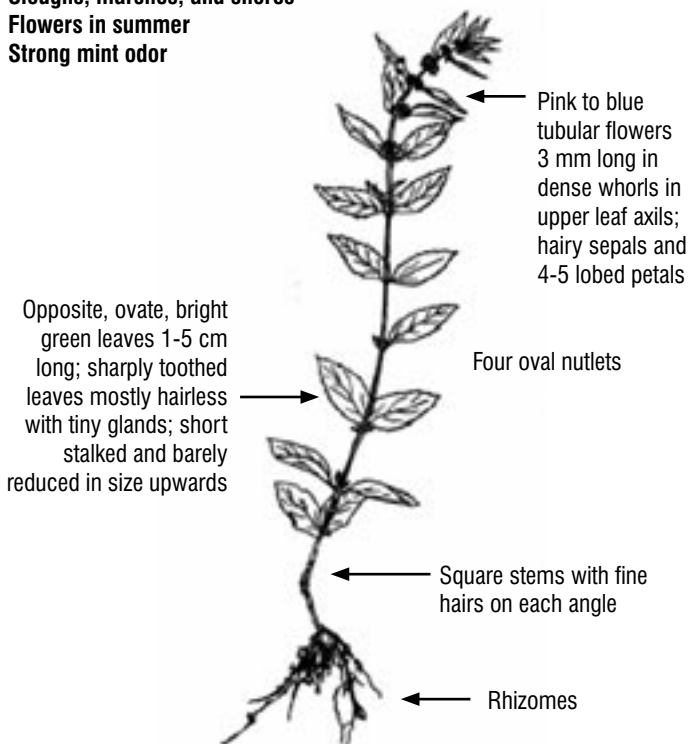
Fertile, unbranched stems 10-30 cm tall with terminal cone 0.5-3.5 cm long producing green spores; white to brown stems thick and erect; appear early in season but soon wither





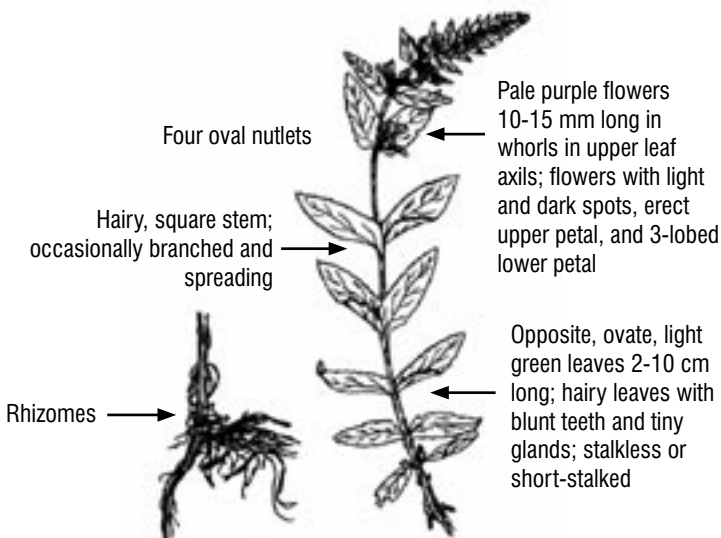
## Wild Mint *Mentha arvensis*

- 10-50 cm tall
- Sloughs, marshes, and shores
- Flowers in summer
- Strong mint odor



## Marsh Hedge-Nettle *Stachys palustris*

- 30-80 cm tall
- Streambanks, wet meadows, and moist open woods
- Flowers in summer



# Water Smartweed

## *Polygonum amphibium*

- 10-100 cm tall
- Shallow standing water, lakeshores, sloughs, and ditches
- Aquatic or terrestrial
- Flowers in summer

Alternate, ovate, dark green leaves 5-15 cm long; floating leaves of aquatic form broad and hairless; leaves of terrestrial form narrower and hairy below; papery sheath (ocreae) at leaf base

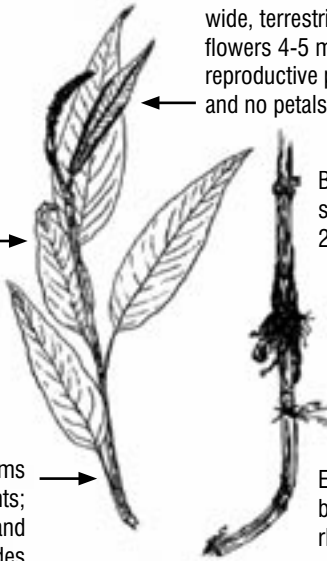
Weak, angled stems with swollen joints; stems may spread and root at nodes

Many pink to red flowers in terminal, spike-like racemes on stout stalks; egg-shaped aquatic form 1-3 cm long and 1.5 cm wide, terrestrial form 5-10 cm long; flowers 4-5 mm long with exserted reproductive parts, 5 sepals, and no petals

Brown to black, shiny seeds 2-3 mm long

Extensive, black, branching rhizomes

FORBS



# Western Dock

## *Rumex occidentalis*

- 50-150 cm tall
- Moist sites, sloughs, and swamps
- Flowers early summer

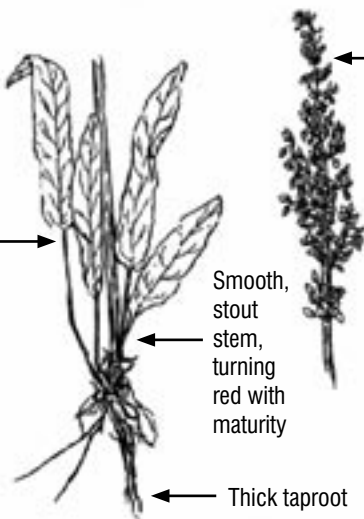
Alternate, narrowly-oblong leaves 5-30 cm long with long stalks; leaves reduced in size upwards and turning red with maturity

Smooth, stout stem, turning red with maturity

Dense, narrow, terminal spike 20-50 cm long; green flowers with 6 sepals; the 3 inner, heart-shaped sepals (valves) 5-8 mm long and turning red with maturity

Seed 2-4 mm long on stalks, enclosed by papery, red valves

Thick taproot



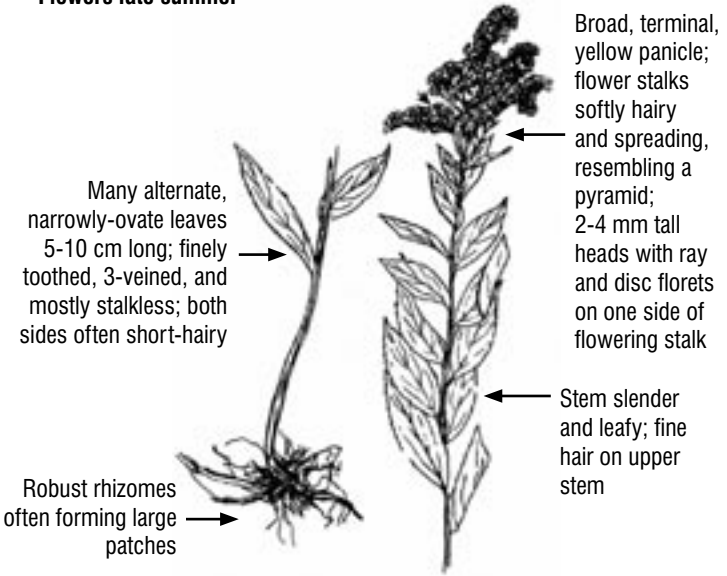
Similar species: Curled Dock (*R. crispus*)

- 30-80 cm tall, introduced
- stems often branching below spike
- blade margins wavy-curved
- 3 round projections on valves

# Canada Goldenrod

## *Solidago canadensis*

- 30-80 cm tall
- Moist grasslands, woodlands, and disturbed sites
- Flowers late summer



Similar species: Velvety Goldenrod (*S. mollis*)

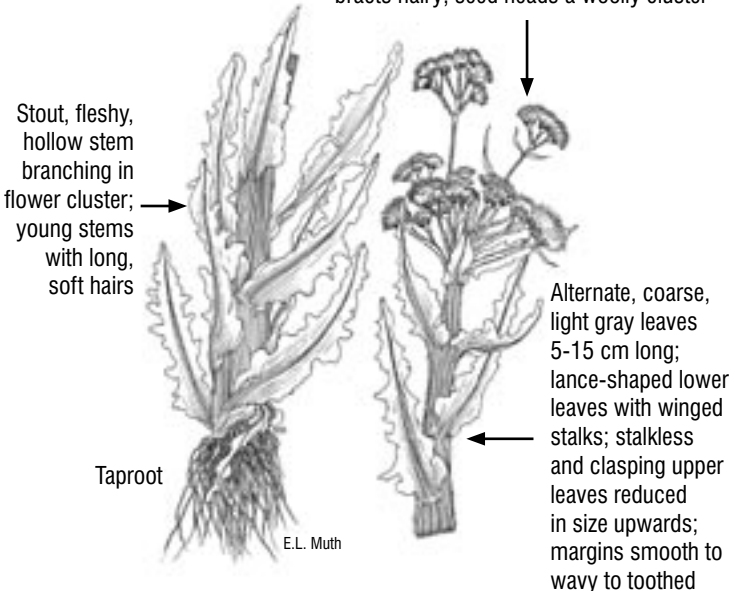
- stiff, 20-50 cm tall
- fine, velvety hairs on entire plant
- rigid, ovate leaves 2-7 cm long; upper leaves reduced in size and stalkless

# Marsh Ragwort

## *Senecio congestus*

- 15-60 cm tall
- Sloughs, streambanks, and lakes
- Flowers in summer
- Annual or biennial

Several pale yellow flowers crowded in a dense terminal cluster; heads 1-2 cm wide with ray and disc flowers; flower stalks and bracts hairy; seed heads a woolly cluster

