ABSTRACT.—Riparian forest management guidelines frequently include retention of overstory trees within some designated distance from a stream or lake. The retained trees provide continuity of ecological functions important for aquatic systems, namely organic matter input, shading of water, bank stability, uptake or retention of sediment and nutrients, and wildlife habitat. Arguably, these ecological benefits are important, but so are the potential economic benefits of timber management in riparian forests. Overstory retention may constrain the latter if the timber objective is to regenerate and grow intolerant species. This is one of the issues being addressed by the Minnesota Integrated Riparian Management Project—a multidisciplinary experiment testing the efficacy of best management practices for riparian forests. The experimental design consists of three-12 acre replicates for each of the following treatments: (1) uncut forest; (2) 100-foot-wide uncut riparian buffer, with the adjacent upland clear-cut; and (3) 100-foot-wide riparian buffer cut to a residual basal area of 25 ft/ac, with the adjacent upland clear-cut. We quantified density of aspen regeneration before and after harvesting within the riparian buffers. First-year post harvest results indicate that the residual basal area treatment does not inhibit aspen suckering (36,000 stems/ac), with stocking approaching levels acceptable under single-cohort management. Suckering was also high in the uncut buffer (20,200 stems/ac), probably because of root penetration and increased side light from the adjacent clear-cut. Continued monitoring will address long-term stand development under the different treatments, as well as the effects of forest condition on stream processes and bird habitat.