

## **Emerald Ash Borer (EAB) Management Plan**

### **City of North Mankato 2019**

**Purpose:** The City of North Mankato will take a proactive approach to mitigate the spread of Emerald Ash Borer and spread the physical and fiscal costs associated with the outbreak of Emerald Ash Borer over an extended timeframe. The loss of ash trees in the City of North Mankato could have a devastating effect on home values, quality of life and the environment. The goal of the City is to buffer that impact by implementing current best management practices.

**Applicability:** This management plan is applicable to all public and private properties within the City of North Mankato.

**Emerald Ash Borer Coordinator:** The Department of Public Works and the City Forester shall be responsible for implementing and overseeing this program.

**Introduction:** Emerald Ash Borer (EAB), *Agrilus planipennis* Fairmaire, is an exotic beetle that was discovered in southeastern Michigan near Detroit in the summer of 2002. The adult beetles feed on ash foliage but cause little damage. The larvae (the immature stage) feed on the inner bark of ash trees, disrupting the tree's ability to transport water and nutrients. EAB probably arrived in the United States on solid wood packing material carried in cargo ships or airplanes originating in its native Asia.

EAB attacks all species of ash trees (*Fraxinus* spp.) found in Minnesota, which include green ash (*Fraxinus pensylvanica*), black ash (*Fraxinus nigra*) and white ash (*Fraxinus americana*). Mountain ash (*Sorbus aucuparia*) are not of the *Fraxinus* genus and are unaffected by EAB. Because EAB is hard to detect, it can be present for years before an infestation is confirmed. There are limited control measures for EAB which means if left untreated EAB has the potential of killing all ash trees throughout the United States and Canada.

EAB was first discovered in Minnesota on May 13, 2009 (est. infestation of 2005) in the city of Saint Paul and has since spread throughout Minnesota. Quarantines are currently in place in 15 counties. The City of North Mankato has an estimated 1,650 plus public boulevard Ash trees (approx. 33% of all boulevard trees) and many more which compose the urban tree canopy within the park system and other public property. There is also a large amount of ash trees found on private property. It is possible that despite state and federal quarantines of infested regions, EAB may already be established in the City of North Mankato.

**Economic Impact:** Removing and replanting ash trees will be a tremendous physical and financial challenge for the City of North Mankato and private property owners. Utilizing a simple formula for removals, stump grinding and replanting, a cost estimate can be determined. For example, consider an average removal cost of \$300 (disposal, stump removal, and restoration) and an average replanting cost of \$200. At these rates, the economic impact of losing the estimated 1,650 boulevard trees would be approximately \$825,000 spread out over several years.

**Detection and monitoring:** The Public Works Department will continue to inspect public and private properties, both on request and during routine inspections. Suspect trees will be carefully analyzed. Sampling mechanisms to be used will be consistent with Minnesota Department of Agriculture (MDA)

guidelines and will include visually looking at all parts of the tree, branch removal and bark shaving with a drawknife.

**Tree Management:** The City will adopt a proactive "Structured Removal Plan" of ash trees, removing those in decline and those requested to be removed in anticipation of the larger loss of the entire ash population. The intent is to slow the spread of EAB by reducing host trees, thus, spreading out management costs over several years by avoiding a "spike" in diseased and dangerous trees.

The City of North Mankato must prepare and manage for the arrival of EAB on three fronts:

A. Boulevard Trees:

1. The City has begun a policy of excluding any new ash tree plantings within the public right-of-way (ROW) -with the recommendation that citizens and businesses discontinue the use of ash in new plantings.
2. The City will remove any boulevard ash tree, at citizen request, that is in a state of decline.
3. The City will permit residents to chemically treat an ash tree in the public ROW under the conditions of hiring a licensed tree service that is bonded and insured, and that is a State of Minnesota Licensed Commercial Pesticide Applicator using state approved trunk injection pesticides only. By using trunk injections this reduces pesticide exposure to others and the environment overall. (Note: Chemical treatment would not preclude future removal of said ash tree if deemed necessary by Public Works)

B. Public Property Trees:

1. The City will not plant any new ash trees on public property which can carry the EAB
2. The City shall begin to remove any poor-quality trees or trees in fair condition with major defects.
3. The City will continue to follow any guidelines or quarantine restrictions as directed.
4. Ash trees in natural wooded areas will be left alone - unless it is determined that their removal is necessary. If it is an early EAB infestation, we will be removing infested trees as needed to slow the spread to the community.
5. In public parks ash trees will be considered for replacement.