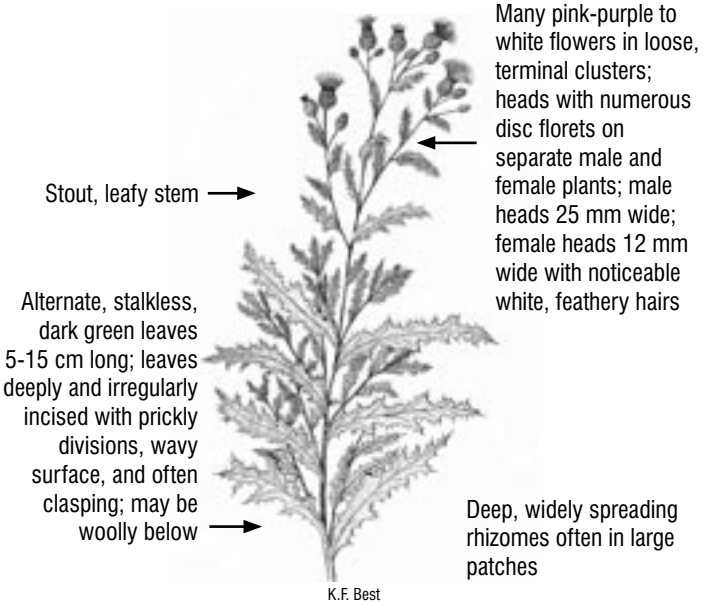


# Canada Thistle

## *Cirsium arvense*

- 30-100 cm tall
- Disturbed sites, fields, overgrazed pastures
- Flowers in summer
- Introduced, noxious weed

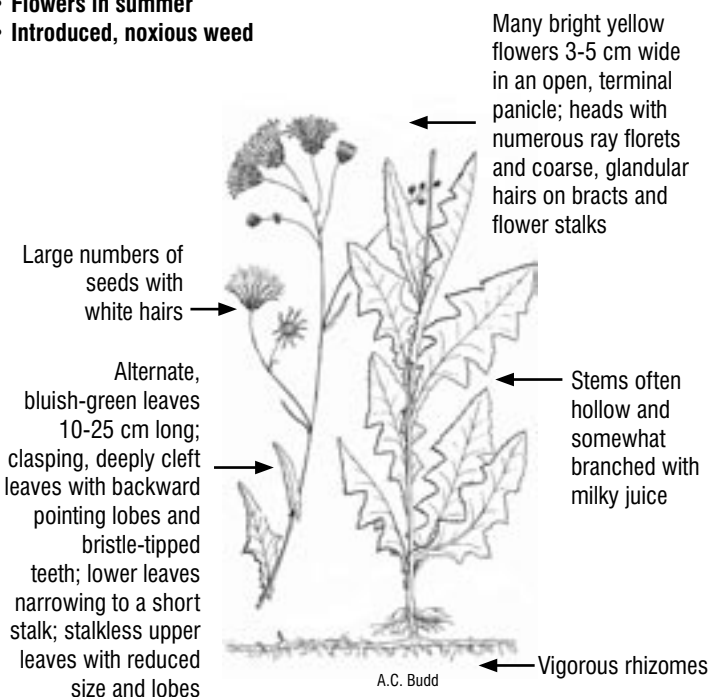
FORBS



# Perennial Sowthistle

## *Sonchus arvensis*

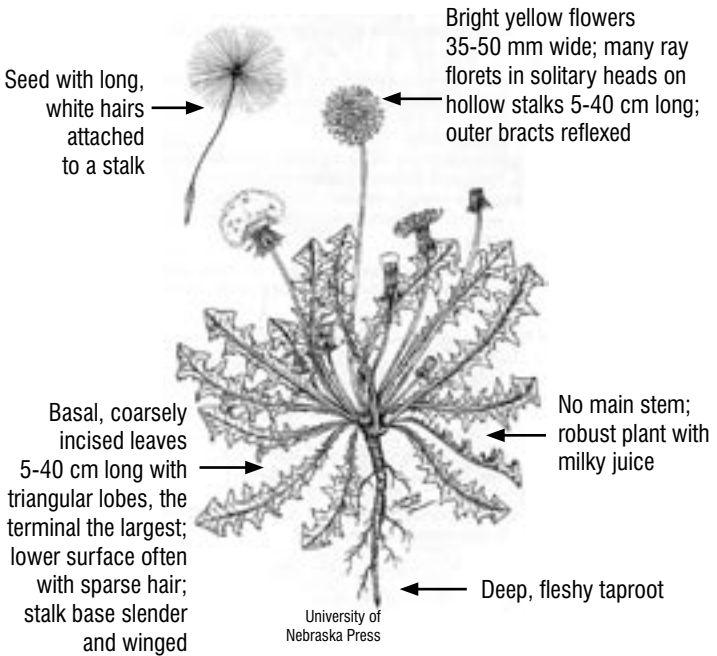
- 50-150 cm tall
- Moist sites, disturbed areas, fields
- Flowers in summer
- Introduced, noxious weed



# Dandelion

## *Taraxacum officinale*

- 5-40 cm tall
- Disturbed sites, lawns, fertile soil, and moist sites
- Flowers all growing season
- Introduced, noxious weed

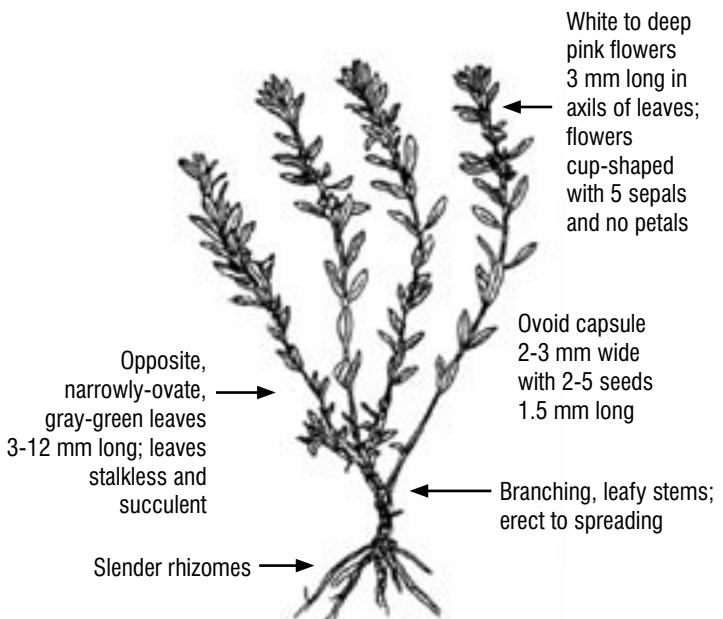


FORBS

# Sea Milkwort

## *Glaux maritima*

- 3-25 cm tall
- Moist, saline flats, marshes, and sloughs
- Flowers in summer

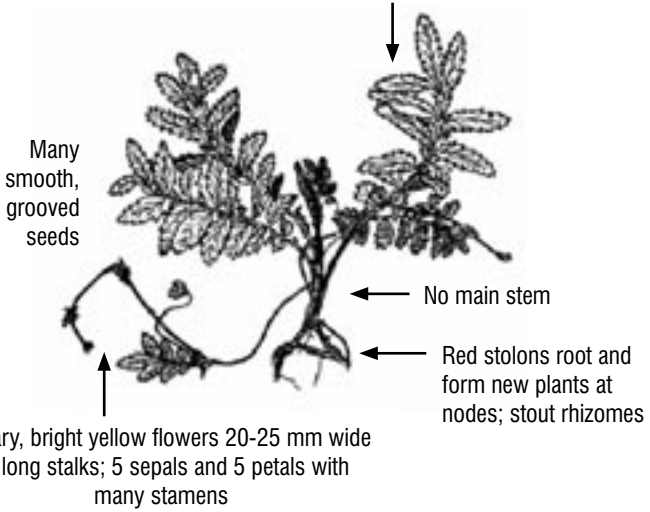


# Silverweed

## *Potentilla anserina*

- 10-45 cm long
- Moist sites, sloughs, river flats, and lakes
- Flowers spring through autumn

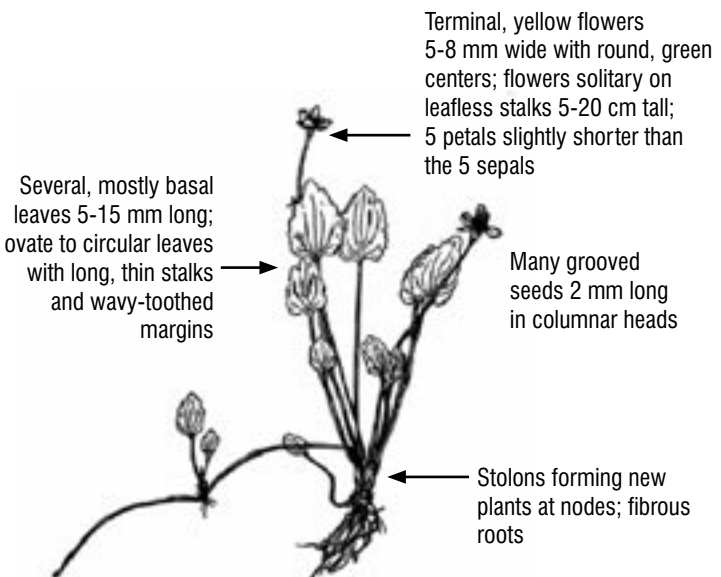
Basal leaves 10-45 cm long with 7-25 leaflets; leaflets sharply toothed, green above and silky white-woolly below; often smaller leaflets between main ones



