



PlantWatch

Canada in Bloom!

LEGEND

Type of Plant



tree



shrub



flower/herb

Habitat



forest



meadow (open areas)



wetland/bog



tundra/barren (alpine areas)

Example:

STRAWBERRY

Fragaria virginiana/vesca



meadow

forest

flower

Acknowledgments:

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We especially thank Elisabeth Beaubien of the University of Alberta, coordinator of Alberta Plantwatch and science advisor for Canada Plantwatch, and Liette Vasseur, formerly of Nova Scotia Plantwatch. Margaret Walton of the Royal Botanical Gardens (Burlington, Ontario) created many of the range maps used in this guide.

For more information on PlantWatch or any one of our other NatureWatch programs—FrogWatch, WormWatch and IceWatch—contact:



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What is PlantWatch?

PlantWatch is part of our national NatureWatch series of volunteer monitoring programs designed to help identify ecological changes that may be affecting our environment. A joint venture between Nature Canada and Environment Canada, PlantWatch partners include representatives from each province and territory. Our goal is to encourage Canadians of all ages to get involved in helping scientists discover how, and more importantly why, our natural environment is changing.

The PlantWatch program enables “citizen scientists” to get involved by recording flowering times for selected plant species and reporting these dates to researchers through the Internet or by mail. When you submit your data electronically, it’s added to Web maps showing bloom dates across Canada, so your observations make a difference right away!

Why Watch Plants?

Canadians are fortunate to live in a country with a wide variety of plant species. By participating in PlantWatch, you can learn more about our country’s botanical diversity, while helping scientists track the effects of climate change in Canada.

The plants chosen for this guide bloom every spring, largely in response to rising temperatures. However, some species are flowering almost a month earlier than they were a century ago! Scientists believe climate change is affecting blooming times—a trend that is continuing. They predict that the greatest increases in temperature will be in Western and Northern Canada, while some parts of Eastern Canada actually may be cooling. By reporting on the PlantWatch species found in your community, you can help researchers discover how common plants are responding to climate

change—and track where changes are taking place in Canada, and at what rate.

Why These Plants?

The most useful plants for spring phenology studies are perennial, easy-to-identify, broadly distributed, naturally occurring species with a short bloom period. These key “indicator” plants tend to flower as they accumulate heat, which means that after warmer winters and springs they flower earlier than average. Non-native PlantWatch species such as lilac and dandelion also were selected because they are common species across Canada, and have a long history of use in phenology studies.



How Do I Get Involved?

Anyone who is interested in learning more about plants can become a PlantWatch participant! Plant-watching is an excellent activity for families, classrooms, naturalists, Guide and Scout organizations and outdoors groups as well. All you have to do is use the guide to select a plant that occurs in your area, find it in your community, and start

recording. Every observation counts—reporting even one flowering date for one plant is a great contribution.

The PlantWatch Web site has a registration page and data sheet for fast and easy use. When you submit your observations electronically, they will be mapped—and you will see what flowering dates have been reported already across Canada. If you prefer to send in your observations by mail, you

can print the observation form found on the PlantWatch Web site and send your completed data sheet to the regional coordinator noted on the form. Visit the PlantWatch Web site at www.plantwatch.ca for more photos, life history details and quizzes about the different species in our guide.

How to PlantWatch

Choose Your Plants

Check this guide or the PlantWatch Web site to determine which plants have been selected for your area (in the guide, the provinces or territories are highlighted on each species page). If you need additional help, consult your

regional program co-ordinator or local gardeners and naturalists. Be sure to select plants that you can easily observe every day during the blooming season. A suggestion for first-time plant-watchers and schools: pick just one or two plant species to observe.

Select Your Site

Go for a walk before flowers begin to bloom, to find the plant(s) you wish to observe. If possible, choose specimens that are growing in an easy-to-access, flat area. Plants on a cool, north-facing slope usually flower later; and those on a warm, south-facing slope bloom earlier than plants on level ground. Avoid sites which may have unusual temperature or light conditions such as valleys or sites near streetlights, buried steam pipes, concrete foundations or paved parking lots and roads.

Mark Your Site

For trees and large shrubs, temporarily mark an individual plant with a tag. For smaller plants, find a typical patch of the species to observe. A good

idea is to label your plant (or patch of plants) with a plastic or metal tag so you are confident you are observing the same plants on each visit, and from year to year.

Tips on Identifying and Reporting Your Findings

Read the species descriptions in the PlantWatch guide—and check the PlantWatch Web site for more sketches and photos—to help you recognize the “first bloom” and “mid-bloom” stages to report for your plant and to download the observation form.

Start watching your plant closely in spring, checking for swelling flower buds.

Determine the observation location of the plant—latitude and longitude—and note this on the observation form. The PlantWatch Web page provides interactive mapping to help you determine your observation location.

Record the date when your plant reaches first bloom. (For most plants, first bloom is when the first flowers open, revealing the stamens inside.) Please report when flowers have



just opened in three different places on your shrub or tree, or in three places within the patch of plants you are observing.

Mid-bloom is the date when about half the flower buds are still closed, and the other half have just opened. So about 50% of the flowers are open on the observed shrub or tree, or in the observed smaller plants.

Leafing (only recorded for certain shrubs and trees) is the date when the first leaf has unfurled or opened fully in three different places on the plant.

Please see the descriptions of these growth stages for the plant species you are observing: many have slightly different definitions.

Check your PlantWatch guide to find out how to report for the species you have chosen. It is important to visit your plants at least every few days to catch the first day they bloom. If you are not sure when that has occurred, contact your

regional co-ordinator for help.

Record any environmental details listed on the observation form. This includes notes on weather, the plant's location and any other interesting information on insects or animals affecting the plant. Submit your data online at www.plantwatch.ca.

Spend some time during spring and summer observing the plants in full leaf and bloom so you can easily recognize them and return to observe them early next spring.



Plant Etiquette

Please do not collect wildflowers for enjoyment indoors. This weakens the plants and robs them of the energy needed to bloom the following year. Wildflowers are best enjoyed in their native habitat!

ASPEN POPLAR *Populus tremuloides*

Populus tremuloides before mid-bloom (Linda Kershaw)



Also known as: **trembling aspen**

French name: **peuplier faux-tremble**

Bloom time: **March to May**



PLANTWATCH POINTERS

Sampling Tag a male tree for observation (see catkin description below).

TO OBSERVE

First bloom When the catkins on the male tree first start shedding pollen (three-places).

Mid-bloom When 50% of the male catkins have lengthened and shed pollen.

Leafing When the first leaves have emerged and unfolded completely (three-places).

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Populus tremuloides first bloom
(Linda Kershaw)



Populus tremuloides leafing
(Rowena Hopkins)



This tree was named because of the way the leaves flutter or tremble in even a light breeze.

ASPEN POPLAR *Populus tremuloides*

GENERAL

- Deciduous tree up to 30-m tall. Trunk is smooth with light green or pale bark. Large trees can have black cracks in the bark at the base. Poplar trees are either male or female, but—only male trees are observed for PlantWatch.

LEAVES & TWIGS

- Leaves are small (3–7-cm long), light to medium green in colour and round-shaped with a small, sharp tip.

FLOWERS & FRUITS

- Flowers are found in catkins, which look like soft caterpillars hanging from twigs; blooming is completed before leaves emerge.
- Male flowers: Fuzzy catkins emerge in late winter and lengthen in early spring to reveal red/pink pollen sacs that release pollen into the air. The catkin eventually dries up and falls off.
- Female flowers: Catkins turn green and capsules form, to later release fluffy, white seeds.

HABITAT

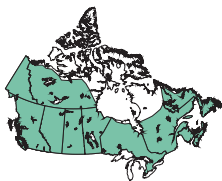
- Aspen is common in both dry and moist woods, but cannot tolerate shade.

BEARBERRY *Arctostaphylos uva-ursi*

Royal Botanical Gardens



Also known as: **kinnikinnick**
 French name: **raisin d'ours**
 Bloom time: **April to June**



PLANTWATCH POINTERS

Sampling Select a typical patch of plants; if the plants are very abundant, mark off a one-metre-square section to observe.

TO OBSERVE

First bloom When the first flowers open like little pink “lips” at the tip (three places).

Mid-bloom When 50% of the flowers on observed plants are open at the tip.

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Arctostaphylos uva-ursi



Arctostaphylos uva-ursi past mid-bloom
(Elisabeth Beaubien)

BEARBERRY *Arctostaphylos uva-ursi*

GENERAL

- Trailing evergreen shrub up to 10-cm tall, often forming mats.

LEAVES & TWIGS

- Leaves have a somewhat shiny upper surface and leathery texture.
- Oval to spatula-shaped leaves, 1–2-cm long, similar to cranberry leaves, but more flat and dull.

FLOWERS & FRUITS

- Tiny pinkish to white flowers shaped like vases or urns occur in small clusters that droop off branch tips.

Note: Flowers are similar to the cranberry's, but bearberry blossoms have semi-translucent "windows" at their base. Cranberry flowers open wide to expose their stamens and pistils, while bearberry flowers hide theirs. Also, bearberry flowers earlier than cranberry.