C. Private Property Trees:

1. There are thousands of ash trees, large and small, on private property in the City of North Mankato. No inventory exists, and ash densities vary by neighborhood.
2. Property owners are urged to monitor for the EAB.
3. City of North Mankato, City Code, Chapter 90, will be updated to reflect the Emerald Ash Borer threat.
4. When residents call the City with questions regarding EAB, questions will be answered, and they will be encouraged to consult with a Certified Arborist.

5. The City will also encourage residents to replace trees lost with species appropriate for the site, or to plant new trees in advance of EAB infestation and ash removal as a way of lessening the large economic and environmental impact of the EAB.
6. The City will not chemically treat or dispose of any trees found on private property without just compensation.

**Ordinances and Policies:** The City's Ordinances and policies must outline what actions the City can take to manage diseased trees. Ordinance revisions will be recommended to the City Council as appropriate to address the infestation of EAB after a quarantine directive is placed for Nicollet County.

**Inventory:** A complete boulevard tree survey was started in 2018 by city staff. The inventory includes location, species, size and condition of each tree. At present the tree inventory, which is approximately 60% complete, details a total of 3,210 trees of which 888 are ash trees (28%). The Public Works staff will continue to update the tree inventory on boulevards and then public land in the City (i.e. parks, etc.).

**Wood Disposal:** The prompt removal of EAB infested trees is the priority in the City's management plan. The probable loss of thousands of ash trees creates several challenges for the City regarding public trees as well as residents and commercial tree services dealing with private property trees. All ash wood will need to be disposed of following state guidelines and quarantines. Therefore, the City will explore emergency marshalling yard(s) for suitable tree disposal and utilization. These yard(s) would be used to process all wood in the area, including public, and private from property owners and commercial tree services. The yard(s) will also be used when EAB confirmed trees that need to be removed in response to an emergency, such as clean-up of a windstorm during the months when beetles are active.

**Pesticide Use:** The City of North Mankato shall consider pesticide use for EAB on public trees to reduce beetle populations in known infested areas. The City would select trees for treatment that meet certain criteria, depending on the goal of the treatment. In most cases, the trees selected would be of better-quality condition and candidates that would be kept in the landscape for the long-term.

Treatments must be repeated at regular intervals (every 2-3 years) for the lifetime of the tree. One advantage of the treatment program is that in treating select ash trees, the City will continue to derive the many environmental and social benefits (ecosystem services) of large canopy shade trees while reforestation efforts take hold. In addition, inoculating some trees will delay the large "spike" of dead trees allowing the City to determine and manage dead timber over a longer period. Although concerns exist overuse of pesticides, arguably, an equal environmental impact exists for the potential benefits lost that are provided by large canopy shade trees.

If a treatment program is chosen, the Department of Public Works recommends use of the insecticide, TREE-age<sup>®</sup>/active ingredient emamectin benzoate, administered through trunk injection (versus soil drenches or other methods). Injecting the chemical directly into the tree will reduce exposure of pesticide to other non-targets and research has shown this to be the most effective

treatment. Further, the chemical emamectin benzoate is not a neonicotinoid-based chemical which has come under increased scrutiny for the possible decline in bees (pollinators). All treated trees would have an aluminum tag attached to them with the most recent year of treatment, e.g., "EAB 2018".

**Reforestation:** Replanting ash trees that are removed is arguably the most important part of the EAB Management Plan. Reforestation with a diversity of young trees is the primary objective in retaining the City urban forest and reducing the chance of future wide-spread, devastating tree.