# Seaside Buttercup

## *Ranunculus cymbalaria*

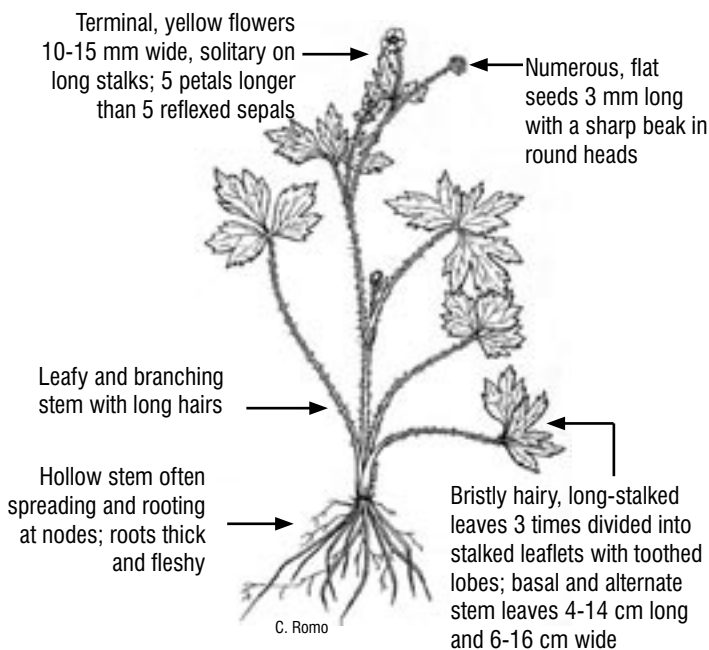
- 5-20 cm tall
- Streambanks, lakes, sloughs, and moist, saline sites
- Flowers early summer



# Macoun's Buttercup

## *Ranunculus macounii*

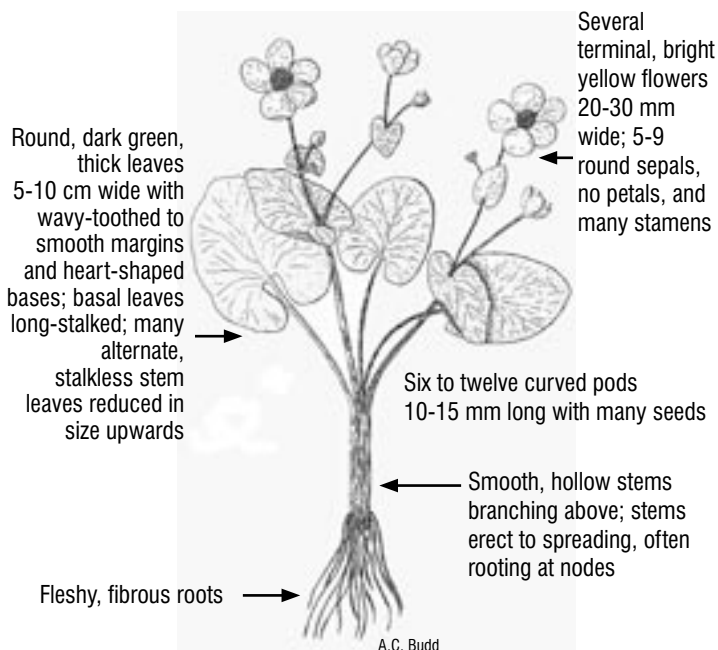
- 30-60 cm tall
- Moist sites, alluvial flats, moist woods, and meadows
- Flowers early summer
- Annual or short-lived perennial



# Marsh Marigold

## *Caltha palustris*

- 20-60 cm tall
- Slowly moving water, marshes, meadows, and moist woods
- Flowers spring and early summer



# Common Plantain

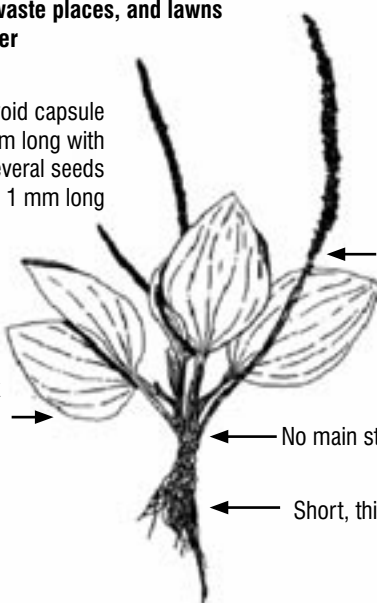
## *Plantago major*

- 7-30 cm tall
- Disturbed sites, waste places, and lawns
- Flowers in summer
- Introduced

Ovoid capsule  
2-4 mm long with  
several seeds  
1 mm long

Minute  
greenish-white  
flowers in  
dense, narrow  
spikes on  
extended  
stalks; flowers  
in parts of 4,  
enclosed by  
ovate bracts

Many  
broadly-ovate,  
basal leaves  
3-25 cm long; dark  
green leaves with  
5-7 ribs narrowing  
into a long stalk;  
hairless to  
slightly hairy



No main stem

Short, thick taproot

Similar Species: Saline Plantain (*P. eriopoda*)

- saline areas, sloughs, river flats
- narrowly-ovate leaves 5-20 cm long
- red to brown, woolly hairs at base of plant
- narrow, loosely-flowered spike 2-10 cm long



# SHRUBS

## Hoary Willow

*Salix candida*

- 0.2-1.5 m tall
- Bogs, wet meadows, floodplains, swampy, saline sites
- Flowers in spring; male and female plants

Alternate, narrowly-ovate, pointed leaves 5-8 cm long and 0.7-2 cm wide with smooth, rolled margins; dull green and slightly woolly with sunken veins above; densely woolly below with a distinct, yellow midrib; stalks 3-12 mm long

Catkins on short, leafy stalks appearing with leaves; white-woolly female catkins 2-5 cm long with red reproductive parts; male catkins 0.5-1.2 cm long with 2 red anthers

Many hair-tufted seeds in white-woolly capsules 6-8 mm long

Branches light to dark brown; branchlets often densely woolly

Narrowly-ovate stipules with irregular teeth

## Sandbar Willow

*Salix interior*

- 0.5-4 m tall
- Sloughs, lakes, streams, floodplains, moist sand dunes
- Extensive rhizomes forming thickets
- Flowers in spring; male and female plants

Alternate, linear, pointed leaves 3-15 cm long and 0.3-1 cm wide often with widely spaced teeth; leaves with distinct veins and parallel sides; smooth and green above, pale green and often hairy below; young leaves often hairy; stalks to 5 mm long

Catkins on leafy, often branched stalks, appearing with or just after leaves; loose female catkins 1-7 cm long; male catkins 3-4 cm long with 2 stamens

Many hair-tufted seeds in capsules 5-8 mm long

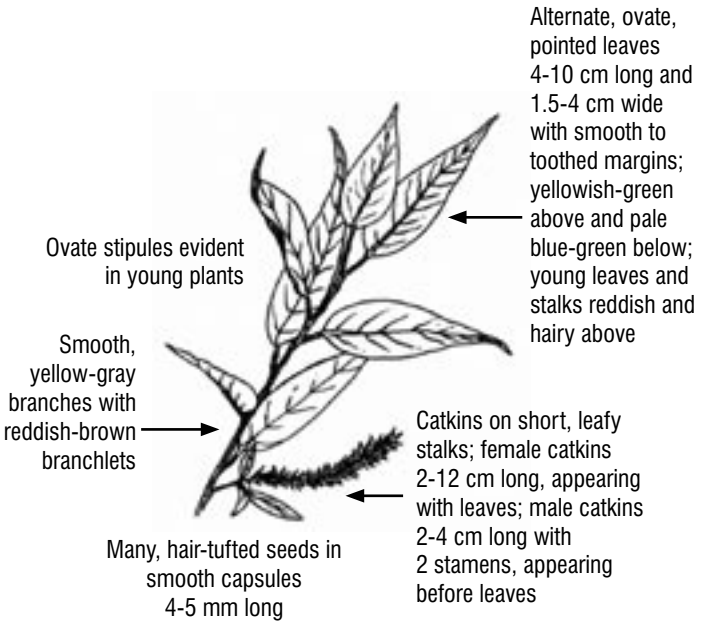
Linear stipules falling early

Branches gray-brown; thin branchlets yellowish to reddish-brown with fine hair when young

# Yellow Willow

## *Salix lutea*

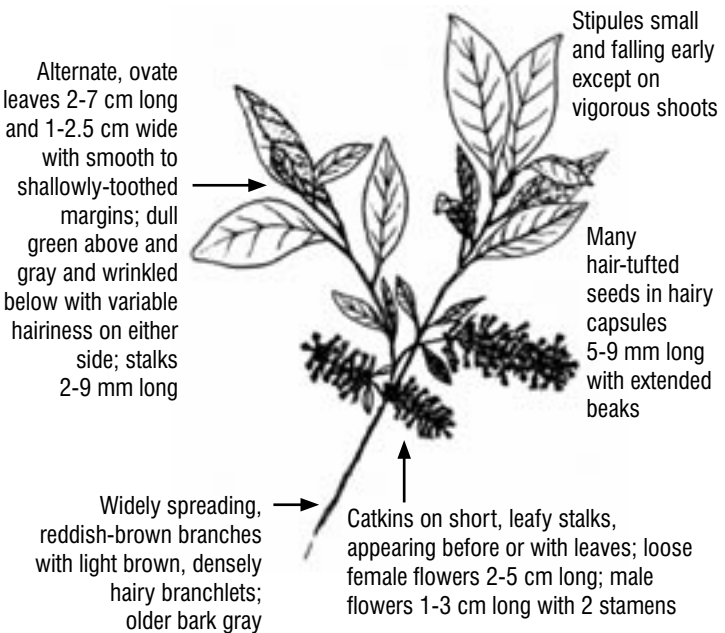
- 2-5 m tall
- Streams, rivers, lakes, sloughs, sand dunes, coulees
- Often in dense thickets
- Flowers in spring; male and female plants



# Beaked Willow

## *Salix bebbiana*

- 1-5 m tall
- Sloughs, lakes, rivers, floodplains, open woods, moist prairie
- Rhizomes often forming dense thickets
- Flowers in spring; male and female plants



# Basket Willow

## *Salix petiolaris*

- 2-7 m tall
- Sloughs, streams, lakes, moist meadows
- Often forms thickets
- Flowers in spring; male and female plants

Catkins on short, leafy stalks appearing just before or with leaves; loose, cylindrical female flowers 1-3 cm long; male flowers 1-2.5 cm long with 2 stamens

Many hair-tufted seeds in hairy capsules 6-8 mm long with extended beaks



Mintue, linear stipules falling early

Alternate, narrowly-ovate to linear leaves 4-12 cm long and 0.8-2.5 cm wide often with toothed margins; dark green above and blue-green below; young leaves with silky, white and rusty hairs