HABITAT

- This circumboreal shrub is found in sandy, well-drained sites in woodlands and open areas.



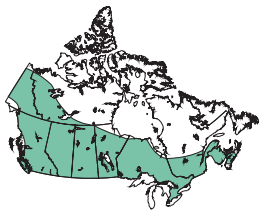
The fruit of the bearberry is a favourite food of bears.

BEDSTRAW, NORTHERN *Galium boreale*

(Derek Johnson)



French name: **gaillet boréal**
Bloom time: **June**



PLANTWATCH POINTERS

Sampling Select a typical patch of plants; if the plants are very abundant, mark off a one-metre-square section to observe.

TO OBSERVE

First bloom When the first flowers are open in the observed plants.

Mid-bloom When 50% of the flowers are open in the observed plants.

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Galium boreale past mid-bloom
(Lorna Allen)



Galium boreale past mid-bloom
(Linda Kershaw)



Historically, this plant was boiled and used as a wash to remove freckles!

BEDSTRAW, NORTHERN

Galium boreale

GENERAL

- The northern bedstraw plant stands 20–60-cm tall and has smooth, square stems.

LEAVES & TWIGS

- The leaves are arranged in groups of four, with each group encircling the stem. The leaves are narrow, typically 5-cm long, with three strong veins.

FLOWERS & FRUITS

- The fragrant white flowers of the northern bedstraw are approximately 3-mm wide.
- The pattern of four petals on this flower are shaped like tiny crosses.

HABITAT

- These plants can be found in forests, along roadsides and in moist prairie environments.

BIRCH, PAPER *Betula papyrifera* and *Betula neolaskana*

Montréal Botanical Garden (Gilles Murray)



Also known as: **canoe birch, white birch, Alaska birch, Yukon birch**

French name: **bouleau à papier**

Bloom time: **April to June**



PLANTWATCH POINTERS

Sampling Tag a large, mature tree with low-hanging catkins.

TO OBSERVE

First bloom When the male catkins first start shedding pollen in at least three different places on the tree. You can check this by flicking a male catkin with your finger, and observing if a small yellow cloud of pollen is visible.

Mid-bloom When 50% of the male catkins are shedding pollen.

Leafing When the first leaves have emerged and unfolded completely in three different places on the tree.

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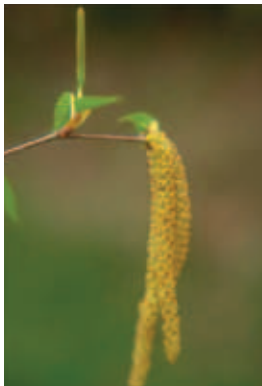
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Betula papyrifera/neolaskana.



Betula papyrifera/neolaskana leaves
(G. Powell)



Birch sap can be collected and boiled down to make syrup, wine, beer and soft drinks.

BIRCH, PAPER

Betula papyrifera and *Betula neolaskana*

GENERAL

- A deciduous tree 15–20-m tall (sometimes up to 30 m).
- The bark of mature trees is white and peels in paper-like strips. The bark is marked with brown horizontal lines of raised pores or lenticels.
- Bark is thin, smooth and reddish-brown on young trees.

LEAVES & TWIGS

- Leaves are egg- to triangular-shaped and usually 3–8.5-cm long.
- Twigs are brown to red in colour, slender and hairy. The twigs of Alaska birch are most often covered with sticky resin glands.

FLOWERS & FRUITS

- Male and female flowers grow in separate catkins on the same twigs. Male catkins look like yellowish-brown worms, are 2–10-cm long, and hang from twig tips.
- Female catkins appear with emerging leaves, stand erect at the branch tips at first bloom and are 2–4-cm long.
- Fruits are a broad, oval nutlet.

HABITAT

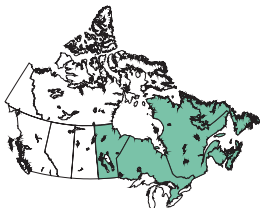
- Paper birch is found in open to dense woodland. It grows best on well-drained but moist sites, and is widespread across the boreal forest.

BLUE-BEAD LILY *Clintonia borealis*

(Royal Botanical Gardens; inset: Jardin botanique de Montréal)



Also known as: **clintonia**
 French name: **clintonie boréale**
 Bloom time: **May to June**



PLANTWATCH POINTERS

Sampling Select a typical patch of plants; if the plants are very abundant, mark off a one-metre-square section to observe.

TO OBSERVE

First bloom When the first flowers are open in the observed plants.

Mid-bloom When 50% of the flowers are open in the observed plants.

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Clintonia borealis first bloom
(Madonna Bishop)



Clintonia borealis mid-bloom
(Madonna Bishop)



The fruit of this lily is poisonous to humans, although chipmunks can eat it.

BLUE-BEAD LILY

Clintonia borealis

GENERAL

- Low plant, often forming colonies.
- Shiny, overlapping leaves appear in sets of two to five (usually three) at the base of the stem.

LEAVES & TWIGS

- Leaves are oval, 15–30-cm long.

FLOWERS & FRUITS

- Flowers are yellowish-green.
- The stem rises to a height of 15–40 cm, and has three to six star-shaped, nodding flowers at the top.
- The fruit is small (about 1 cm), shiny and very blue, appearing later in the summer.

HABITAT

- Moist deciduous or mixed coniferous woodlands with rich soil.

BLUETS *Houstonia caerulea*

(Nova Scotia PlantWatch)



French name: **houstonie bleue**

Bloom time: **May to June**



PLANTWATCH POINTERS

Sampling Select a typical patch of plants; if the plants are very abundant, mark off a one-metre-square section to observe.

TO OBSERVE

First bloom When the first flowers are open in the observed plants.

Mid-bloom When 50% of the flowers are open in the observed plants.

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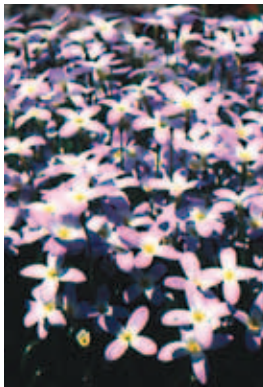
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Houstonia caerulea flowers
(Elaine Haug, courtesy of Smithsonian Institution)



Houstonia caerulea
(Melanie Priesnitz)



These flowers are a favourite of the beefly, a small fly that looks like a bumblebee and hovers like a hummingbird to feed from the flowers.

BLUETS *Houstonia caerulea*

GENERAL

- Bluets are tiny herbs (10-cm high) that grow in dense patches, covering an open meadow in what looks like a pale blue blanket.

LEAVES & TWIGS

- Plants arise from thread-like, creeping roots from which unbranched stems sprout.

FLOWERS & FRUITS

- Each stem produces a single pale lavender flower.
- The flowers have a bright yellow centre to guide bees to the pollen, which is found in the tubular flower neck.

HABITAT

- Bluets prefer moist grassy fields.

BUNCHBERRY *Cornus canadensis*

(Elisabeth Beaubien; Inset: Royal Botanical Gardens)



Also known as: **crackerberry, dwarf cornel**

French name: **quatre-temps**

Bloom time: **May to June**



PLANTWATCH POINTERS

Sampling Select a typical patch of plants; if the plants are very abundant, mark off a one-metre-square section to observe.

TO OBSERVE

When flowers open, black central dots are visible (these are the stigmas).

First bloom When the first flowers are open in the observed plants.

Mid-bloom When 50% of the flowers are open in the observed plants.

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Cornus canadensis first-bloom
(Rowena Hopkins)



Cornus canadensis mid-bloom
(Elisabeth Beaubien)



Tiny insects can trigger an explosive opening of mature bunchberry flowers, and are showered with pollen as they fly away.

BUNCHBERRY *Cornus canadensis*

GENERAL

- Low, erect woodland plant, about 10-cm tall, that grows in colonies.

LEAVES & TWIGS

- Smooth-edged, oval leaves with parallel veins. Four to six leaves form a ring around the stem.

FLOWERS & FRUITS

- Each plant has a single cluster with four showy white bracts that look like petals. In the centre are the true flowers, which are tiny and either green, purple or cream-coloured.
- The fruits are red berries that appear later in the summer.

HABITAT

- A forest plant, bunchberry tolerates a variety of soil and site conditions.

BUTTERCUP, SAGEBRUSH *Ranunculus glaberrimus*

(Ron Long)



French name: **renoncule très glabre**

Bloom time: **April to May**



PLANTWATCH POINTERS

Sampling Select a typical patch of plants; if the plants are very abundant, mark off a one-metre-square section to observe.

TO OBSERVE

First bloom When the first flowers are open in the observed plants.

Mid-bloom When 50% of the flowers are open in the observed plants.

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Ranunculus glaberrimus first bloom
(Eileen Brown)



Ranunculus glaberrimus mid-bloom
(Curtis Bjork)

BUTTERCUP, SAGEBRUSH

Ranunculus glaberrimus

GENERAL

- This very small wildflower (maximum 15-cm tall) appears shortly after snowmelt in B.C. grassland areas.

LEAVES & TWIGS

- Sagebrush buttercup mainly produces low, basal leaves that often show shallow notches near the leaf tip.

