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Long-term findings form the Wisconsin Swamp Hardwood trials: Applying results to a new challenge

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Managing black ash forests within the context of emerald ash borer (EAB) is quite challenging given the limited number of non-ash species and challenging operational and regeneration conditions in these lowland areas. Most black ash management guidelines were developed before EAB was introduced into the United States and focused primarily on increasing the quality and stocking of black ash on lowland sites given its historic ability to dominate these areas. The spread of this invasive pest across the upper Lake States has shifted management goals toward increasing the resilience of black ash-dominated forests to EAB-induced ash mortality by encouraging the development of tree regeneration layers composed of non-host species. There is limited experience with managing black ash forests for minor, non-host species; however, existing management trials may provide insights into potential strategies for minimizing EAB impacts. The Wisconsin Department of Natural Resources established a series of black ash silvicultural trials beginning in the 1970s for examining management systems for black ash wetlands. Although these trials were established at a time when EAB was not a threat on the landscape, they provide a unique opportunity to evaluate the effectiveness of different regeneration methods at increasing the non-ash component of these forests. These trials include strip clearcut, single-tree and group selection, and strip shelterwood harvests across 27 black ash-dominated lowlands. Results from this work indicate that strip shelterwood harvests appear most effective at naturally increasing the non-ash component in these stands while also protecting other ecosystem functions such as water table regulation.

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