E.L. Muth

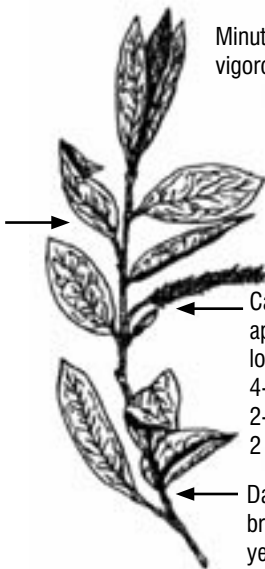
Reddish-brown branches; young branchlets yellowish with fine hairs

# Pussy Willow

## *Salix discolor*

- 2-11 m tall
- Marshes, lakes, rivers, streams, moist woods
- Rhizomes often forming dense thickets
- Flowers in spring; male and female plants

Alternate, ovate, pointed leaves 5-8 cm long and 2-3.5 cm wide with smooth to wavy margins and irregular, widely-spaced veins; bright green above and blue-green with raised veins below; slightly hairy to smooth on both sides; young leaves with white hairs; upper stalks and midrib with fine hair



Minute stipules except on vigorous shoots

Many hair-tufted seeds in densely-hairy capsules 6-10 mm long with extended beaks

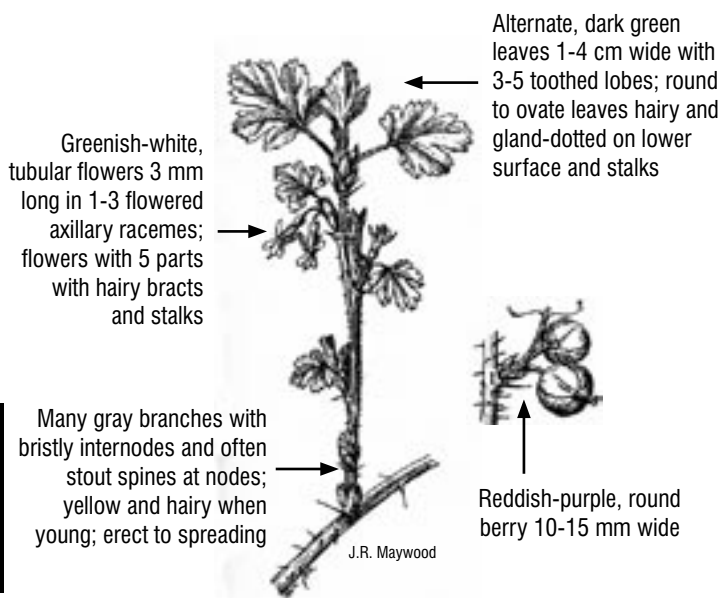
Catkins mostly stalkless, appearing before leaves; loose female flowers 4-7 cm long; male flowers 2-3 cm long with 2 stamens

Dark reddish-brown branches with spreading, yellowish to reddish-brown branchlets; hairy when young

# Northern Gooseberry

## *Ribes oxycanthoides*

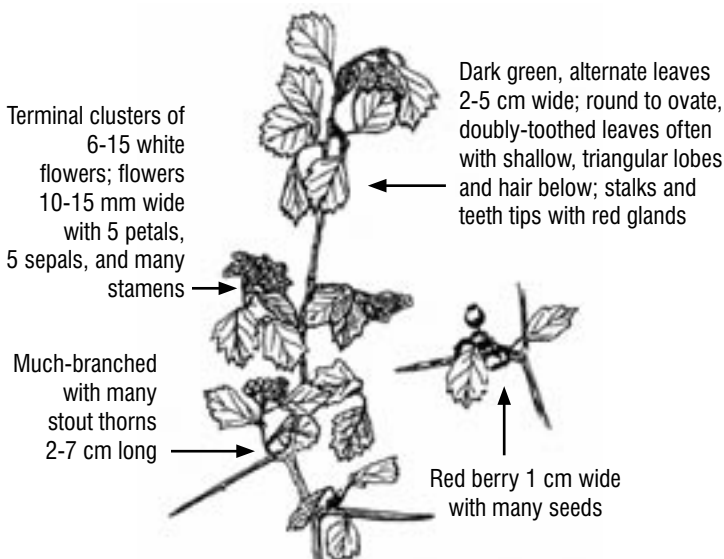
- 30-100 cm tall
- Moist woods, thickets, and coulees
- Flowers late spring



# Hawthorn

## *Crataegus rotundifolia*

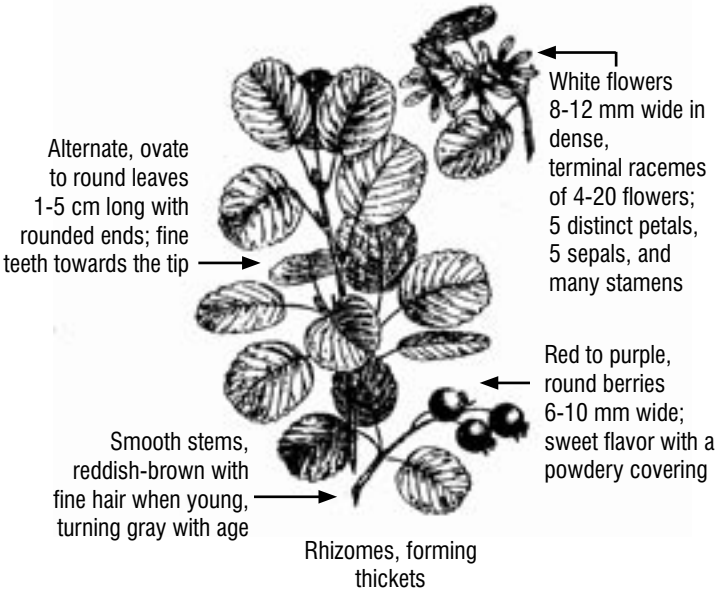
- 1-3 m tall
- Coulees, streambanks, river valleys, open woods
- Flowers late spring



# Saskatoon

## *Amelanchier alnifolia*

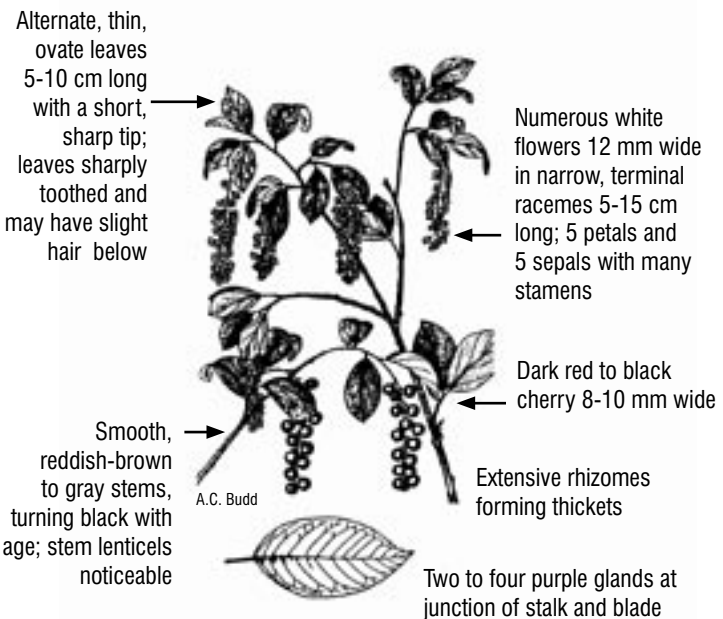
- 0.5-6 m tall
- Coulees, thickets, and open woods
- Flowers late spring



# Chokecherry

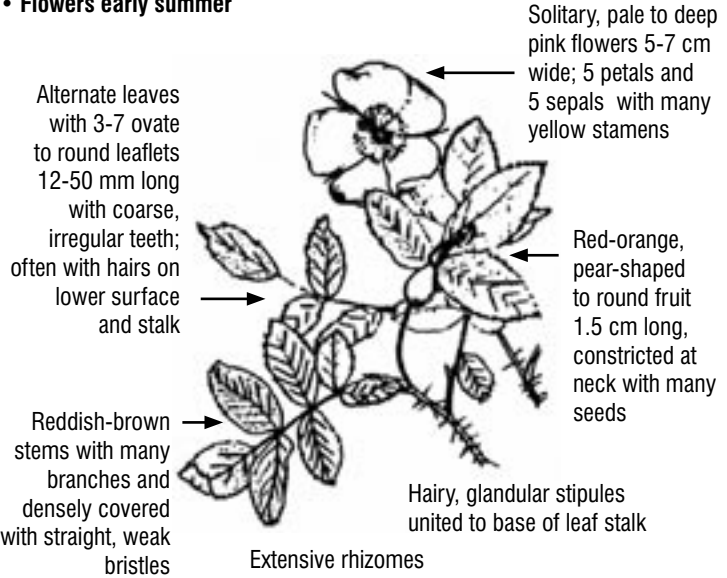
## *Prunus virginiana*

- 1-6 m tall
- Coulees, open woods, riverbanks, and sand hills
- Flowers late spring



## Prickly Rose *Rosa acicularis*

- 30-120 cm tall
- Thickets, woods, roadsides, and streambanks
- Flowers early summer

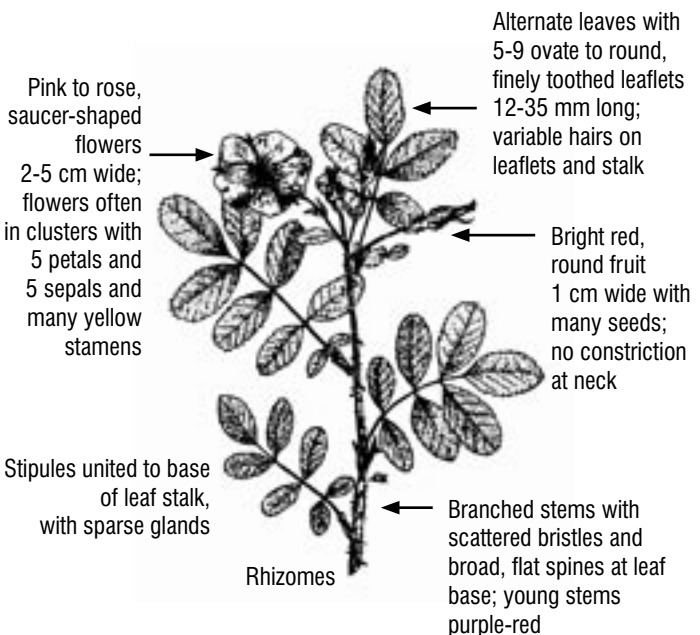


Similar species: Prairie Rose (*R. arkansana*)