FLOWERS & FRUITS

- In early spring, this plant makes an intense show of shiny yellow flowers.
- Dense fruit clusters (7–12-mm across) contain up to 150 tiny seeds. Each seed has a hairy texture and a slightly curved hook, which can latch onto fur or clothing to carry the seeds to a new location. Check your socks!

HABITAT

- Sagebrush buttercup occurs throughout B.C.'s arid grassland regions. It is often found growing with big sagebrush plants, ponderosa pine and Douglas fir trees.



The Latin genus name for this plant, Ranunculus, means "little frog;" buttercups often grow in areas where frogs live.

CHOKE CHERRY

Prunus virginiana

(Derek Johnson)



French name: **cerisier de Virginie**

Bloom time: **May to June**



PLANTWATCH POINTERS

Sampling Tag a typical shrub for observation.

TO OBSERVE

First bloom When the first flowers are open on the observed shrub (three places).

Mid-bloom When 50% of the flowers are open on the observed shrub.

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Prunus virginiana past mid-bloom
Montréal Botanical Garden
(Ministère des Ressources naturelles du Québec)



Prunus virginiana mid-bloom
(Linda Kershaw)

CHOKE CHERRY

Prunus virginiana

GENERAL

- Choke cherry can be found as a bush or small tree generally 2–4-m tall, but sometimes reaching up to 10-m tall.

LEAVES & TWIGS

- Choke cherry has pointed leaves with sharply toothed edges. Their shape—widest above the middle of the leaf with a short, pointed tip—distinguishes the plant from pin cherry, whose leaves are widest below the middle and taper gradually to a point.

FLOWERS & FRUITS

- Flowers are white, 1–1.5-cm across, and hang in dense, elongated clusters up to 15-cm long.
- Berries are red, ripening to bluish-black.

HABITAT

- The choke cherry prefers to grow in aspen poplar groves, ravines and along the edges of creeks.



Choke cherry sticks were used by First Nations peoples for roasting game, because the wood did not burn easily and the resulting smokiness added flavour to the meat.

CLOUDBERRY *Rubus chamaemorus* L.

(Brad Heath)



Also known as: **bake-apple,**
salmonberry

French name: **chicouté**

Bloom time: **June to July**



PLANTWATCH POINTERS

Sampling Select a typical patch of plants; if the plants are very abundant, mark off a one-metre-square section to observe.

TO OBSERVE

First bloom When the first flowers are open in the observed plants (three places).

Mid-bloom When 50% of the flowers are open in the observed plants.

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Rubus chamaemorus past mid-bloom
(Linda Kershaw)



Rubus chamaemorus berries
(Mryka Hall-Beyer)

CLouDBERRY

Rubus chamaemorus L.

GENERAL

- This low, creeping perennial dies back each winter.

LEAVES & TWIGS

- Cloudberry stalks vary in height from 5–25 cm; the erect, simple stems are hairless and do not branch out.
- The broad, somewhat leathery leaves are long-stalked, round to kidney-shaped and indented (forming three to five shallow lobes).

FLOWERS & FRUITS

- Solitary flowers (1–3-cm across) have five white petals at the tip of the stem.
- Cloudberry plants are male or female, but only the female plant bears fruit—hard red berries that turn yellowish or amber-coloured when ripe in late July.

HABITAT

- This plant prefers moist tundra, bog habitats and heaths. Usually found with sphagnum mosses or lichens, it is widespread across the low arctic and boreal forest regions.



Cloudberry is called a “pioneer plant” because it quickly colonizes an area following fire or logging; however, the plants don’t flower until about seven years after germination.

COLTSFOOT *Tussilago farfara*

MUN Botanical Garden (Madonna Bishop)



French name: **tussilage**
pas-d'âne
 Bloom time: **March to May**



PLANTWATCH POINTERS

Sampling Select a typical patch of plants; if the plants are very abundant, mark off a one-metre-square section to observe.

TO OBSERVE

First bloom When the first flowers are open on the observed plants.

Mid-bloom When 50% of the flowers are open on the observed plants.

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Tussilago farfara before first bloom
(Melanie Priesnitz)



Tussilago farfara first bloom
(Rowena Hopkins)



Tussilago farfara past mid-bloom
(Madonna Bishop)

COLTSFOOT *Tussilago farfara*

GENERAL

- In the areas where it is found, coltsfoot is usually the first small herb to flower in spring.

LEAVES & TWIGS

- This plant has solid, hairy stems that give rise to the flowers.
- The distinctive, dark green, hoof-shaped leaves are hairy, which helps to distinguish coltsfoot from similar-looking plants.

FLOWERS & FRUITS

- The shiny yellow flowers resemble small dandelions, and open in the sun.
- The plant's composite flower heads contain two kinds of flowers: little tube-like ones in the middle and strap-shaped ones on the outside.

HABITAT

- This herb is often found growing along sunny sidewalks and roadsides and in rocky fields.



Coltsfoot was introduced from Europe, where it is still called the "son before the father" plant because its flowers appear long before its woolly leaves.

CRANBERRY *Vaccinium vitis-idaea*



Also known as: **lowbush cranberry, lingonberry, partridgeberry**

French name: **petite airelle**

Bloom time: **May to July**



PLANTWATCH POINTERS

Sampling Select a typical patch of plants; if the plants are very abundant, mark off a one-metre-square section to observe.

TO OBSERVE

First bloom When the first flowers are open in the observed plants (three places).

Mid-bloom When 50% of the flowers are open in the observed plants.

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Vaccinium vitis-idaea first bloom
(Madonna Bishop)



Vaccinium vitis-idaea flowers
(Madonna Bishop)

CRANBERRY *Vaccinium vitis-idaea*

GENERAL

- This species of cranberry is a low evergreen shrub that forms mats.

LEAVES & TWIGS

- The simple, oval-shaped, leathery leaves have a dark green, shiny upper surface with a paler green under surface dotted with dark glands.
- This plant resembles bearberry, but its leaves have a notched tip which is not present on bearberry leaves. (See bearberry description for more tips on their differences).

FLOWERS & FRUITS

- The tiny pink or white flowers (about 4–8-mm long) resemble drooping bells and appear in small clusters at the tips of branches.
- The fruit is bright to dark red, ripening in August or September.

HABITAT

- Cranberry prefers open, acidic, boggy places, including muskeg, rocky barrens and moist to dry coniferous woods.



Some First Nations peoples used cranberry juice to dye the porcupine quills often found in their beadwork; the berries, too, were used as beads.

DANDELION *Taraxacum officinale*

(Royal Botanical Garden)



French name: **pissenlit**
Bloom time: **April-June**



PLANTWATCH POINTERS

Sampling Make sure your patch is not mowed until your bloom observations have been made. Choose a location at least 10 m away from a building or obstacle. If the plants are very abundant, mark a patch 1 metre square.

TO OBSERVE

First bloom When the first flowers are open in the observed plants.

Mid-bloom When the first seed-head opens, forming a white, fluffy ball of seeds.

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Taraxacum officinale before mid-bloom
(Madonna Bishop)



Taraxacum officinale seed-head
(Rowena Hopkins)

DANDELION *Taraxacum officinale*

GENERAL

- Common plant, 5–40-cm tall, introduced to Canada from Europe.

LEAVES & TWIGS

- Deeply toothed leaves grow from the base of the plant, appearing before the flowers.

FLOWERS & FRUITS

- Flower heads are yellow and the flower stem is hollow and leafless.
- After a stem finishes flowering, white, fluffy, round balls of seeds appear. The parachuted seeds are blown away by the wind.
- Main flowering is in spring, but scattered blooms continue all summer.

HABITAT

- Dandelions grow almost anywhere, but are common in cultivated areas and wastelands.



*The name dandelion comes from the French, **dents de lion**, which means “teeth of the lion,” and refers to the jagged edges on the leaves of the dandelion plant.*

FORSYTHIA, WEeping *Forsythia suspensa*

(Melanie Priesnitz)



French name: **forsythia**
pleureur

Bloom time: **April to May**



PLANTWATCH POINTERS

Sampling Ensure that the forsythia that you're watching is the weeping variety. Choose a shrub that's at least 10 m away from a building.

TO OBSERVE

First bloom When the first flowers are open on the observed shrub in three places.

Mid-bloom When 50% of the flowers on the observed plant are open and the other half are still unopened buds.

Leaf out When the first leaves are completely unfolded on the shrub in three places.

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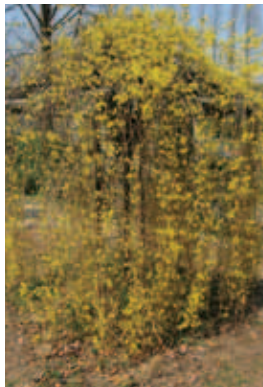
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Forsythia suspensa
KENPEI. Licensed under GNU Free Documentation License (http://commons.wikimedia.org/wiki/Commons:GNU_Free_Documentation_License)

FORSYTHIA, WEeping

Forsythia suspensa

GENERAL

- A deciduous (drops its leaves in fall) weeping garden shrub that is a member of the olive family, forsythia grows to at least 1–3-m high. The bark is rough and grey-brown.

