



Boreal Forest



Boreal (pronounced BORE-ee-al) comes from the Latin word *Boreas*, referring to the Greek god of the north wind. Boreal means something related to or located in northern regions. Thus, the boreal forest is the northern forest or entire biome.

The boreal forest in North America stretches from Alaska and the Rocky Mountains eastward to the Atlantic Ocean. It covers approximately 28 percent of the North America continent north of Mexico. The boreal forest in the western mountains is characterized by black spruce (*Picea mariana*), white spruce (*Picea glauca*), white, or paper, birch (*Betula papyrifera*), and balsam poplar (*Populus balsamifera*).





Alder

Alnus

General:

- Brushy shrub or small tree, 1-8m tall.
- Often grow in clumps
- Buds are club-shaped with short stalks



Leaves:

- Oval to broadly elliptic, 4-8 cm long
- Yellowish green
- Somewhat heart shaped
- Some species are sticky and others are not
- Edges are wavy lobed, double toothed



Flowers:

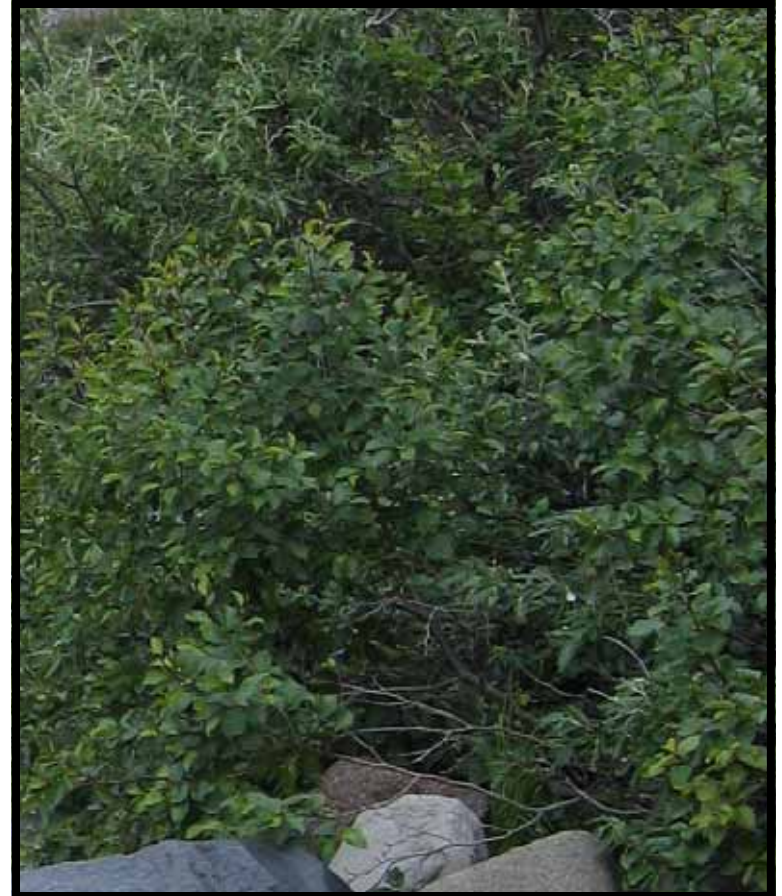
- Small catkins on previous year's twig
- Appear before or at the same time as the leaves

Fruits:

- Small nutlets
- Narrow ridge around the edge
- 1-2 cm long, short stalked seed cones

Habitat:

- Open forests, slopes, wetlands, riverbanks, lakeshores



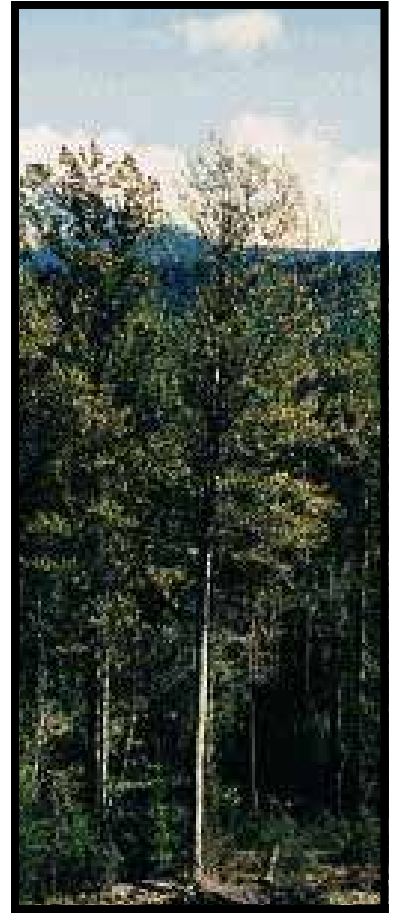


Balsam Poplar

Populus balsamifera

General - medium to large-sized, averaging 23 - 30 m (75 - 100 ft) high, broadleaved hardwood. Crown narrow, pyramidal with thick, ascending branches. Branchlets moderately stout, round, shiny red-brown, orange lenticels, buds are reddish-brown to brown, 2.5 cm (1 inch) long, curved, resinous and fragrant. Trunk bark greenish gray with lighter lenticels when young, later becoming darker and furrowed with long, scaly ridges.

Leaves - alternate, simple, ovate, finely serrated, shiny dark green, paler and often blotchy orange below, petiole long with glands at the leaf base.



Flowers- dioecious, male and female as hanging, long pale yellow green catkins, appearing in May.

Fruit- small, 2-valved, dry capsule containing numerous small seeds.

Habitat- moist depressions and on terraces along streams, rivers and floodplains.