- 20-30 cm tall, little-branched stem dying to ground each season
- 9-11 shiny leaflets
- 2-3 pink to white, flat flowers

## Wood's Rose *Rosa woodsii*

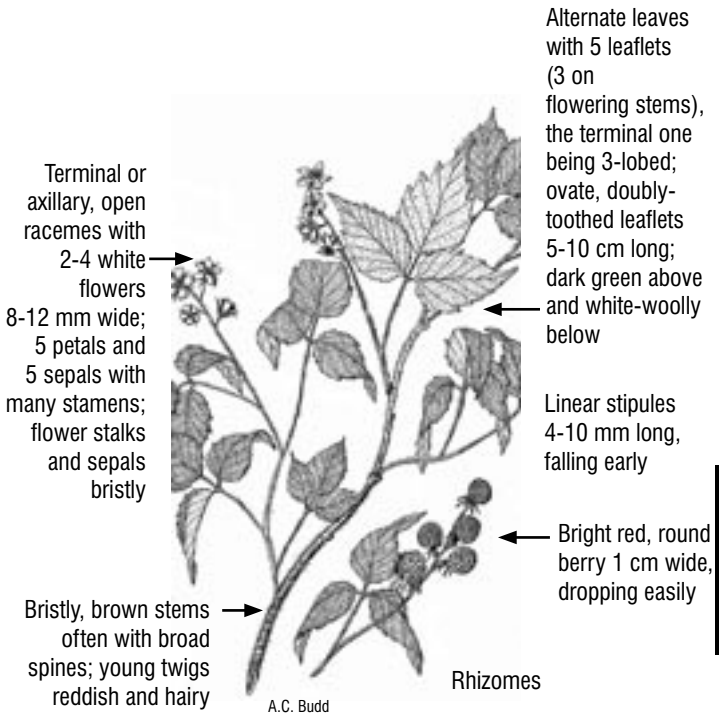
- 50-200 cm tall
- Thickets, open woods, sand hills, and prairie coulees
- Flowers in summer



# Wild Red Raspberry

## *Rubus idaeus*

- 1-2 m tall
- Moist woods, thickets, riverbanks, and shady, disturbed sites
- Flowers early summer
- Perennial with biennial stems

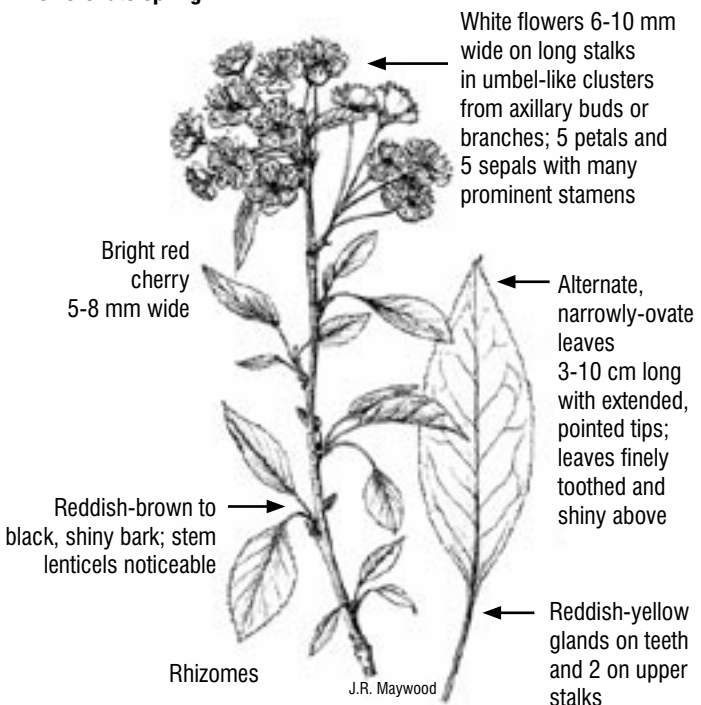


SHRUBS

# Pincherry

## *Prunus pensylvanica*

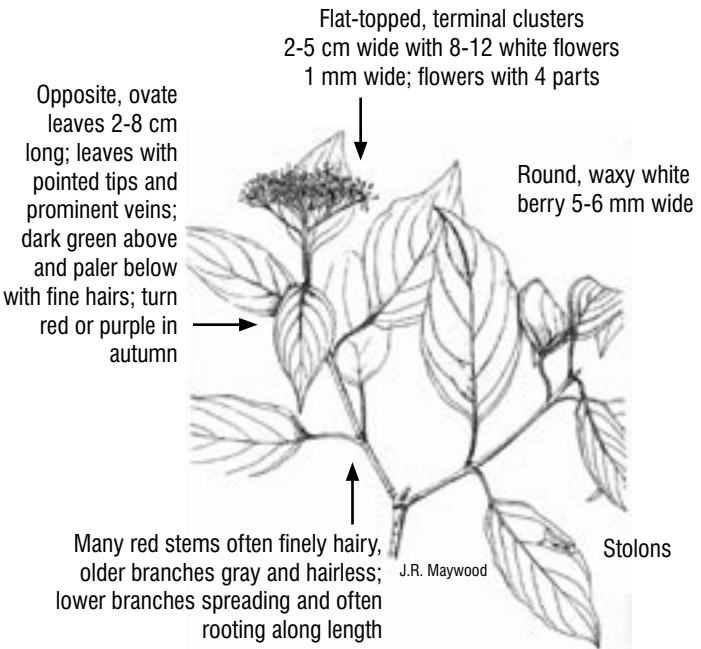
- 1-8 m tall
- Open woods, clearings, ravines, and often sandy soil
- Flowers late spring



# Red-Osier Dogwood

## *Cornus stolonifera*

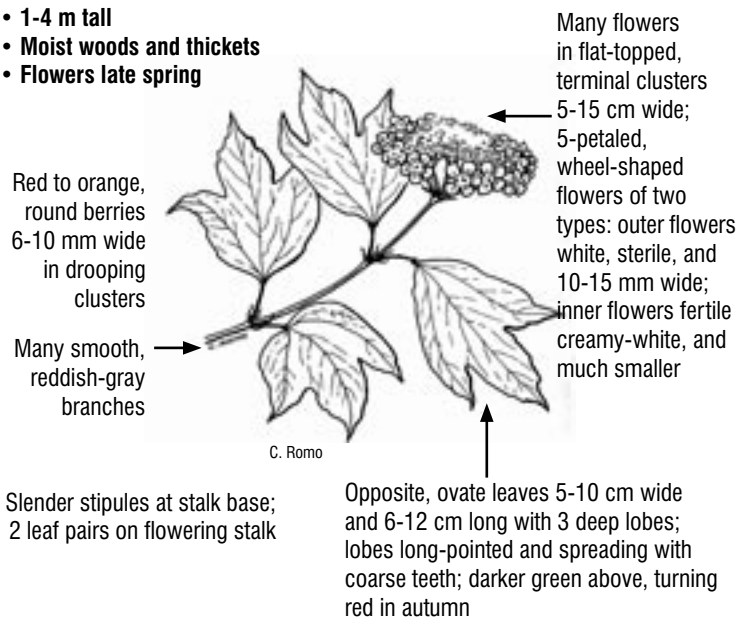
- 1-2 m tall
- Moist woods, coulees, streams, and riverbanks
- Flowers late spring



# High-bush Cranberry

## *Viburnum opulus*

- 1-4 m tall
- Moist woods and thickets
- Flowers late spring



**Similar Species:** Low Bush Cranberry (*V. edule*)

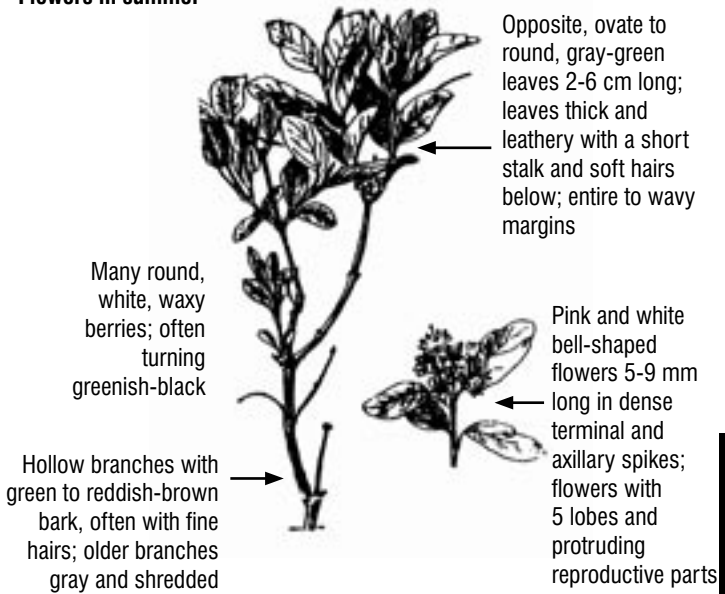
- 0.5-2 m tall; no stipules; 1 leaf pair on flowering stalk
- leaves with 3 shallow lobes and coarse teeth
- 3-30 similar, white flowers 4-7 mm wide in axillary clusters 1-3 cm wide



# Western Snowberry / Buckbrush

## *Symphoricarpos occidentalis*

- 50-100 cm tall
- Prairies, coulees, thickets, and open woods
- Extensive rhizomes forming colonies
- Flowers in summer