LEAVES & TWIGS

- Leaves are opposite with smooth or toothed edges and are 2–10-cm in length. The twigs are hollow with small bumps called lenticels (air exchange areas).

FLOWERS & FRUITS

- Yellow flowers appear in early spring before the leaves emerge.
- Each flower has four petals joined at the base, each petal about 2-cm long.

HABITAT

- Native to Asia, commonly planted as a garden shrub.

Forsythia is considered one of the 50 fundamental herbs in traditional Chinese medicine; the roots, leaves, flowers and fruit are used. It is used as an anti-inflammatory, antibacterial and diuretic, and as a stimulant for the nervous system, heart and gall bladder.



GOLDEN BEAN

Thermopsis rhombifolia

(Elisabeth Beaubien)



Also known as: **Richards buffalo bean, prairie bean, golden banner, buffalo bean, prairie pea**

French name: **thermopsis rhombifolié**

Bloom time: **Mid- to late May or early June**



PLANTWATCH POINTERS

Sampling Select a typical patch of plants; if the plants are very abundant, mark off a one-metre-square section to observe.

TO OBSERVE

First bloom When the first flowers on the observed patch are open.

Mid-bloom When 50% of the flowers on the observed plants are open.

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Thermopsis rhombifolia mid-bloom
(Linda Kershaw)

GOLDEN BEAN

Thermopsis rhombifolia

GENERAL

- A wildflower (or herb), 15–50-cm tall, usually growing in large patches. The thick stalk is covered with downy hairs when it emerges from the ground. Soon, the stalk straightens to form a spike of golden flowers.

LEAVES & TWIGS

- Leaves are dark green with three leaflets, each rounded leaflet being 2-cm long.

FLOWERS & FRUITS

- Flowers are bright yellow, each 12-mm across, and together form a dense cluster. They resemble the flowers of a pea.
- A greyish-brown, hairy, curved pod, about 5-cm long with 4 to 6 seeds.

HABITAT

- Golden bean plants can be found in open sandy areas in prairie and aspen forest where the water table is high.



First Nations peoples looked to the flowering time of golden bean or “buffalo bean” to indicate that it was time for the spring hunt of buffalo bulls.

LABRADOR TEA

Rhododendron groenlandicum (Formerly *Ledum groenlandicum*)



French name: **thé du Labrador**

Bloom time: **June to July**



PLANTWATCH POINTERS

Sampling Select a typical patch of plants; if the plants are very abundant, mark off a one-metre-square section to observe.

TO OBSERVE

First bloom When the first flowers on the observed plants are open in three places.

Mid-bloom When 50% of the flowers on the observed plants are open.

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Rhododendron groenlandicum first bloom
(Linda Kershaw)



Rhododendron groenlandicum mid-bloom
(Linda Kershaw)

LABRADOR TEA

Rhododendron groenlandicum
(formerly *Ledum groenlandicum*)

GENERAL

- This erect evergreen shrub grows up to 1-m tall and often forms colonies.

LEAVES & TWIGS

- The leathery, narrow, oblong leaves are about 2–5-cm long, with rusty matted hairs on the underside (new leaves have white hairs underneath). The edges of the leaves roll under to help retain moisture.
- New twigs are densely covered with brown hairs; old stems become reddish-brown to grey.

FLOWERS & FRUITS

- Five-petalled, white flowers, about 1-cm across, occur in rounded clusters at the branch tips.

HABITAT

- Shade-intolerant and often found on moist to wet soils, Labrador tea is common on open peatland dominated by sphagnum moss and in open-canopy coniferous forests.



Historically, the leaves of Labrador tea were hung in closets to repel moths—as well as ghosts!

LARCH *larix laricina*

Arrow shows leafing stage



(Werner Seidlitz)

Also known as: **tamarack,**
hackmatack
French name: **mélèze laricin**
Bloom time: **April to May**



PLANTWATCH POINTERS

Sampling Tag a typical tree for observation.

TO OBSERVE

First bloom When the first pollen is being shed by the male cones on the observed tree (three places).

Mid-bloom When 50% of the male cones are abundantly shedding pollen.

Leafing When the tufts of needles are lengthening considerably and starting to spread open at the tip (three places).

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Larix laricina male cones. The bottom cluster is before bloom and top cluster is shedding pollen.
(Madonna Bishop)



Larix laricina shedding. Male and female cones are shown.
(Madonna Bishop)



Larix laricina past leafing stage
(Rowena Hopkins)

LARCH *Larix laricina*

GENERAL

- Medium-sized coniferous tree; grows up to 20-m tall, with scaly bark. In autumn, the needles turn yellow and fall from the tree.

LEAVES & TWIGS

- The long, slender branches have small woody stumps that produce the needle bundles.
- Needles, 1–2.5-cm long, emerge as soft green tufts during spring growth. Each tuft can have 10–20 needles.

FLOWERS & FRUITS

- Male and female cones can appear on the same branches, but observe male cones only for PlantWatch.
- Male cones: small, less noticeable mounds of yellow-brown pollen sacs that wither after shedding pollen.
- Female cones: pinkish-purple mini-cones about 1-cm long.

HABITAT

- Grows in moist to wet areas.



Larch is the only conifer that sheds all of its needles annually.

LILAC, COMMON PURPLE *Syringa vulgaris*

Syringa vulgaris after mid-bloom (Elisabeth Beaubien)



French name: **lilas commun**

Bloom time: **May to June**



PLANTWATCH POINTERS

Sampling If possible, select a lilac bush that has pale to medium purple flower buds. Choose a location at least 10 m away from a building or obstacle, and tag a typical shrub for observation.

TO OBSERVE

First bloom When the first florets are open on the observed shrub.

Mid-bloom When 50% of the florets are open on the observed shrub.

Leafing When the first leaves push out of the bud and unfold completely (three places).

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Syringa vulgaris just before leafing
(Elisabeth Beaubien)



Syringa vulgaris first bloom
(Jill Fallis)

LILAC, COMMON PURPLE

Syringa vulgaris

GENERAL

- A non-native garden shrub brought to Canada from Europe, it can grow up to 4-m high and 7-m wide.

LEAVES & TWIGS

- Heart-shaped leaves are smooth and appear before the flowers bloom.

FLOWERS & FRUITS

- Small fragrant flowers (florets) grow in clusters 10–20-cm long.
- Flowers of common purple lilac can vary in colour (depending on the variety).

HABITAT

- Lilac bushes grow where they have been planted, such as in parks and gardens; but this introduced plant does not grow successfully in the Arctic.



Common purple lilac was one of the plants most commonly brought to Canada by homesick settlers. Bushes still can be seen thriving near abandoned pioneer homesteads.

LUPINE, ARCTIC *Lupinus arcticus*

Lupinus arcticus past full bloom (Shannon Ripley)



French name: **lupin arctique**

Bloom time: **June to July**



PLANTWATCH POINTERS

Sampling Select a typical patch of plants; if the plants are very abundant, mark off a one-metre-square section to observe.

TO OBSERVE

First bloom When the first flowers are open in the observed plants (three places).

Mid-bloom When 50% of the flowers are open in the observed plants.

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(J. Morin)

LUPINE, ARCTIC

Lupinus arcticus

GENERAL

- The arctic lupine is a bushy herb (15–50-cm tall) with hollow, upright stems covered in long, silky white hairs.

LEAVES & TWIGS

- The leaves are made up of six to eight pointed leaflets that look like the fingers of a hand, and grow from the base of the plant on long stalks.

FLOWERS & FRUITS

- Flowers range from medium blue to a purple-lavender colour and bloom from the bottom up in a cluster around a central stalk.
- The fruits are yellowish, hairy pods (2–4-cm long) that twist after opening.

HABITAT

- Prefers open areas (including gravel), grassy alpine slopes, moist tundra, heath and woodland. Lupines are well adapted to northern climates, and can enrich soils that have low nitrogen levels.



In the Yukon, 10000- to 15000-year-old lupine seeds were found in ancient lemming burrows. Not only did the seeds germinate, one plant grew flowers that produced new seeds!

MAPLE, RED *Acer rubrum*

Acer rubrum leafing (Rowena Hopkins)



Also known as: **swamp maple**

French name: **érable rouge**

Bloom time: **March to April**



PLANTWATCH POINTERS

Sampling Tag a typical tree for observation.

TO OBSERVE

First bloom When the first *male* flowers are open on the observed tree (three places).

Mid-bloom When 50% of the flowers are open on the observed tree.

Leafing When the first leaves push out of the bud and unfold completely (three places).

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Acer rubrum before bloom showing male flowers
(Madonna Bishop)



Acer rubrum first bloom
(Madonna Bishop)



Red maple bark was once used to make dark red, brown or black dyes.

MAPLE, RED *Acer rubrum*

GENERAL

- Small to medium-sized deciduous tree with grey bark, which is scaly on older trees. Flowers appear before the leaves, as opposed to sugar maple, where flowers appear as the leaves emerge.

LEAVES & TWIGS

- Twigs are slender, shiny and dark red with whitish dots.
- Leaf buds are rounded, dark red-wine in colour.
- Leaves are red-tinged in spring, green in summer and bright red in fall.

