

# PAPER BIRCH

## Cover Type Guidelines

### **ROTATION AGES**

<u>Site Index</u>	<u>Rotation Age</u>
40 or less	60
40 - 80	70
80 +	80

### **HARVEST SYSTEMS**

Clearcut in blocks up to 40 acres in size, in alternate strips, or small patches of about 1 acre. (USDA For. Serv. Res. Pap. NE-535.)

Shelterwood can also be tried but studies of this type of silvicultural system are limited. The first cut should remove 60% of the total basal area, leaving at least 4 - 5 birch seed trees per acre in the overstory after the first cut. The second cut should be made in 2 years.

### **REGENERATION SYSTEMS**

Proper harvesting should allow the site to regenerate naturally. Soil scarification by mixing the organic layer into the surface mineral soil is ideal. Logging should be done when the ground is not frozen.

When annual precipitation is less than 25 inches, use small patch clearcuts and progressive strip clearcuts to prevent the site from drying out. Harvest the uncut strips within 2 years of the first harvest.

Paper birch is shade intolerant, and tolerant hardwood species will outgrow the birch. Where birch is growing in a mixed tolerant hardwood stand, the tolerant hardwoods will have to be controlled to adequately regenerate birch naturally.

### **PEST CONSIDERATIONS**

The bronze birch borer, Agrilus anxius, is the major pest of paper birch. This flat-headed borer attacks stressed and declining trees. The yellow-bellied sapsucker attacks the main boles and can cause discoloration and ring shake. Various heart rot organisms, notably Innotus obliquus, lowers stem quality through decay and discoloration.

Management recommendations to minimize birch decline are as follows:

1. Manage birch only on soils characterized by being acidic, relatively deep, moist, and moderately well drained to reduce susceptibility to decline.
2. Soil temperature increases as little as 4°F can cause root death leading to tree mortality. Therefore, avoid regenerating birch on south and west slopes, and attempt to maintain a closed canopy in existing stands.
3. Do not hold birch longer than 60 years on the poorer sites, site index 40, and 80 years on the good sites, site index 80. Prolonging the rotation ages will dramatically decrease the growth rate and accelerate stand deterioration through birch decline.
4. In old-growth birch stands, clearcut in order to stimulate dense birch regeneration. All residual stems larger than 1.5 inches DBH should be cut or killed to aid in stimulating regeneration. The dense regeneration will help shade the soil and prevent excessive soil temperatures.
5. Stands that are declining should be harvested within 2 years to prevent loss of the site to invading brush species.

### **WILDLIFE CONSIDERATIONS**

As an intolerant type like aspen, birch shares most of aspen's excellent wildlife habitat values. Birch clearcuts provide important browse for deer and moose, especially in the northeastern part of the state where there is a shortage of intolerant types.

### **PREFERRED SITE CONDITIONS**

Birch does best on nutrient-rich, moist sites ... The poorest sites are extremely wet with poorly drained soils, or extremely dry with shallow to bedrock soils or coarse sands and gravels on glacial outwash deposits. (USDA For. Serv. Res. Pap. NE - 535)