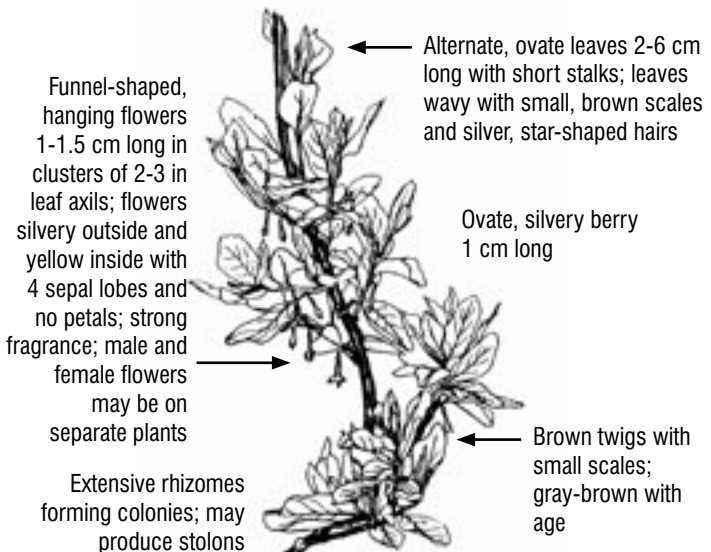


SHRUBS

# Wolfwillow / Silverberry

## *Elaeagnus commutata*

- 2-5 m tall
- Grasslands, ravines, and gravelly / sandy soils
- Nitrogen fixer
- Flowers late spring and early summer



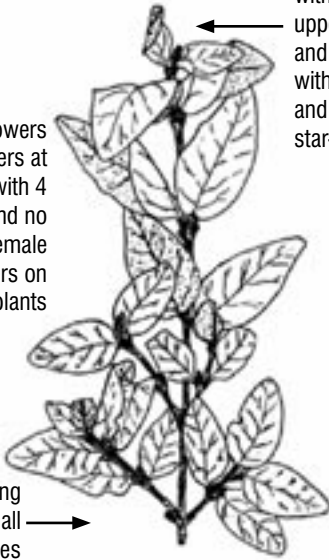
# Canada Buffaloberry

## *Shepherdia canadensis*

- 0.5-3 m tall
- Open woods, slopes, and riverbanks
- Nitrogen fixer
- Flowers early spring

Opposite, ovate leaves 2-4 cm long with wavy margins; upper surface green and lower surface with brown scales and silver, star-shaped hairs

Yellowish-brown flowers 4 mm wide in clusters at leaf axils; flowers with 4 spreading sepals and no petals; male and female flowers on separate plants



Red to yellow, ovate to round berry 3-5 mm long

Brown, spreading branches with small scales; older branches reddish-brown to gray

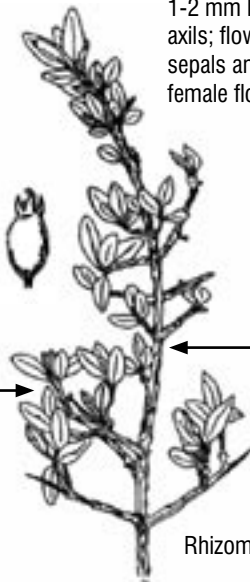
# Thorny Buffaloberry

## *Shepherdia argentea*

- 1-5 m tall
- Sloughs, stream and riverbanks, coulees, and open woods
- Nitrogen fixer
- Flowers late spring

Yellowish-brown flowers 1-2 mm long in clusters at leaf axils; flowers with 4 spreading sepals and no petals; male and female flowers on separate plants

Red-orange, ovate to round berry 3-5 mm long



Silvery, spreading branches with stout spines; branches brown with age

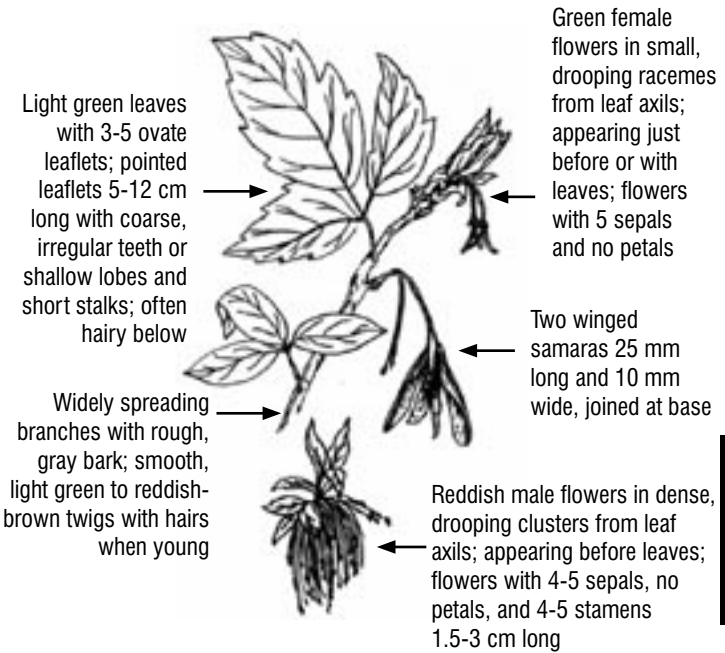
Opposite, narrowly-ovate leaves 2-5 cm long; leaves with scales and silver, star-shaped hairs

Rhizomes

# Manitoba Maple

## *Acer negundo*

- 6-12 m tall
- Streams, ravines, lakes, and wooded valleys
- Flowers in spring; male and female trees

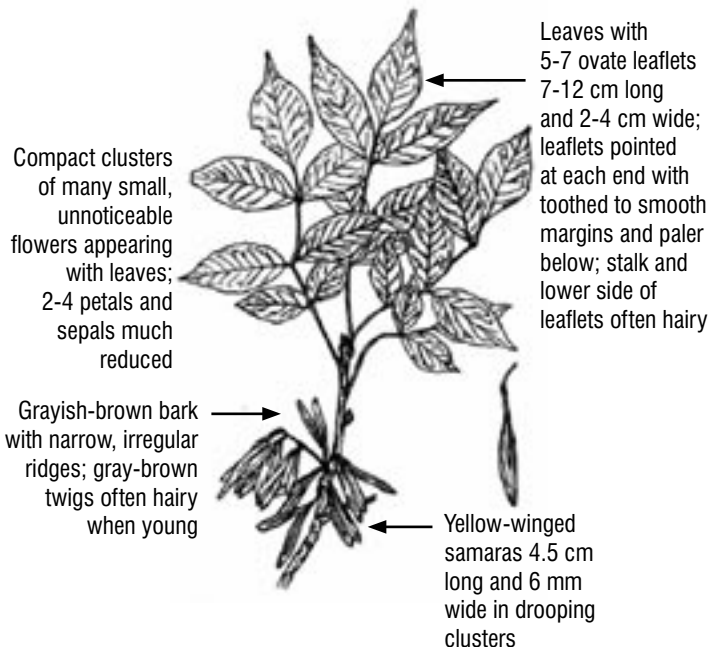


SHRUBS

# Green Ash

## *Fraxinus pennsylvanica*

- 10-25 m tall
- Low sites, lakes, rivers, and thickets
- Flowers in spring; male and female trees



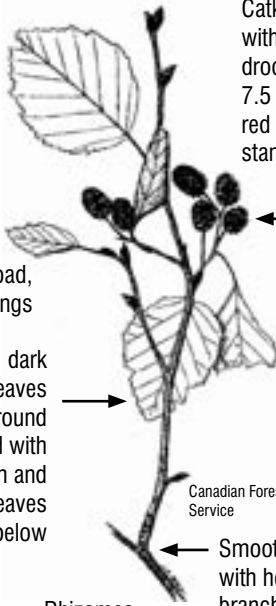
# Green Alder

## *Alnus crispa*

- 1-3 m tall
- Sandy, open woods, bogs, streams, and sand hills
- Flowers in spring

Flat nutlets with broad, membranous wings

Alternate, shiny, dark yellowish-green leaves 2-8 cm long; ovate to round and short-pointed with sharp, irregular teeth and short stalks; young leaves often sticky below



Catkin flowers appearing with leaves; terminal, drooping, male catkins 7.5 cm long with sticky, red scales and yellow stamens

Erect, cone-like, female catkins 10-15 mm long, clustered at base of male flowers, with hard, dark brown bracts

Canadian Forest Service

Smooth, thin, gray-brown bark with horizontal lenticels; young branches hairy and sticky

Rhizomes

Similar species: River Alder (*A. tenuifolia*)

- 2-8 m tall; streams, lakes, and rivers
- dull, dark green leaves with toothed, wavy-lobed margins; veins hairy below
- catkins appearing before leaves
- nutlets with narrow wings

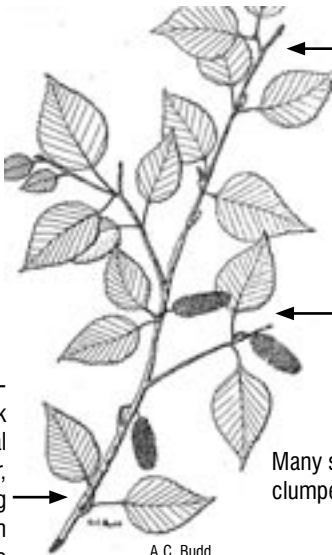
# Water Birch

## *Betula occidentalis*

- 5-10 m tall
- Streams, lakes, sand hills, and moist sites
- Flowers in spring

Catkin flowers appearing before leaves; drooping male catkins 4-5 cm long; erect, female catkins 2-3 cm long with one or two together

Thin, dark reddish-brown to black bark with horizontal lenticels; slender, often drooping branches with resinous glands and fine hair



Alternate, broadly-ovate, thin leaves 2-5 cm long; pointed to blunt tip with sharp teeth; shiny above and often fine hairs below