FLOWERS & FRUITS

- Flowers emerge from dark red buds in early spring and form dense, short-stalked clusters.
- Male and female flowers usually grow on different branches of the same tree, but they can appear on separate trees.
- Male flowers are red, while female flowers are yellowish-green.

Note: Observe only the male flowers for PlantWatch.

HABITAT

- These trees are often found in swamps and in moist soils. Moderately shade-tolerant, they also thrive in drier habitats.

MAYFLOWER *Epigaea repens*

(Nova Scotia Museum of Natural History)



Also known as: **trailing arbutus**
 French name: **épigée rampante**
 Bloom time: **April to May**



PLANTWATCH POINTERS

Sampling Select a typical patch of plants; if the plants are very abundant, mark off a one-metre-square section to observe.

TO OBSERVE

First bloom When the first flowers are open in the observed plants.

Mid-bloom When 50% of the flowers are open in the observed plants.

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Epigaea repens past mid-bloom
(Melanie Priesnitz)



Epigaea repens full bloom
(Melanie Priesnitz)

MAYFLOWER *Epigaea repens*

GENERAL

- Often almost hidden by grass and fallen leaves, the mayflower is a low, woody evergreen that grows from long trailing stems with shallow, fragile roots.

LEAVES & TWIGS

- This plant has simple, shiny, dark green leaves that are oval in shape.

FLOWERS & FRUITS

- Pink and white, trumpet-shaped flowers form small clusters and have a spicy fragrance.
- The plant does not set seed every year, so it spreads very slowly.

HABITAT

- Mayflower is most common in rocky pastures, barren lands and grassy areas where the soil is acidic and well drained.



The plant's name refers to its bloom time, because it typically flowers in May.

MOUNTAIN AVENS

Dryas integrifolia, *D. octopetala*

(Parks Canada)



Also known as: **arctic and alpine dryad, white mountain avens**

French name: **dryade blanche**

Bloom time: **June to July**



PLANTWATCH POINTERS

Sampling Select a typical patch of plants; if the plants are very abundant, mark off a one-metre-square section to observe.

TO OBSERVE

First bloom When the first flowers are open in the observed plants.

Mid-bloom When most blooms are open, very few are still emerging from the soil, and the stem between the flower and the stem leaf is about 3-cm long.

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Dryas integrifolia/*octopetala* first bloom
(Linda Kershaw)



This floral emblem for the Northwest Territories was important for the Inuit. The twisting of the mountain avens seed head marked the best time to move inland to hunt caribou.

MOUNTAIN AVENS

Dryas integrifolia and *Dryas octopetala*

GENERAL

- These plants are ground-hugging, sun-loving, semi-shrubs.
- Arctic mountain avens (*Dryas integrifolia*) leaves are 1–2-cm long, narrow with smooth edges and a somewhat shiny upper surface. Alpine mountain avens (*Dryas octopetala*) leaves are longer (up to 3.5 cm in length) and wider, with scalloped or wavy edges.

LEAVES & TWIGS

- The small, leathery, evergreen leaves are wrinkled on the upper surface with hairy undersides.

FLOWERS & FRUITS

- White, saucer-shaped flowers are 2–3-cm wide, growing on stalks 2–15-cm tall.
- Seed plumes are twisted in tight red-gold bundles that open into fluffy round seed heads as they mature.

HABITAT

- The species prefers rocky barren areas, alpine meadows and ridges. Arctic mountain avens can also tolerate moist conditions, where it takes on a creeping form.

PINE, LODGEPOLE *Pinus contorta*

Pinus contorta before pollen shed (Linda Kershaw)



Also known as: **shore pine**
(coastal)

French name: **pin tordu**

Bloom time: **May to July**



PLANTWATCH POINTERS

Sampling Tag a typical tree for observation.

TO OBSERVE

First bloom When the first pollen is being shed by the male cones on the observed tree (three places).

Mid-bloom When 50% of the male cones are abundantly shedding pollen.

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Pinus contorta pollen cones after pollen shed
(R. David Williams)

PINE, LODGEPOLE

Pinus contorta

GENERAL

- There are two varieties of this pine: one is a smaller (up to 15-m tall) branching, coastal variety. The other is straighter, (up to 30-m tall) unbranched, and grows in the interior.

LEAVES & TWIGS

- The paired needles are 3–7-cm long, somewhat twisted in lodgepole pine and stiffer and shorter in shore pine.

FLOWERS & FRUITS

- The seed cones (4–6-cm long cylinders) often point backwards toward the tree trunk. Note the short prickles on the scales of the cones.
- The reddish-green male pollen cones occur in dense clusters at the base of the new shoots.
- The date of pollen release varies as a result of its wide distribution.

HABITAT

- The lodgepole pine is a wide-ranging species that can be found in both coastal bogs and shallow sub-alpine soils.



Lodgepole pine depends on forest fires to propagate; the heat liquifies the resin that glues together the seed cone scales, allowing them to open and release their seeds.

PRAIRIE CROCUS

Anemone patens var. *multifida*

(Kirk Harrold)



Also known as: **prairie anemone, pasque flower**
 French name: **pulsatille multifide**

Bloom time: **April to May**



PLANTWATCH POINTERS

Sampling Select a typical patch of plants; if the plants are very abundant, mark off a one-metre-square section to observe.

TO OBSERVE

First bloom When the first flowers are open in the observed plants.

Mid-bloom When most blooms are open, very few are still emerging from the soil, and the stem between the flower and the stem leaf is about 3-cm long.

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Anemone patens var. *multifida* first bloom
(Linda Kershaw)



Anemone patens var. *multifida* past mid-bloom
(Elisabeth Beaubien)

PRAIRIE CROCUS

Anemone patens var. *multifida*

GENERAL

- These beautiful wildflowers arise from woody roots and often form colonies.

LEAVES & TWIGS

- Basal leaves are grey-green in colour and divided into narrow lobes. The basal leaves appear after the flower fades.

FLOWERS & FRUITS

- Each flower is 4 cm in diameter, with five pale blue to purple petal-like sepals.
- When folded, the outer surface of the sepals appear covered in white woolly hairs.
- The flowers are open during the day but close at night.
- After the flower fades and the sepals fall off, a shaggy cluster of seeds develops.

HABITAT

- Grows in prairies and dry, open woods. Prefers sandy soil and sunny areas.



The genus name *Anemone* comes from the Greek word for "wind." *Anemone* plants are known as windflowers, because it was believed that they blossomed only when the wind blew in springtime.

QUEEN'S CUP *Clintonia uniflora*



Also known as: **bride's bonnet**
French name: **clintonie uniflore**
Bloom time: **April to May**



PLANTWATCH POINTERS

Sampling Select a typical patch of plants; if the plants are very abundant, mark off a one-metre-square section to observe.

TO OBSERVE

First bloom When the first flowers are open on the observed plants.

Mid-bloom When 50% of the flowers are open in the observed plants.

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Clintonia uniflora
(Ian Cumming)



Clintonia uniflora
(Michael Wigle)

QUEEN'S CUP

Clintonia uniflora

GENERAL

- Part of the lily family, queen's cup is a low plant that grows in clusters formed by a large system of underground stems.

LEAVES & TWIGS

- Shiny green leaves are paired (sometimes as a threesome) when they emerge in early spring. The leaves have long, soft hairs on the underside and grow to 25 cm in length.

FLOWERS & FRUITS

- This plant produces a single pure-white, star-like flower with six sepals. It sits on a 10–20-cm long hairy stalk and appears after the leaves of the plant emerge.
- The egg-shaped berry (6–12-mm round) is metallic blue in colour.

HABITAT

- Prefers moist woods, from the lowlands to sub-alpine. At mid-elevations, may join with mosses to form a dense carpet.



Because of its intense metallic-blue colour, the berry has been used as a dye by some First Nations peoples.

RHODORA *Rhododendron canadense*

Memorial University of Newfoundland Botanical Gardens



French name: **rhododendron du Canada**

Bloom time: **May to June**



PLANTWATCH POINTERS

Sampling Tag a typical shrub for observation.

TO OBSERVE

First bloom When the first flowers are open on the observed shrub (three places).

Mid-bloom When 50% of the flowers are open on the observed shrub.

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Rhododendron canadense just before first bloom
(Rowena Hopkins)



Rhododendron canadense past mid-bloom
(Madonna Bishop)

RHODORA

Rhododendron canadense

GENERAL

- A common small shrub that covers bogs and other swampy areas with a carpet of purple blossoms, rhodora is a member of the heath family.

LEAVES & TWIGS

- The shrubs are a tangle of grey-shaded branches and twigs, except for a rare green variety in parts of Nova Scotia. The small, hairy leaves unfold in June.

FLOWERS & FRUITS

- The deep purple flowers occur in clusters of two-to-three flowers, and appear before the leaves.
- Flowers have rose-purple petals and long stamens. In the Atlantic Provinces, there is also a very rare form with white flowers.

HABITAT

- Prefers bogs and swampy areas.



The breathtaking beauty of the rhodora flowers has inspired many, including poet W. E. Marshall, who wrote the love poem "Brookfield."

