

Guidance for Managing Sites with Ash

Minnesota Forest Resources Partnership

GUIDING PRINCIPLES

BACKGROUND

The ash genus (*Fraxinus*) in Minnesota comprises some 900 million trees and is the second most common hardwood tree genus in the state. EAB was discovered in the United States in 2002 and is now present in 13 states and 2 Canadian Provinces. It was found in Minnesota in 2009; currently EAB's only known occurrence within Minnesota is in the City of St. Paul. EAB populations can spread rapidly in infested firewood, logs, and ash nursery stock. Therefore, it is important to assume that EAB will soon infest Minnesota's forested areas and cause significant impact to the ash resource. Experience from other states has shown that EAB kills 99+% of the ash in a stand once that stand becomes infested. This level of impact is greater than what occurred with American elm following the introduction of Dutch elm disease to Minnesota.

To date there has been no evidence of resistance to EAB within any North American ash species. Resistance does exist in some Asian ash species. Subtle differences in susceptibility to EAB between white, green, and black ash have been reported, but those differences are minor and should not influence management options. All three ash species in Minnesota will likely succumb to EAB attack.

ASH MANAGEMENT OBJECTIVES

From a landscape perspective, maintain ash in the landscape and not eliminate ash in response to the threat of EAB.

From a stand perspective, create conditions that will reduce potential impacts and increase the resiliency of forested stands by

- Keeping forested sites forested
- Maintaining an ash component but reducing the size and number of ash in the stand.
- Increasing tree species diversity.

MANAGEMENT PREMISES

- There is a likelihood that the vast majority of ash trees in Minnesota will be killed by EAB regardless of the type or magnitude of actions taken.
- The large extent of the ash resource, particularly black ash, will likely mean that sufficient management actions will not occur in all stands prior to EAB becoming established in Minnesota. Forested sites will be lost.
- Little is known through research and experience how to maintain black ash forested sites as forested communities once the black ash is killed or removed. On-going research and knowledge gained through experience that can be passed along to all managers are critical to meeting long term ash management objectives.

- Management actions to meet the objectives above should be limited to stands that are free of EAB occurrence and are greater than 25 miles from the closest known EAB infestation.

MANAGEMENT GUIDANCE

Prioritize stands with ash for immediately treatment

- Rationale: Given the magnitude of the ash resource in Minnesota today, forest managers must make ash management a higher priority. The proximity of EAB and the uncertainty of knowing where EAB is currently infesting ash necessitate taking immediate actions to ameliorate some of the negative consequences that have been documented in other states.

Transition sites with ash to a composition that favors non-ash species.

- Rationale: Despite all management efforts, current experience seems to indicate that EAB will kill 99+% of the ash in the stand regardless of ash tree size and spatial occurrence within the stand. The ultimate strategy must be to move stands away from ash but still maintain a forested community.

Reduce the stocking and average diameter of the ash component

- Rationale: Ash phloem is the larval food source for EAB. More phloem can support greater populations of EAB within any given area. Reducing the ash component may reduce future impacts and may help slow the spread of EAB.

Reduce the concentration of ash

- Rationale: A dispersed ash component can lessen the impacts to the stand by reducing the likelihood of EAB killing large areas of ash which may or may not have an understory of other tree species. Work to create and maintain scattered ash throughout the stand rather than maintaining pure or nearly pure ash areas within the stand.

Do not regenerate or reestablish ash.

- Rationale: In order to avoid perpetuating habitat for EAB for future generations, the goal is to reduce ash now and into the future.

Protect the hydrologic functions of black ash sites to maintain a tree cover

- Rationale: The guiding principle for all black ash management decisions is to protect the hydrology of the site. Black ash, because of its abundance on some sites, often controls water levels in the stand. If the black ash is cut or die off, water levels often increase and there is a chance sites will convert to wet meadows or become dominated by alder.