

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: Balsam Fir

Tree Scientific Name: Abies balsamea

TREE SPECIES ADAPTATIONS		
GENERAL		
	Longevity/typical life span for Lake States	45-90 yrs, 200 yrs, 60-90 typical)
	Maximum stem height	75' (another 90') (40-60' typical)
	Any mycorrhizal requirements/info.	none
REPRODUCTION		
	Minimum seed bearing age	15, regular at 20-30 yrs
	Fruit type (cone, catkin, and so on)	cone
	Periodicity of large seed crops	2-4 yrs
Seed dispersal	Date	Aug peaks Sept/Oct, some winter
	Mode ¹	Wind, rodents, birds
	Distance (max)	Wind: 300-500', effective 80-200'
Seed Characteristics	Longevity	1 yr on ground, diminishes rapidly
	Weight	Light, 60,000 / lb
	Germination percentage	26% (4-62 %) (abt. 22%)
	Time of ripening	Aug - Sept
	Viable seed percentage	Half, highest 68 % from 40 yrs old balsam
	Sprouting ability	aggressive
	Seedling regeneration strategy ²	Current seed crop
	Any cold stratification period	Over winter, 40 F for 30 days
	Preferred seedbed ³	Humus, mineral, not too sandy, have some shade is best, thin moist
ESTABLISHMENT		
Seedbed Conditions	Light requirements	Very tolerable, 10 % for germination
	Soil surface temperatures	<115 F
	OM thickness	3" or less
	Shrub/herb cover	Best seedbed some
	Moisture	Some moisture required for germination/ moderate – very moist
	Any soil pH requirements	6.5 – 7 optimum OM
	Seedling growth rate information	Once 6" tall w/ 2nd
DEVELOPMENT		
Juvenile environmental requirements	Light requirements	6-8 can grow dense shade, best after with light
	Shade tolerance	Very tolerant
	Growth rates/competition info	Sm seedlings, rubus
	Response to release/age relations - juvenile	Excellent after 6-10yrs
	Juvenile growth rate information	Slow, 10" diam in 10 yrs
	Height growth determinate/indeterminate	determinate
	Self-pruning	no
DAMAGING AGENTS – ANY STAGE ⁴		
	Flowers	

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TREE SPECIES ADAPTATIONS		
	Fruits	
	Leaves	
	Growth	
	Decay/Defect	
	Bark	
	Roots	
WILDLIFE/CONSERVATION CONSIDERATIONS		
	Cavity tree potential ⁵	Fair to poor
	Common mast consumers	Moose, grouse, squirrel
	Known RTSE issues	
	Known principal associated species (avian, mammal, herps, and so on)	Example: salamanders in duff of northern hardwoods
HABITAT		
	Forest Ecological System	WF, RFP, FD, MH usually
	NPCs	MHc 38 E, WFn 53,65,64, FPn 62, 63, FDn 12,32,33,43,
	Forest structure	MHn 35, 44, 45, 46, multi layer
Mature tree environmental requirements	Moisture ⁶	high
	Nutrients ⁶	medium
	Shade tolerance ⁷	Very tolerant
	Response to release/age relations - mature	> 50 yrs response low, optimal 23 -30 yrs
	Soil pH (extremely acid or alkaline soil requirements only)	Slightly acidic
	Drought tolerance ⁷	low
	Water-logging	Short term ok (med)
	High temperatures	low
	Windfirmness ⁸	Not very windfirm - low
Canopy	Gap size	Small gaps
	Density	high

- 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