SASKATOON *Amelanchier* species

(Elisabeth Beaubien)



Also known as: **serviceberry, june-berry**

French name: **amélanchier**

Bloom time: **May to June**



PLANTWATCH POINTERS

Sampling Tag a typical shrub for observation.

TO OBSERVE

First bloom When the first flowers are open on the observed shrub (three places).

Mid-bloom When 50% of the flowers are open on the observed shrub.

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Amelanchier before first bloom
(Elisabeth Beaubien)



Amelanchier near mid-bloom
(Elisabeth Beaubien)

SASKATOON

Amelanchier species

GENERAL

- Saskatoon plants vary in size from shrub-like to small tree. A single stem may be less than 30-cm high, whereas a clump of small trees may be over six metres tall.

LEAVES & TWIGS

- Leaves are oval-shaped and slightly longer (about 2–6 cm) than they are wide. In Western Canada, leaves are usually rounded at the tip and straight across at the base, with coarse “teeth” on the upper half. In Eastern Canada, leaves are pointed, with teeth all around the edges.

FLOWERS & FRUITS

- The flowers appear in clusters of five to 11 white flowers, often before the leaves are fully opened.
- Small clusters of reddish-purple to black berries develop in early summer.

HABITAT

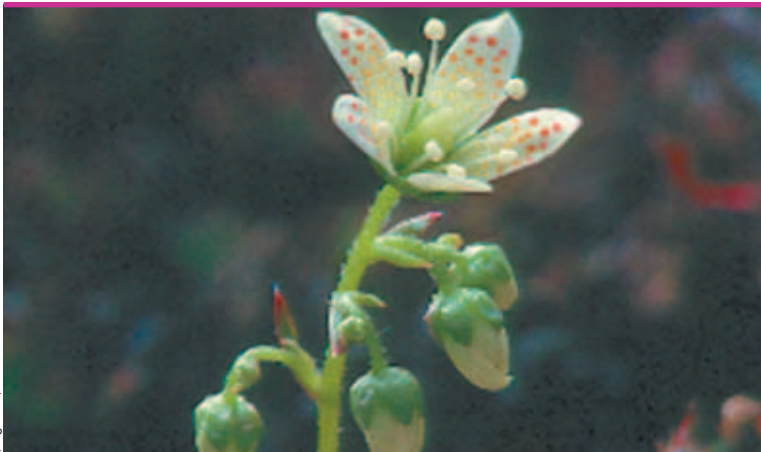
- Especially common in the West, Saskatoon plants prefer well-drained, coarse-textured soils. In the East, these shrubs often are found in wetter soils.



Saskatoon berries were the most important plant food for the Blackfoot First Nations peoples of the Prairies.

SAXIFRAGE, PRICKLY *Saxifraga tricuspidata*

(Page Burt)



Also known as: **three-toothed saxifrage**

French name: **saxifrage à trois dents**

Bloom time: **May to June**



PLANTWATCH POINTERS

Sampling Select a typical patch of plants; if the plants are very abundant, mark off a one-metre-square section to observe.

TO OBSERVE

First bloom When the first flowers are open in the observed plants (three places).

Mid-bloom When 50% of the flowers are open in the observed plants.

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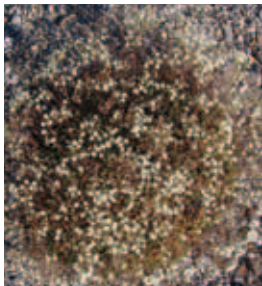
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Saxifraga tricuspidata mid-bloom
(Shannon Ripley)



Saxifraga tricuspidata past mid-bloom
(Shannon Ripley)

SAXIFRAGE, PRICKLY

Saxifraga tricuspidata

GENERAL

- Prickly saxifrage is a loosely matted perennial (5–15-cm tall) that grows in large bunches close to the ground.

LEAVES & TWIGS

- The stiff, three-toothed leaves on this plant give prickly saxifrage its name.
- The leaves (7–14-mm long) are leathery and slightly reddish in colour, and broadest at the tip.
- Dead leaves remain on the stem for several years and provide protection for developing winter buds.

FLOWERS & FRUITS

- Between three and ten creamy white flowers appear at the end of the saxifrage stems. Each flower (4–7-mm long) has five sepals and five petals.

HABITAT

- This plant can often be found in dry, exposed, rocky areas, including rock crevices.



Prickly saxifrage's Latin genus name, *Saxifraga*, means "stone-breaker" an excellent description of how its roots can break down stone into smaller components useable by other plants.

SAXIFRAGE, PURPLE *Saxifraga oppositifolia*

(Halle Flygare)



Also known as: **French knot moss**

French name: **saxifrage à feuilles opposées**

Bloom time: **April to May**



PLANTWATCH POINTERS

Sampling If these plants are very abundant, mark a patch 1 metre square to observe. Otherwise, tag a single cushion plant. The whole cushion plant tends to flower at once.

TO OBSERVE

First bloom When the first flower is open in the observed plants.

Mid-bloom When the first flower petal on any individual flower wrinkles or loses its colour in the observed plants.

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Saxifraga oppositifolia past mid-bloom
(Linda Kershaw)

SAXIFRAGE, PURPLE

Saxifraga oppositifolia

GENERAL

- Low, matted cushion plant.

LEAVES & TWIGS

- The plant's short stems are completely covered by many tiny (3–6-mm) pairs of overlapping, grey-green, scale-like leaves.

FLOWERS & FRUITS

- Purple (and rarely, white), star-shaped flowers (1-cm wide) are large in comparison to the leaves.
- Flowers grow on short stalks, often in great profusion, above the cushion of leaves.

HABITAT

- This species of saxifrage occupies moist, calcium-rich gravelly areas in arctic and alpine environments. It also colonizes barren, exposed rock and damp crevices in cliffs.



In Canada's North, the blooming of purple saxifrage coincides with calving in caribou herds.

SOLOMON'S SEAL, STAR-FLOWERED

Maianthemum stellatum (formerly *Smilacina stellata*)

(Sandy Myers)



Also known as: **Solomon plume, wild spikenard**

French name: **smilacine étoilée**

Bloom time: **May to June**



PLANTWATCH POINTERS

Sampling Select a typical patch of plants; if the plants are very abundant, mark off a one-metre-square section to observe.

TO OBSERVE

First bloom When the first flowers are open in the observed plants.

Mid-bloom When 50% of the flowers are open in the observed plants.

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Maianthemum stellatum just before first bloom
(Rowena Hopkins)



Maianthemum stellatum mid-bloom
(Rowena Hopkins)



The species name, stellata, means “star-like” and describes the lovely white flowers.

SOLOMON'S SEAL, STAR-FLOWERED

Maianthemum stellatum
(formerly *Smilacina stellata*)

GENERAL

- An elegant wildflower (15–60 cm) with tall, arching stems.

LEAVES & TWIGS

- The narrow, grey-green leaves have long, noticeable veins.
- Leaf size and shape can vary, depending on where the plant is located. In bright light, the leaves are stiff; in shade, they are limp but tend to grow larger.

FLOWERS & FRUITS

- The white flowers (up to 6-mm wide) have six petals and form a loose group at the end of each leafy stem.
- Berries are greenish with dark stripes, before turning red, and then nearly black, in early fall.

HABITAT

- Prefers woodlands, open meadows and shores of sandy marshes.

STARFLOWER *Trientalis borealis*

Memorial University of Newfoundland Botanical Gardens



French name: **trientale boréale**

Bloom time: **May to June**



PLANTWATCH POINTERS

Sampling Select a typical patch of plants; if the plants are very abundant, mark off a one-metre-square section to observe.

TO OBSERVE

First bloom When the first flowers are open in the observed plants.

Mid-bloom When 50% of the flowers are open in the observed plants.

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Trientalis borealis first bloom
(Rowena Hopkins)



Trientalis borealis flower
(Rowena Hopkins)

STARFLOWER

Trientalis borealis

GENERAL

- Starflower is a common woodland plant, particularly in Nova Scotia.

LEAVES & TWIGS

- Plants emerge in the spring from thick underground roots.
- Later, each plant will develop a shiny stem about 20-cm tall, rising out of a crown of shiny oval leaves.

FLOWERS & FRUITS

- One or two white, seven-petalled flowers appear on slender stalks.
- The star-shaped flowers of this plant are among the first to appear on the forest floor every spring.
- The flowers produce small brown pods, each with only a few seeds.

HABITAT

- The starflower is usually found in clearings in mixed woods.



The roots of the starflower were used by First Nations hunters to make a smoke mixture to attract deer.

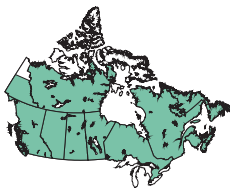
STRAWBERRY, WILD *Fragaria virginiana/vesca*

[Réjean Martel]



French name: **fraisier indigène**

Bloom time: **April to May**



PLANTWATCH POINTERS

Sampling Select a typical patch of plants; if the plants are very abundant, mark off a one-metre-square section to observe.

TO OBSERVE

First bloom When the first flowers are open in the observed plants.

Mid-bloom When 50% of the flowers are open in the observed plants.