Nutlets with broad wings

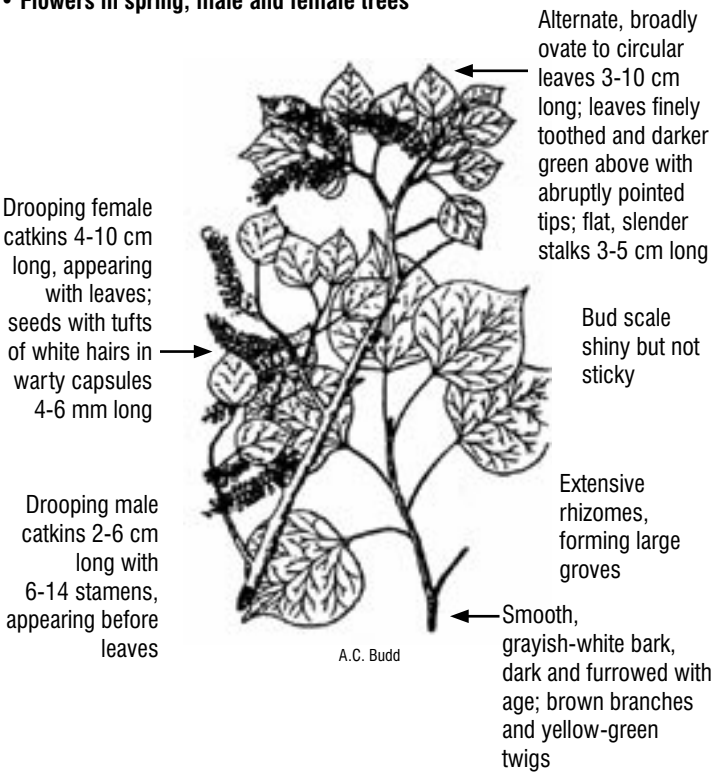
Many spreading stems clumped together

A.C. Budd

# Trembling Aspen

## *Populus tremuloides*

- 3-30 m tall
- Moist sites and depressions in prairies; parkland and forest
- Flowers in spring; male and female trees

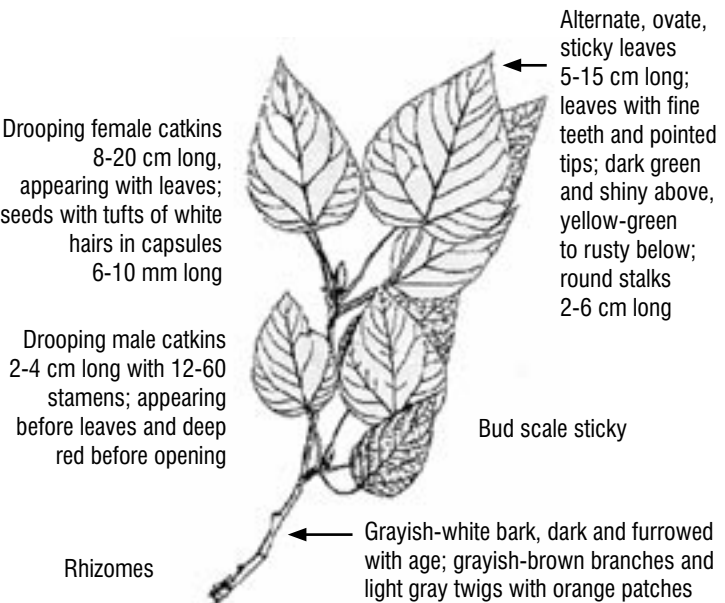


SHRUBS

# Balsam Poplar

## *Populus balsamifera*

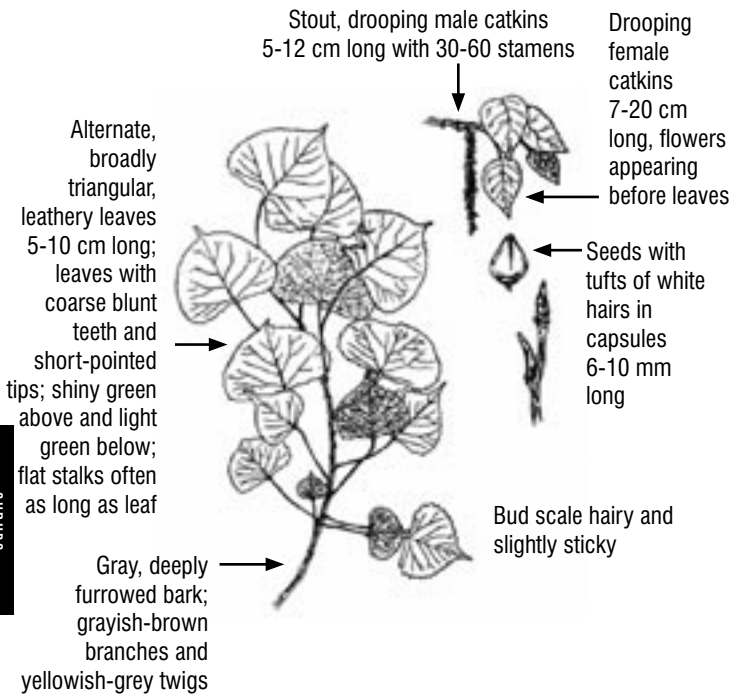
- 10-25 m tall
- Riverbanks, lakes, coulees, and moist upland sites
- Flowers in spring; male and female trees



# Cottonwood

## *Populus deltoides*

- 15-25 m tall
- Floodplains, riverbanks, lakeshores, moist sand dunes
- Flowers in spring; male and female trees



## Grazing Response and Forage Value

Grazing response is how various plant species react to grazing management. Plants are divided into three categories of response to grazing. Plants that decrease in abundance with improper grazing, or improper grazing management, are Decreasers **(D)**. Plants that increase in abundance under similar management are Increasers **(I)**. Plants that invade sites or heavily increase on sites after improper grazing are Invaders **(IV)**. Invaders that are not native to North America are termed Exotic Invaders **(EIV)**. As the condition of the range site decreases, there are continually less Decreaser species and more Increaser and Invader species. Grazing response for a species may vary between soil and climate zone, as well as range site. The response to grazing for each species indicated on the next page is the generally accepted response on an average site. This usually pertains to upland sites with a loamy soil texture. Some species have a different response in a certain soil zone, as seen in brackets.

Forage value of a plant is determined by considering its palatability, nutritive quality, longevity, and area or primary distribution. Forage value varies, depending on the kind of livestock using the plants and the season of use. There are four classifications of this indicator. Plants that are palatable, nutritious, and therefore grazed readily have a Good forage value **(G)**. Plants that have moderate palatability and nutrition have a Fair forage value **(F)**. Plants that are either unpalatable, not nutritious, or low growing with reduced forage have a Poor forage value **(P)**. Poisonous plants is the fourth forage value classification **(POIS)**.

SPECIES	GRAZING RESPONSE	FORAGE VALUE
Alkali Cord Grass	I	P
Awned Sedge	D	G
Awned Wheatgrass	D	G
Baltic Rush	I	F
Balsam Poplar	I-IV	P
Basket Willow	D	G
Beaked Sedge	D	G
Beaked Willow	D	G
Canada Buffaloberry	I	P
Canada Goldenrod	I	P
Canada Thistle	EIV	P
Canada Wild Rye	D	G
Cattail	I	P
Chokecherry	D	F - POIS
Common Plantain	EIV	P
Common Reed Grass	D	F - G
Cottonwood	D	P
Cow Parsnip	D	G
Creeping Spikerush	D - I	G
Dandelion	EIV	F
Fowl Bluegrass	D	G
Fowl Manna Grass	D	G
Foxtail	IV	P
Great Bulrush	D - I	P
Green Alder	I	P
Green Ash	D	F
Hawthorn	D	F
High-bush Cranberry	D	F
Hoary Willow	D	G
Horsetail	I	P
Kentucky Bluegrass	EIV	G
MaCoun's Buttercup	I	P
Manitoba Maple	D	P
Marsh Hedge-nettle	I	P
Marsh Marigold	I	P
Marsh Ragwort	I	F
Marsh Reed Grass	D	F
Narrow Reed Grass	D	F
Northern Gooseberry	I	P
Northern Reed Grass	D	F
Nuttall's Alkali Grass	D	G
Perennial Sowthistle	EIV	F
Pincherry	D	F
Pussy Willow	D	G
Prairie Bulrush	I	P
Prickly Rose	I	F
Red-Osier Dogwood	I	G



SPECIES	GRAZING RESPONSE	FORAGE VALUE
Redtop	EIV	F
Reed Canary Grass	EIV	G
Rough Hair Grass	IV	F
Salt Grass	I	P
Sandbar Willow	D	G
Saskatoon	D	G
Sea Milkwort	D	—
Seaside Arrowgrass	I	P - POIS
Seaside Buttercup	I	P
Silverweed	I	P
Slough Grass	I	G
Smooth Brome	EIV	G
Spangletop	D	F
Tall Manna Grass	D	G
Thorny Buffaloberry	I	P
Tufted Hair Grass	D	G
Three-square Bulrush	I	P
Trembling Aspen	I - IV	F
Viscid Great Bulrush	D - I	P
Water Birch	I	F
Water Foxtail	D	G
Water Hemlock	IV	P - POIS
Water Parsnip	I	F
Water Sedge	D	G
Water Smartweed	I	P
Western Dock	EIV - IV	P
Western Snowberry	I	P
Wild Mint	I	P
Wild Red Raspberry	I	F
Wolfwillow	I	F
Woolly Sedge	D	G
Wood's Rose	I	F
Yellow Willow	D	G

## Glossary

**Alluvial:** lowland areas of clay, sand, and silt left by floodwaters.

**Annual:** a plant that germinates, flowers, and sets seed, in one year.

**Anther:** the pollen container of a stamen or the male reproductive organ.

**Auricles:** a pair of ear-shaped appendages or lobes, at the junction of the blade and sheath in many grasses and sedges.

