

Red Pine Silviculture Decision Matrix

This document provides a simple overview of some common silvicultural strategies for management of red pine communities in Minnesota. Additional details are available in the red pine coverytype fact sheet and in Minnesota's *Voluntary Site-Level Forest Management Guidelines* binder.

	Landowner Objective		
	Wildlife	Recreation or aesthetics	Timber
Immediate harvest	Create structural diversity in red pine stands, particularly plantations. This can be achieved through thinnings (to promote understory vegetation) or by creating open patches in otherwise uniform stands.	Consider leaving unharvested buffer strips along trails and roads. Occasional openings along trails provide wildlife viewing opportunities. Leave some large residual trees for diversity and wildlife. Also consider leaving a few residuals which have attractive or colorful foliage and (or) unique or unusual characteristics.	Harvest all vegetation to ensure full sunlight throughout area to be regenerated. Residual trees should be along riparian corridors, on edges, or clustered together.
Harvest unit size	In general, smaller harvest units create more structural diversity throughout the stand, which benefits wildlife.	Depends on landowner preference and stand stocking. Some minimum size is necessary for the harvest to be commercially feasible.	In general, larger harvest units can reduce harvest costs and maximize red pine regeneration.
Regeneration considerations	<p>Red pine needs full sunlight for vigorous growth.</p> <p>Red pine seedlings in close proximity to mature red pine can be vulnerable to <i>Diplodia</i> tip blight and <i>Sirococcus</i> shoot blight. Consider leaving permanent wildlife openings or converting harvested areas to other species if mature red pine is adjacent.</p>		
Future management	<p>If red pine regeneration is desired, the site will need to be cleared of all vegetation and planted. Vegetation control is crucial in first 3-5 years of seedling growth.</p> <p>If converting to white pine, thin to provide adequate light for white pine regeneration, and then remove red pine overstory once the white pine has established (5 to 20 yrs depending on site). Either underplant white pine or regenerate it naturally if seed source is available.</p> <p>Maximize stand vigor and value by thinning red pine plantations beginning at about 35 yrs. (depending on site productivity) and every 10-20 years thereafter.</p>		
Other considerations	For detail and additional guidelines, consult Minnesota's Voluntary Site-Level Forest Management Guidelines binder.		