

SILVICS ASSIGNMENT – SPECIES TABLE

**This silvics sheet (V.1.2) was compiled by the 60 trainees who participated in the Certificate Course in Ecosystem Silviculture, 2005 – 2007.

Tree Common Name: White Spruce

Tree Scientific Name: Picea glauca

TREE SPECIES ADAPTATIONS		
GENERAL		
	Longevity/typical life span for Lake States	75 – 125 yrs, 200-250 yrs
	Maximum stem height	110', 180ft
	Any mycorrhizal requirements/info.	None
REPRODUCTION		
	Minimum seed bearing age	4-10 yrs, lg crops >30 yrs
	Fruit type (cone, catkin, and so on)	Cone, 1.4 – 2 "long
	Periodicity of large seed crops	2 – 6 yrs, good crop when summer is hot and dry when fine if land differential
Seed dispersal	Date	Moderate Aug - Sept
	Mode ¹	Wind
	Distance (max)	1000 ft, 200-300 ft by wind
Seed Characteristics	Longevity	1-2 yrs max
	Weight	168,000/lb, 240,000/lb, 1.1 ml – 3.2 mg
	Germination percentage	70%
	Time of ripening	3 Months
	Viable seed percentage	25 %
	Sprouting ability	Can layer, not common
	Seedling regeneration strategy ²	Current seed crop
	Any cold stratification period	Yes, dry stored seed, over winters in soil, can help but not necessary, in nature seed is dropped in fall and germinates in spring
	Preferred seedbed ³	Humus soil mix, decaying wood, feathermoss
ESTABLISHMENT		
Seedbed Conditions	Light requirements	>15% sunlight, dense competition bad
	Soil surface temperatures	Warm
	OM thickness	< 3" thick, when on feathermoss better
	Shrub/herb cover	Yes, tolerates some
	Moisture	Prefers moist seed bed
	Any soil pH requirements	4.7 – 7 slightly acidic
	Seedling growth rate information	Starts slow, 2-15yrs establishment conditions
DEVELOPMENT		
Juvenile environmental requirements	Light requirements	Partial shade
	Shade tolerance	Intermed.
	Growth rates/competition info	
	Response to release/age relations - juvenile	Can persist until hdwd decline then release, requires more light than seedlings
	Juvenile growth rate information	>1 yr, 0.4-0.8", 4 yrs 12-20"tall, 1-3 ft annually, 10-20yrs ave to dbu
	Height growth determinate/indeterminate	Indeterminant as juvenile, determinant as older
	Self-pruning	No
DAMAGING AGENTS – ANY STAGE ⁴		
	Flowers	
	Fruits	

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TREE SPECIES ADAPTATIONS		
	Leaves	
	Growth	
	Decay/Defect	
	Bark	
	Roots	
WILDLIFE/CONSERVATION CONSIDERATIONS		
	Cavity tree potential ⁵	Good
	Common mast consumers	Birds, grosbeaks, squirrels, crossbills,
	Known RTSE issues	
	Known principal associated species (avian, mammal, herps, and so on)	Example: salamanders in duff of northern hardwoods
HABITAT		
	Forest Ecological System	FD, MH, wet forest system, Boreal
	NPCs	EDn12,FDn33, FDn43, MHn44, Mhn45, MHn 46, WFn53, Wfn55
	Forest structure	Multi-structured, Mixed
Mature tree environmental requirements	Moisture ⁶	Moderate, dense stands no good
	Nutrients ⁶	Moderate
	Shade tolerance ⁷	Intermediate
	Response to release/age relations - mature	Moderate ability, vigorous, not much response- moderate ability to release after up to 40 yrs of suspension
	Soil pH (extremely acid or alkaline soil requirements only)	Slightly acidic, 4.5-7 pH
	Drought tolerance ⁷	Intermediate
	Water-logging	Moderately tolerant (no stagnant)
	High temperatures	
	Windfirmness ⁸	Shallow rooted (variable by soil texture), upland soils more windfirm
Canopy	Gap size	
	Density	

- 1 Seed dispersal – mode. Select from the following: wind, mammals, water, birds
- 2 Seedling regeneration strategy. Report the dominant seedling strategy from the following: Seedling Bank, Soil Seed Bank, Current Seed Crop, Serotinous Cones.
- 3 Preferred seedbed. Mineral Soil, Humus, Humus/Soil Mix, Pioneer Mosses, Sphagnum Mosses, Decaying Wood, Burned Duff, Burned Organic Soils, And Organic Soils
- 4 Damaging Agent – Any stage including: fruit, seedlings, juvenile, mature. Damaging agents – Mechanical, Insect, Disease, Herbivory and so on
- 5 Cavity tree potential – “Managing for the birds” booklet
- 6 Environmental requirements – moisture & nutrients. Low, Moderate, and High
- 7 Environmental requirements – shade & drought. Very Tolerant, Tolerant, Intermediate, Intolerant, Very Intolerant
- 8 Windfirmness - not stem breakage
- 9 Forest structure – multi or single layers? Example, forbs (ground nesters), shrubs, canopy, co-dominants, dominants