**Awn:** a slender, often terminal, bristle.

**Axillary:** a flowering structure located in, or arising from an axil.

**Biennial:** a plant that completes its lifecycle in two years.

**Capsule:** a dry fruit with more than one chamber and opening at maturity.

**Catkin:** a scaly spike of flowers, often of one sex and without petals.

**Culm:** the stem of a grass or a sedge.

**Disc florets:** tubular, inner flowers of many Sunflower Family plants.

**Floret:** a single flower of a dense flowering unit.

**Glandular:** bearing glands (a spot on an organ surface or hair tip producing a sticky or greasy substance).

**Glume:** one of the two bracts at the base of the grass spikelet.

**Inflorescence:** a mode of arrangement of flowers in a flowering unit or structure.

**Internode:** the portion of a stem between two nodes (*see node*).

**Keeled:** a sharp or distinct ridge.

**Lacerate:** ligule margins irregularly cut or torn.

**Lemma:** the lower of the two bracts enclosing the single flowers (florets) in grass spikelets.

**Lenticel:** a small, slightly raised area on the bark in many shrubs and trees.

**Ligule:** the appendage on the inner side of the leaf, at the junction of the blade and sheath in many grasses and sedges; a membrane or fringe of hair.

**Node:** the place on a stem from which leaves or branches arise.

**Palea:** the upper of the two bracts enclosing the single flowers (florets) in grass spikelets.

**Palmate:** a leaf with the shape of a hand, with three or more leaflets, veins, or lobes from a common point.

**Perennial:** a plant that persists for more than two years.

**Perigynium:** a sac-like, papery sheath enclosing the fruit in sedges.

**Petals:** the second, or inner set of floral leaves, usually coloured or white.

**Pinnate:** a leaf with leaflets arranged on each side of the common axis.

**Pistil:** the female reproductive parts of a flower, including the stigma at the summit, the ovary at the base, and the style connecting the two.

**Ray florets:** strap-like, often outer flowers of many Sunflower Family plants.

**Reflexed:** bent sharply backward, or downward.

**Rhizomes:** an underground, creeping, root-like stem, often producing new plants at its nodes or tip.

**Samara:** a dry, winged fruit often with one seed and not spitting at maturity.

**Sepals:** the first, or outer set of floral leaves, usually green and leaf-like.

**Sheath:** the part of a leaf-base which encloses the stem.

**Spikelet:** a group of singular flowers in grasses and sedges (*see floret*).

**Stamen:** the male reproductive parts of a flower, with the pollen-bearing anther at the summit

**Stigma:** the summit of the female reproductive parts, that receives the pollen.

**Stipules:** a pair of appendages at the base of a leaf or leaf stalk.

**Stolons:** a horizontal, creeping stem from the base of a plant, producing new plants at its nodes or tip.

**Style:** the structure in the female reproductive parts between the stigma and the ovary.

**Umbel:** a flower cluster where all flower stalks arise from the same point.

**Umbellet:** a secondary umbel.

# Alphabetical Index by Common Name

## Grasses

Alkali Cord Grass .....	5
Awned (Bearded) Wheatgrass.....	8
Canada Wildrye .....	14
Common Reed Grass.....	8
Fowl Bluegrass.....	13
Fowl Manna Grass .....	10
Foxtail Barley.....	12
Kentucky Bluegrass.....	13
Marsh Reed Grass .....	7
Narrow Reed Grass .....	6
Northern Reed Grass .....	6
Nuttall's Alkali Grass .....	11
Redtop .....	9
Reed Canary Grass .....	7
Rough Hair Grass .....	9
Salt Grass .....	11
Slough Grass .....	5
Smooth Brome .....	12
Spangletop .....	4
Tall Manna Grass .....	10
Tufted Hair Grass .....	4
Water (Short-awned) Foxtail .....	14

## Grass-like Plants

Awned Sedge .....	16
Baltic Rush .....	18
Beaked Sedge.....	17
Cattail .....	21
Creeping Spike-rush .....	18
Great Bulrush.....	19
Prairie Bulrush .....	20
Seaside Arrowgrass.....	21
Three-square Bulrush.....	20
Viscid Great Bulrush .....	19
Water Sedge .....	16
Woolly Sedge .....	17

## Forbs

Canada Goldenrod .....	27
Canada Thistle .....	28
Common Plantain .....	32
Cow Parsnip .....	24
Dandelion .....	29
Horsetail .....	24
MaCoun's Buttercup.....	31
Marsh Hedge-nettle.....	25
Marsh Marigold .....	31
Marsh Ragwort .....	27
Perennial Sowthistle .....	28
Sea Milkwort .....	29
Seaside Buttercup .....	30
Silverweed .....	30
Water Hemlock .....	23
Water Parsnip .....	23
Water Smartweed .....	26

Western Dock .....	26
Wild Mint .....	25

## **Shrubs**

Balsam Poplar .....	45
Basket Willow .....	35
Beaked Willow .....	34
Canada Buffaloberry .....	42
Chokecherry .....	37
Cottonwood .....	46
Green Alder .....	44
Green Ash .....	43
Hawthorn .....	36
High-bush Cranberry .....	40
Hoary Willow .....	33
Manitoba Maple .....	43
Northern Gooseberry .....	36
Pincherry .....	39
Prickly Rose .....	38
Pussy Willow .....	35
Red-Osier Dogwood .....	40
Sandbar Willow .....	33
Saskatoon .....	37
Thorny Buffaloberry .....	42
Trembling Aspen .....	45
Water Birch .....	44
Western Snowberry (Buckbrush) .....	41
Wild Red Raspberry .....	39
Wood's Rose .....	38
Wolfwillow (Silverberry) .....	41
Yellow Willow .....	34

# Alphabetical Index by Latin Name

## Grasses

<i>Agropyron subsecundum</i> ( <i>Elymus trachycaulus</i> ssp. <i>subsecundus</i> ) .....	8
<i>Agrostis scabra</i> .....	9
<i>Agrostis stolonifera</i> ( <i>Agrostis gigantea</i> ) .....	9
<i>Alopecurus aequalis</i> .....	14
<i>Beckmannia syzigachne</i> .....	5
<i>Bromus inermis</i> .....	12
<i>Calamagrostis canadensis</i> .....	7
<i>Calamagrostis inexpansa</i> ( <i>Calamagrostis stricta</i> ssp. <i>inexpansa</i> ) .....	6
<i>Calamagrostis neglecta</i> ( <i>Calamagrostis stricta</i> ssp. <i>stricta</i> ).....	6
<i>Deschampsia caespitosa</i> .....	4
<i>Distichlis stricta</i> ( <i>Distichlis spicata</i> ).....	11
<i>Elymus canadensis</i> .....	14
<i>Glyceria grandis</i> .....	10
<i>Glyceria striata</i> .....	10
<i>Hordeum jubatum</i> .....	12
<i>Phalaris arundinacea</i> .....	7
<i>Phragmites communis</i> ( <i>Phragmites australis</i> ) .....	8
<i>Poa palustris</i> .....	13
<i>Poa pratensis</i> .....	13
<i>Puccinellia nuttalliana</i> .....	11
<i>Scolochloa festucacea</i> .....	4
<i>Spartina gracilis</i> .....	5

## Grass-like Plants

<i>Carex aquatilis</i> .....	16
<i>Carex atherodes</i> .....	16
<i>Carex lanuginosa</i> ( <i>Carex pellita</i> ) .....	17
<i>Carex rostrata</i> .....	17
<i>Eleocharis palustris</i> .....	18
<i>Juncus balticus</i> .....	18
<i>Scirpus acutus</i> ( <i>Schoenoplectus acutus</i> ) .....	19
<i>Scirpus paludosus</i> ( <i>Schoenoplectus maritimus</i> ).....	20
<i>Scirpus pungens</i> ( <i>Schoenoplectus pungens</i> ) .....	20
<i>Scirpus validus</i> ( <i>Schoenoplectus tabernaemontani</i> ) .....	19
<i>Triglochin maritima</i> .....	21
<i>Typha latifolia</i> .....	21

## Forbs

<i>Caltha palustris</i> .....	31
<i>Cicuta maculata</i> .....	23
<i>Cirsium arvense</i> .....	28
<i>Equisetum arvense</i> .....	24
<i>Galium maritima</i> .....	29
<i>Heracleum lanatum</i> ( <i>Heracleum maximum</i> ) .....	24
<i>Mentha arvensis</i> .....	25
<i>Plantago major</i> .....	32
<i>Polygonum amphibium</i> .....	26
<i>Potentilla anserina</i> ( <i>Argentina anserina</i> ).....	30
<i>Ranunculus cymbalaria</i> .....	30
<i>Ranunculus macounii</i> .....	31
<i>Rumex occidentalis</i> ( <i>Rumex aquaticus</i> var. <i>fenestratus</i> ).....	26

<i>Senecio congestus</i> .....	27
<i>Sium suave</i> .....	23
<i>Solidago canadensis</i> .....	27
<i>Stachys palustris</i> .....	25
<i>Sonchus arvensis</i> .....	28
<i>Taraxacum officinale</i> .....	29

## **Shrubs**

<i>Acer negundo</i> .....	43
<i>Alnus crispa</i> ( <i>Alnus viridis</i> ssp. <i>crispa</i> ) .....	44
<i>Amelanchier alnifolia</i> .....	37
<i>Betula occidentalis</i> .....	44
<i>Cornus stolonifera</i> ( <i>Cornus sericea</i> ) .....	40
<i>Crataegus rotundifolia</i> ( <i>Crataegus chrysocarpa</i> ).....	36
<i>Elaeagnus commutata</i> .....	41
<i>Fraxinus pennsylvanica</i> .....	43
<i>Populus balsamifera</i> .....	45
<i>Populus deltoides</i> .....	46
<i>Populus tremuloides</i> .....	45
<i>Prunus pensylvanica</i> .....	39
<i>Prunus virginiana</i> .....	37
<i>Ribes oxycanthoides</i> .....	36
<i>Rosa acicularis</i> .....	38
<i>Rosa woodsii</i> .....	38
<i>Rubus idaeus</i> .....	39
<i>Salix bebbiana</i> .....	34
<i>Salix candida</i> .....	33
<i>Salix discolor</i> .....	35
<i>Salix interior</i> ( <i>Salix exigua</i> ) .....	33
<i>Salix lutea</i> .....	34
<i>Salix petiolaris</i> .....	35
<i>Shepherdia argentea</i> .....	42
<i>Shepherdia canadensis</i> .....	42
<i>Symphoricarpos occidentalis</i> .....	41
<i>Viburnum opulus</i> .....	40

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