Paper Birch

Betula papyrifera

General:

- The Birch family has over 100 species, and is noted for its leaf color, and white peeling bark.
- They grow fairly quickly, and the Paper birch is called "the lady of the forest".



Leaves:

- oval to ovate, 2 - 3 inches long, and 1.5 - 2 inches in width
- have double toothed margins, with a round base, and pointed tip



Size:

- grows 40 - 80 feet, depending on the location



Habitat:

- found primarily in the northern hemisphere
- naturally grows in clumps
- prefers cool, damp areas, that are well drained

Bark:

- (White/Paper Birch)
- Thin, paper-like



White Spruce

Picea glauca

NEEDLES:

- four sided
- stiff and sharp
- arranged spirally on twigs
- distinctive odor; foul when young but pleasant when older

CONES:

- seed cones - light brown, purplish; scales are rounded and smooth; open when dry
- pollen cones - pale red



BARK:

- scaly
- greyish-brown



USES:

- modern - lumber, pulp
- traditional - saplings: snowshoe frames, bows; resin: glue to fasten skins onto bows and arrowheads onto shafts; decayed wood: tanning hides; bark: baskets, cooking pots, trays

Habitat:

- The White Spruce is found throughout interior Alaska.
- The White Spruce grows from sea level to mid-elevations and can grow in a variety of environments
- Often found with lodge-pole pine, sub-alpine fir, aspen, birch, and willow

SIZE:

- The White Spruce can grow up to 40 meters in height and 1 meter in diameter





Black Spruce

Picea mariana

A small, slow-growing tree, up to 20 meters tall and 25 centimeters in diameter. It often has a characteristic cluster of branches at the top forming a club or crow's nest.

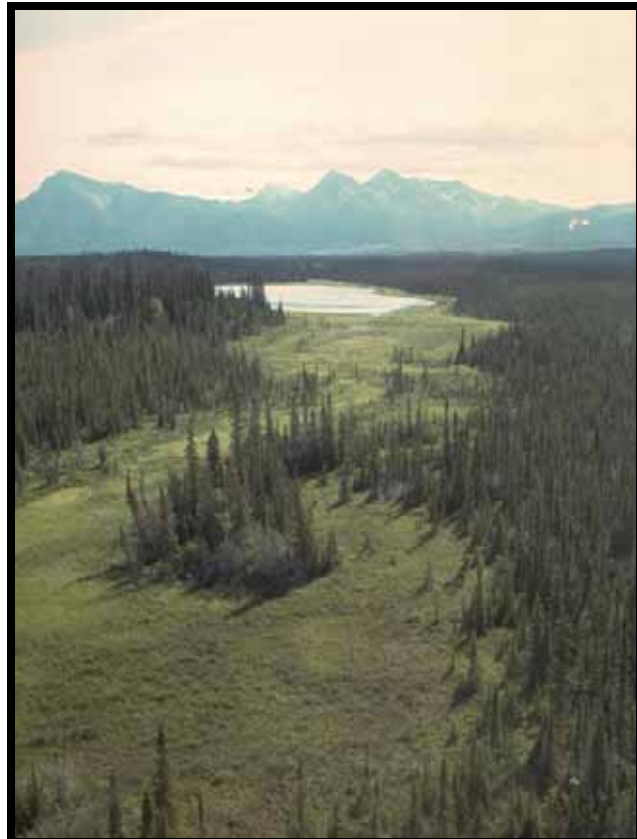
Needles

Needles are short, stiff, and four-sided. The needles are arranged in all directions along the twig or mostly pointing upwards. Tiny, rusty hairs may be seen along the needles.



Cones

Seed cones are small and purplish. The old cones hang on the tree for several years. Pollen cones are dark red.



Bark

The bark is thin, scaly and dark greenish-



Habitat

The black spruce tolerates poor growing conditions. It often occurs in pure groups of trees or with lodgepole pine and white spruce. It is frequently found in cold, poorly drained areas, such as swamps and bogs, along with sphagnum mosses and horsetails.



Quaking Aspen

Populus tremuloides

General:

- small (30-40 feet tall) upright tree
- often occurs in thickets
- root system is extensive, and may encompass large areas. Lateral roots may extend more than 100' into adjacent open areas. Lateral roots occur in the top 2'-3' of soil where vertical sinker roots may extend to depths of 5' or more.

Flower:

- dioecious; male and female
- hanging catkins 1 to 3 inches long.

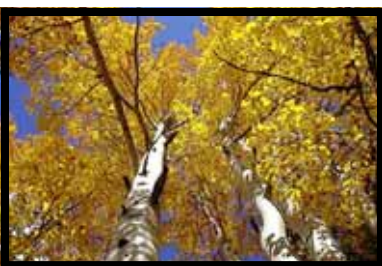


Fruit:

- catkin (2 to 4 inches long)
- attached light green capsules which contain many small hairy seeds

Bark:

- at first smooth, creamy yellowish-white to very light green
- later developing thick furrows and becoming dark, especially near the base.



Leaf:

- Alternating
- 1 to 3 inches long
- green on top and paler underneath
- heart-shaped to nearly round with a fine toothed margin





Willows

Salix.

Willows are a very difficult group of trees and shrubs to separate by species because of their very similar characteristics and there are approximately 36 different species in Wrangell St.-Elias National Park. They also hybridize easily, so it is very common to find specimens that are crosses between two species.

General:

- Short, 10-100 cm, shrubs
- Grayish branches
- Greenish to reddish twigs
- Grow in groups, sharing the same root system
- Dioecious—a given plant will produce either male or female flowers



Leaves:

- Narrow lance to egg-shaped (usually widest in the middle)
- 2-6cm long



Fruits:

- Hairy or hairless capsules
- The willow's flowers range from small pussy willows to longer leafy shoots.
- Flowers are arranged in catkins