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Fragaria virginiana first bloom
(Rowena Hopkins)



Fragaria virginiana mid-bloom
(Rowena Hopkins)

STRAWBERRY, WILD

Fragaria virginiana/vesca

GENERAL

- Small plant that grows in woods or fields, often forming little colonies.

LEAVES & TWIGS

- Leaves grow from the stem base and are divided into three deep-toothed leaflets that appear before the flowers.

FLOWERS & FRUITS

- Each plant has three–five white flowers.
- Flowers are 7–10-mm long and each has five petals.
- Fruits look like miniatures of store-bought strawberries.

HABITAT

- Found in abandoned fields, along roads and in open woodlands.



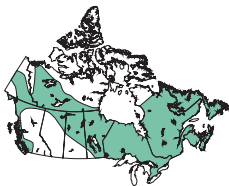
Wild strawberries have more vitamin C per gram than oranges!

SWEETGALE *Myrica gale*

Memorial University of Newfoundland Botanical Gardens



Also known as: **bayberry,**
English bog myrtle
 French name: **myrique baumier**
 Bloom time: **April to May**



PLANTWATCH POINTERS

Sampling Tag a *male* shrub to observe.

TO OBSERVE

First bloom When the catkins on the male shrub first start shedding pollen (three places).

Mid-bloom When 50% of the male catkins have lengthened and shed pollen.

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Myrica gale first bloom
(Madonna Bishop)



Myrica gale male catkins
(Madonna Bishop)

SWEETGALE *Myrica gale*

GENERAL

- Sweetgale is a deciduous shrub (1–1.5-m high) with noticeable brown twigs branching in an alternating pattern.

LEAVES & TWIGS

- The spatula-shaped, hairy leaves are usually rounded at the tip and narrow at the base. They appear after the flowers on this plant.

FLOWERS & FRUITS

- Sweetgale produces non-drooping catkins as a flowering structure, with male and female catkins usually on separate plants.
- Male flowers: 1–2-cm long, yellow with reddish scales, crowded at the end of each twig.
- Female flowers: similar in appearance to male flowers, but ruby red.

HABITAT

- Sweetgale grows in wet habitats around ponds, rivers and bogs.



The oil of the sweetgale plant was once thought to strengthen and make hair grow.

TRILLIUM *Trillium grandiflorum*

(Royal Botanical Gardens)



Also known as: **white trillium**

French name: **trille blanc**

Bloom time: **April to May**



PLANTWATCH POINTERS

Sampling If possible, select a patch of trilliums next to a trail so that you can make observations without stepping on growing plants. If the plants are very abundant, mark off a one-metre-square section to observe.

TO OBSERVE

First bloom When the first flowers are open in the observed plants.

Mid-bloom When 50% of the flowers are open in the observed plants, but have not yet started turning pink.

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Trillium grandiflorum just before first bloom
(Joyce Brant)



Trillium grandiflorum just past first bloom
(Joyce Brant)



Trillium grandiflorum past mid-bloom
(Joyce Brant)

TRILLIUM *Trillium grandiflorum*

GENERAL

- Woodland plant 10–40-cm tall.

LEAVES & TWIGS

- Three oval leaves on each plant, which taper gradually to a point.

FLOWERS & FRUITS

- Three distinctive white petals form a single white flower up to 10-cm across.
- Flowers fade over time to a dull pinkish purple shade and become slightly transparent.
- The greenish, round fruit forms a six-sided, berry-like capsule.

HABITAT

- Trilliums are found in rich, moist, well-drained woods and wet areas at low to mid-elevations. They prefer semi-shade, and are often found under sugar maple and beech trees in open forests.



The name trillium means “in threes,” which refers to the fact that leaves, petals and sepals appear in triplicate.

TWINFLOWER *Linnaea borealis*

(Nova Scotia Museum of Natural History)



French name: **linnée boréale**

Bloom time: **May to July**



PLANTWATCH POINTERS

Sampling Select a typical patch of plants; if the plants are very abundant, mark off a one-metre-square section to observe.

TO OBSERVE

First bloom When the first flowers are open in the observed plants.

Mid-bloom When 50% of the flowers are open in the observed plants.

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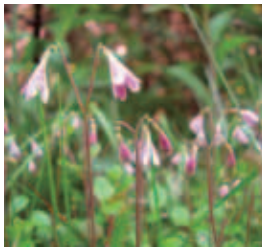
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Linnaea borealis first bloom
(Helen Jones)



Linnaea borealis flowers
(Madonna Bishop)

TWINFLOWER

Linnaea borealis

GENERAL

- Twinflower is a creeping, semi-woody perennial.

LEAVES & TWIGS

- The tiny leaves (15-mm long) are nearly circular, with a small, notched tip. While twinflower leaves are similar to those of bearberry, they can be differentiated by the presence of the notch and the fact that the leaves emerge in pairs.

FLOWERS & FRUITS

- Twinflowers have tiny (9–16-mm) pink, bell-shaped flowers that occur in pairs on Y-shaped stalks.
- The dry, one-seeded fruits have small hooks to help their dispersal.
- After the flowers and fruits have faded, the evergreen leaves remain on the plant, often hidden under the winter snow.

HABITAT

- Twinflower grows in forested areas, meadows and near lakes and rivers. It can tolerate shady conditions.



The delicate twinflower is named after Carl Linnaeus, the founder of our scientific naming system.

VIOLET, EARLY BLUE *Viola adunca*

(Linda Kershaw)



Also known as: **Western long-spurred violet, hookedspur violet**

French name: **violette à éperon crochu**

Bloom time: **Mid to late May**



PLANTWATCH POINTERS

Sampling Select a typical patch of plants; if the plants are very abundant, mark off a one-metre-square section to observe.

TO OBSERVE

First bloom When the first flowers are open in the plant or patch observed.

Mid-bloom When 50% of the flowers on the plants under observation are open, and the other 50% are unopened flower buds.

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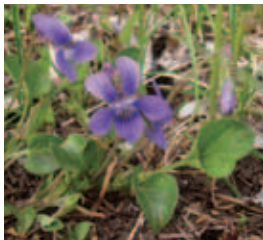
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Viola adunca mid-bloom
(Linda Kershaw)



Viola adunca past mid-bloom
(Lorna Allen)

VIOLET, EARLY BLUE

Viola adunca

GENERAL

- A small wildflower (herb) that grows 4–10-cm tall.

LEAVES & TWIGS

- Leaves are 1–3-cm wide, heart- to kidney-shaped, and attached along the flower stem.

FLOWERS & FRUITS

- Fragrant bluish-purple flowers are up to 2-cm across. There are purple lines on the three lower petals and white “beards” on the two side petals.
- A dry, three-valved, many-seeded capsule.

HABITAT

- Early blue violet plants grow in open woods and prairie.



Violet leaves are very high in vitamin C and can be used in salads and to make tea. When violet seed capsules mature, the seeds are explosively shot out to several centimetres away from the parent plant. Each seed provides an “ant snack,” so seeds are carried to good growing areas by ants.

WATER LILY, WHITE *Nymphaea odorata*

(Dan Sakalowski)



French name: **nymphéa odorant**

Bloom time: **June to September**



PLANTWATCH POINTERS

Sampling Select a patch of plants with at least 10–20 leaves that you can monitor each year.

TO OBSERVE

First bloom When the first flower is open in the observed plants.

Mid-bloom When five of the flowers are open in the observed plants.

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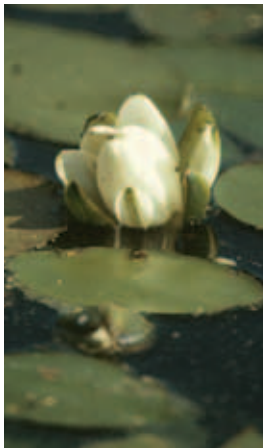
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Nymphaea odorata before first bloom
Montréal Botanical Garden
(L.P. Coiteux)



White water lily leaves are designed to float. Try as you might, you can't sink them by pushing them under the water surface.

WATER LILY, WHITE

Nymphaea odorata

GENERAL

- A freshwater perennial herb with large, round leaves and showy, fragrant blossoms.

LEAVES & TWIGS

- The round, floating leaves are 5–22-cm in diameter and usually purple underneath.
- In spring, new shoots appear from the roots and grow up through the water until they reach the surface.

FLOWERS & FRUITS

- The white flowers (7–12-cm in diameter) have many petals surrounding the reproductive parts. The blossoms open in the morning and close in the early afternoon; they may also close on cloudy days.
- Each blossom lasts two–five days. When the flowers close on the last day, the stalk “corkscrews,” drawing the developing fruit below the water.

HABITAT

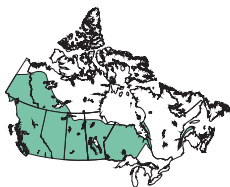
- Water lilies prefer quiet waters such as ponds, lake margins and slow streams. They root in the mucky bottoms and grow upwards 2–2.5-m to the surface of the water.

WOLF WILLOW *Elaeagnus commutata*

(Lorna Allen)



Also known as: **silverberry**
 French name: **chalef argenté**
 Bloom time: **May to June**



PLANTWATCH POINTERS

Sampling Tag a typical shrub for observation.

