BLACK SPRUCE MANAGEMENT
ON
STATE FOREST LANDS

A) Silvicultural Background, Objective and System.

Black spruce is ordinarily found on lowland sites but also found on some upland sites. On the lowland sites, it is found as relatively pure stands. On upland sites, it is found as a component of other types, mainly jack pine. On the lowland sites, it is important for the stand examiner to identify ground cover and brush competition to make proper stand prescriptions. Stand examiners should identify sphagnum and various feather mosses. Sphagnum moss generally provides a good seedbed for black spruce, whereas feather mosses dry and die after clearcutting and become poor seedbeds. Seedbed conditions are usually improved by removing or compacting feather mosses. The overall objective for the black spruce type is to manage for pulpwood production. Stands should be managed using even-aged silviculture.

B) Rotation Length.

Final harvest will normally occur between 50-80 years of age on upland sites and 50-100 years of age on lowland sites. At the lower limits, i.e., 50 years of age, a stand should be within approximately 95 percent of culmination of mean annual increment (CMAI) before harvest should be considered unless mixed with another species which will be considered the future management objective (MO) for the stand. CMAI on good sites (upland sites) normally occurs at approximately age 60. On poorer sites (lowland sites), CMAI does not generally occur until age 70 to 90.

C) Silvicultural Recommendations.

On lowland sites, either block clearcutting or strip clearcutting is recommended. Clearcut areas provide the full light needed for optimum survival and growth of regeneration. Blocks, in a checker-board pattern, should be five chains square to assure adequate seeding throughout the cut area.

Strip clearcuts should be 3 to 4 chains wide and orientated in an east-west direction in a cut, leave, cut, leave pattern. Cut and leave strips should be the same width. However, if stands are relatively small, leave strips could be narrower, if experience has shown that windthrow is not a major problem in that area.
All trees cut in either blocks and strip clearcuts should be full tree skidded to the landing. It has been found that full tree skidding provides adequate site preparation for a good seed bed. The timber contractor should be encouraged to run down any brush or undesirable trees that might remain after harvesting merchantable trees. Concentrated slash at the landings would then be burned by either the contractor as the piles accumulate in the winter or on by Department of Natural Resources’ crews at a later date, when conditions permit.

Regardless if block or strip clearcut, after adequate regeneration is established, generally within five to ten years, the uncut areas can be harvested leaving 3 to 5 seed trees in a group spaced 300 feet apart. Seed trees should be marked that appear to be the most wind-firm.

On upland sites, jack pine is often mixed with black spruce, especially in the transition area between the wetlands and the uplands. These areas should be trenched and seeded to jack pine. There is usually enough seeding of black spruce from adjacent lowland black spruce or from seed already on the ground prior to cutting to adequately reforest the area to a mixture similar to the parent stand. If trenched and seeded to jack pine, 1 oz./acre of black spruce seed can be mixed in to assure a mix similar to stand conditions prior to cutting.

Experience will determine if supplemental seeding of black spruce is necessary, or desired, in a particular area.