

TIMBER STAND IMPROVEMENT (TSI)



Timber stand improvement is achieved through a combination of precommercial tree thinning, girdling and pruning for multiple resource benefits with an emphasis on timber, wildlife and/or riparian values depending on stand location and site specific management objectives. Other treatment objectives may include forest health (insect and disease), safety, visuals, and recreation.

Timber objectives include:

- 1) Increase timber yields by delaying the occurrence of competition for growing space between fast growing young trees. The site's wood growing potential is distributed over a few stems rather than many.
- 2) Increase the stand's spruce and/or cedar component by favoring those species as crop trees.
- 3) Removal of deformed or diseased trees.
- 4) Reduce the time for development of large diameter trees for timber yield (increased piece size and value). Larger diameter stems can be expected to be produced over a shorter time period when precommercial thinning is applied.

Wildlife objectives include:

- 1) Prolong and enhance understory vegetation for wildlife uses by delaying crown closure.
- 2) Create wildlife corridors (strips of unthinned young growth) to facilitate wildlife movement through treated stands. Treatment created slash can impede the movement of several species, including Sitka black-tailed deer, preventing their ability to utilize shrub/browse regeneration.
- 3) Encourage stand diversity and production of future large wood for mammalian cavity nesters such as marten and black bear, as well as for avian cavity nesters including sapsuckers, flickers, woodpeckers, winter wrens, saw-whet owls, northern pygmy owls and other snag or large wood dependent species.

Riparian objectives include:

- 1) Decrease the time needed for trees to grow and be recruited into the stream channel. Large wood in streams stabilizes bed load, creates deep pools for fish, serves as substrate for aquatic insect production, improves water quality by stabilizing stream banks and dampens high flows events. It increases the diversity of the stream channel, resulting in improved fish habitat.
- 2) Increase the value of the riparian zone for wildlife by promoting vegetative diversity and forage.