TO OBSERVE

First bloom When the first flowers are open on the observed shrub (three places).

Mid-bloom When 50% of the flowers are open on the observed shrub.

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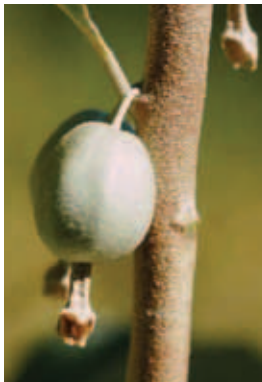
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Elaeagnus commutata mid-bloom
(Linda Kershaw)



Elaeagnus commutata fruit
(Robert N. Smith)

WOLF WILLOW

Elaeagnus commutata

GENERAL

- This silvery shrub is usually under 2-m tall, with rust-coloured twigs.

LEAVES & TWIGS

- Leaves are oval-shaped (3–8-cm long) and have a distinct silvery-green colour.

FLOWERS & FRUITS

- Wolf willow flowers are small, yellow on the inside and silvery on the outside. They produce a strong musky-sweet smell.
- Berries are a dry silvery colour, with a relatively large, stony seed.

HABITAT

- Wolf willow prefers the moist edges of prairies, dry hillsides and open fields in aspen forests.



The flowers are very fragrant and the beautiful striped seeds are popular in the Prairies for making necklaces.

YARROW *Achillea millefolium*

(Lindaw Kershaw)



Also known as: **milfoil**
 French name: **achillée**
millefeuille, herbe à dindes,
persil à dinde
 Bloom time: **June to September**



PLANTWATCH POINTERS

Sampling Select a typical patch of plants; if the plants are very abundant, mark off a one-metre-square section to observe.

TO OBSERVE

First bloom When the first flowers are open in the observed plants.

Mid-bloom When 50% of the flowers on the observed plants are open and the other half are still unopened buds.

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Achillea millefolium past first bloom
(Linda Kershaw)



Achillea millefolium mid-bloom
(Montréal Botanical Garden)

YARROW *Achillea millefolium*

GENERAL

- Common yarrow is a herb (a non-woody plant) about 30–70-cm tall. It has several stems rising from a branched rootstalk and is strongly scented.

LEAVES & TWIGS

- Leaves are feathery, 4–15-cm long, hairy, blue-green, and aromatic when crushed.

FLOWERS & FRUITS

- Flowers are white (or rarely, light pink). Many small flowers form a dense, rounded cluster about 4-cm across.
- The fruit or seed is small, flat, dry and hard.

HABITAT

- Common yarrow grows along roadsides and in moist meadows and clearings in boreal woods and parklands. It is often found in disturbed areas where the soil has been turned over.



The Latin name for yarrow refers to the Greek hero Achilles, who used this plant to heal soldiers' wounds. Today, yarrow remains a symbol of war in Greece.



BASAL LEAVES leaves at the base of the plant's stem.

BIODIVERSITY the variety of life on our planet, measurable as the variety within species, between species, and the variety of ecosystems.

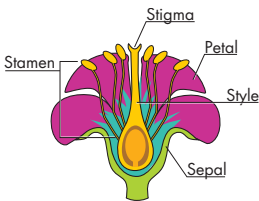
BOTANY the study of plant life, its structure and function.

CATKIN a flowering spike found in many woody plants; a cluster of flowers without petals, usually unisexual (either male or female, not both).

CIRCUMBOREAL occurring in the boreal region around the world.

CLIMATE CHANGE gradual changes in all the interconnected weather elements on our planet.

FLOWER PARTS



bunchberry bracts



CONIFEROUS plants that are mostly evergreen, with narrow needle-like leaves; produce cones for reproduction. Larch is the only conifer that sheds all of its needles annually.

DECIDUOUS a group of plants with leaves that fall off at the end of the growing season (start of the winter season in Canada).

INDICATOR PLANTS a plant that is recognized as a "biological measuring stick" of its habitat; it has brief, easily-observed growth stages, which reflect changes in its environment (e.g. seasonal temperature increase).

PERENNIAL plants that grow and produce flowers in successive years, from the same roots.

PHENOLOGY the study of the seasonal timing of life cycle events (changes in plants and animals).

LEAF SHAPES



oval



palmate



oblong



compound leaf



spatulate

FLOWER TYPES

composite flower (coltsfoot, dandelion)



Species/Region Index

Species selected by province and territory for PlantWatch. Check the Web site (www.plantwatch.ca) to find additional species that may be added for your region.

NEWFOUNDLAND AND LABRADOR

Aspen poplar
Birch, paper
Blue-bead lily
Bunchberry
Cloudberry
Coltsfoot
Cranberry
Dandelion
Forsythia, weeping
Labrador tea
Larch
Lilac, common purple
Maple, red
Rhodora
Starflower
Strawberry, wild
Sweetgale
Twinflower

NOVA SCOTIA

Aspen poplar
Bearberry
Blue-bead lily
Bluets
Bunchberry
Coltsfoot
Dandelion
Forsythia, weeping
Labrador tea
Larch
Lilac, common purple
Maple, red
Mayflower
Rhodora
Starflower
Strawberry, wild

PRINCE EDWARD ISLAND

Aspen poplar
Bearberry
Blue-bead lily
Bunchberry
Dandelion
Labrador tea
Larch
Lilac, common purple
Maple, red
Rhodora
Starflower
Strawberry, wild

NEW BRUNSWICK

Aspen poplar
Bearberry
Blue-bead lily
Bunchberry
Coltsfoot
Dandelion
Labrador tea
Larch
Lilac, common purple
Maple, red
Rhodora
Starflower
Strawberry, wild

QUEBEC

Aspen poplar
Bearberry
Bedstraw, northern
Birch, paper
Bluets
Blue-bead lily
Bunchberry
Choke cherry
Cloudberry
Coltsfoot
Cranberry
Dandelion
Forsythia, weeping
Labrador tea
Larch
Lilac, common purple
Maple, red
Mayflower
Mountain avens
Rhodora
Saskatoon
Saxifrage, purple
Saxifrage, prickly
Solomon's seal, star-flowered
Starflower
Sweetgale
Strawberry, wild
Trillium
Twinflower
Water lily, white
Yarrow

ONTARIO

Aspen poplar
Bearberry
Blue-bead lily

Bunchberry
Choke cherry
Coltsfoot
Dandelion
Forsythia, weeping
Labrador tea
Larch
Lilac, common purple
Maple, red
Mayflower
Mountain avens
Saxifrage, purple
Solomon's seal, star-flowered
Starflower
Strawberry, wild
Trillium
Twinflower
Water lily, white
Yarrow

MANITOBA

Aspen poplar
Bearberry
Bunchberry
Cloudberry
Cranberry
Dandelion
Labrador tea
Larch
Lilac, common purple
Mountain avens
Prairie crocus
Saskatoon
Saxifrage, prickly
Saxifrage, purple
Starflower
Strawberry, wild
Twinflower

SASKATCHEWAN

Aspen poplar
Bearberry
Bunchberry
Buttercup, sagebrush
Dandelion
Labrador tea
Larch
Lilac, common purple
Mountain avens
Prairie crocus
Saskatoon

Saxifrage, prickly
Solomon's seal, star-flowered
Starflower
Strawberry, wild
Sweetgale
Twinflower
Wolf willow

ALBERTA

Aspen poplar
Bearberry
Bedstraw, northern
Birch, paper
Bunchberry
Choke cherry
Cloudberry
Cranberry
Dandelion
Golden bean
Labrador tea
Larch
Lilac, common purple
Mountain avens
Pine, lodgepole
Prairie crocus
Saskatoon
Saxifrage, purple
Solomon's seal, star-flowered
Starflower
Strawberry, wild
Twinflower
Violet, early blue
Wolf willow
Yarrow

BRITISH COLUMBIA

Aspen poplar
Bearberry
Bunchberry
Buttercup, sagebrush
Dandelion
Labrador tea
Larch
Lilac, common purple
Mountain avens
Pine, lodgepole
Queen's cup
Saskatoon
Saxifrage, purple
Strawberry, wild
Twinflower

NORTHWEST TERRITORIES

Aspen poplar
Bearberry
Birch, paper
Bunchberry
Cloudberry
Cranberry
Dandelion
Labrador tea
Larch
Lilac, common purple
Lupine, arctic
Mountain avens
Prairie crocus
Saskatoon
Saxifrage, prickly
Saxifrage, purple
Strawberry, wild

YUKON

Aspen poplar
Bearberry
Bunchberry
Cloudberry
Cranberry
Dandelion
Labrador tea
Larch
Lilac, common purple
Lupine, arctic
Mountain avens
Prairie crocus
Saskatoon
Saxifrage, prickly
Saxifrage, purple
Strawberry, wild

NUNAVUT

Bearberry
Cloudberry
Cranberry
Labrador tea
Mountain avens
Saxifrage, prickly
Saxifrage, purple

Note: The range maps in this guide are intended to show general presence/absence distribution. Please consult local field guides for more detailed information.

part of the NatureWatch volunteer monitoring series



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