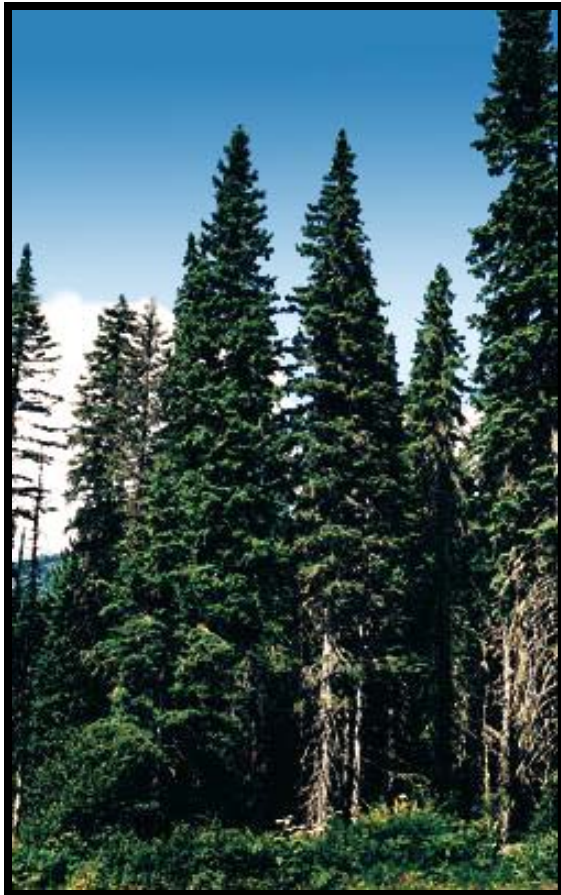
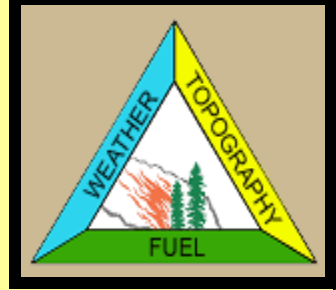




TOPIC 44A
SASK. FUEL
TYPES
White Spruce



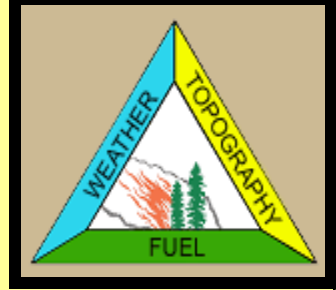
WHITE SPRUCE – *Picea glauca*

Appearance	One of the most common tree species found in the boreal forest (black spruce being the other) Uniform conical crown with branches that spread at the top and droop slightly on the lower extremities Young twigs are smooth and shiny
Height	Can range in height from 7 to 20 metres
Roots	Shallow root system with a wide extension from the base of the tree
Stands	Rarely forms pure stands – commonly found in mixed forest stands containing poplar (aspen), white birch and balsam fir
Soils	Exists in a variety of soil conditions but prefer well-drained, but moist, silty soil
Needles	Needles are four-sided and 1-2.5cm in length and project from all sides of the branch – aromatic when crushed
Cones	Cone is long(2.5-5cm), slender, and cylindrical in shape – found throughout the height of the tree
Reproduction	Cone can open in autumn and drop during the winter or the following spring
Bark	Bark had loose ashy brown scales with the inner bark being silvery-white or pinkish in color





TOPIC 44B
SASK. FUEL
TYPES
Black Spruce

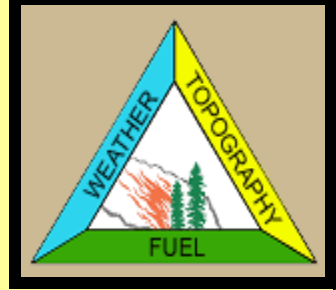


BLACK SPRUCE – <i>Picea mariana</i>	
Appearance	Very distinctive in appearance Short, uppermost branches will form a “crows nest” or “club top”
Height	Slow growing tree – grows to an average of 7-10 metres – in tundra only 1-2 metres
Stands	Generally found in pure stands – this species often defines the tree line
Soils	Grows in many different soils and climates (South – bogs and lowlands and North – well-drained slopes and flats)
Needles	Needles project from all sides of the branch
Cones	Cones are small, egg shaped and very difficult to crush - cones are usually seen in clusters at the top of the tree Seeds are released gradually throughout the winter months and can be retained within the cone for years
Reproduction	Reproduces by seed or from layering (lower living branch becomes covered with mosses or litter, develops roots and starts a whole new tree)
Bark	Bark is usually dark grayish to reddish brown in color – inner bark has an olive green color





TOPIC 44C
SASK. FUEL
TYPES
Jack Pine



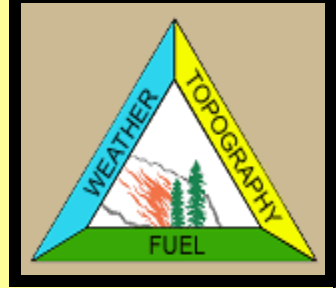
JACK PINE – *Pinus banksiana*

Appearance	In the open, jack pine, are limby and twisted In a closed canopy, jack pine will grow straight
Height	Up to 20 m tall
Roots	The root system reaches deep into sandy soil to access water
Stands	The tree is self-pruning in closed canopies and the crown will involve only the top third of the tree
Soils	Jack pine grows best on well-drained sandy and gravelly soils
Needles	The needles grow in groups of two They are long (2 to 5 cm long), are needle shaped and sharp Both needles come out of a sheath
Cones	Jack pine cone is light brown to purplish in color and is 2.5 to 5 cm long Mature cones will remain high in the tree for many years, until a fire burns through the stand
Reproduction	The cones open, either from the heat that melts the resin that holds the cones closed or the tree dies and releases the cone Soon after the fire, the seed is released and falls to the ground, which has been cleared of any competing plants and the seed is fertilized with their ashes
Bark	The bark is thin and reddish brown in color on young stems, becoming dark brown and flaky in the shape of thick plates on older trees
Disease/Insect	Common disease to jack pine is dwarf mistletoe, a parasitic plant that hinders the growth of the tree Symptoms of dwarf mistletoe is the presence of "witches brooms".





TOPIC 44D
SASK. FUEL
TYPES
Balsam Fir



BALSAM FIR – *Abies balsamea*

Appearance	Balsam fir is one of the most distinctive trees in North America It is symmetrical in shape meaning it has a church steeple appearance Because of the shape, the ability to hold its needles and the fragrance, it is a popular tree to be used for Christmas trees
Height	Usually grows to 18 metres tall and can grow to 0.5 metres in diameter
Roots	Shallow rooted species so it does not stand up well to strong winds
Stands	Fir is not fond of sunlight so will be found in the understory of aspen and spruce It is also known to grow in clusters with high stem densities
Soils	Very adaptable to different soils and climates
Needles	The needles are flat and 12 to 25mm in length and grow in two rows along the side of the branch They are shiny green in color and are round or slightly notched at the tip
Cones	Cones are an oblong shape and are 5 to 10cm long
Reproduction	Seed is coated with a resin which helps keep squirrels and mice from eating the seed
Bark	Bark is darkish grey and smooth with raised resin blisters
Insect/Disease	Resin protects the tree by quickly flowing from any breaks in the bark and hardens to seal out any invading insects and fungus Balsam fir is a favorite food of the Spruce Budworm

