

Memorandum of understanding regarding Ash Protection Experiment within Hubbard Brook Experimental Forest

1 October 2021

Hubbard Brook researchers will select about 30 pairs of matched ash plots within the Hubbard Brook Experimental forest (plots of 20 meters diameter). Plot pairs will be selected to allow subsequent comparisons over at least 10 years of protected plots vs. those exposed to emerald ash borer on different soil types and with medium vs. high numbers of canopy ash trees. Selection of study sites will favor locations with pre-existing data that can be used as baseline. One of each pair will be randomly selection for protection with emamectin benzoate. Protection will be applied in summer of 2022 and repeated at 2-3 year intervals. In protected plots, each ash tree within the plot will be protected as well as any nearby ash trees that are destined to fall into the plot when they die. The total number of protected trees will be 300 or less (5 – 15 per plot). The average size of the largest ash trees in candidate plots is ~ 23 inches (58 cm). A map of the candidate plots appears below.

The project will involve a partnership between Hubbard Brook Researchers, the USDA Forest Service, and Arborjet.

Arborjet will provide:

- emamectin benzoate (as TREE-äge®)
- training in the application of treatments
- consultation

The Hubbard Brook research community will:

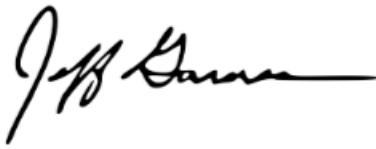
- acquire their own injectors & Arborplugs for the protection treatment (probably two Quik-Jet Air Injectors)
- apply protection treatments in compliance with applicable laws, regulations, and labelling
- acknowledge Arborjet in publications and products that result from the Ash Protection Experiment
- share resulting information with Arborjet that is relevant to their research and development (e.g., data addressing the question of herd immunity in ash trees)



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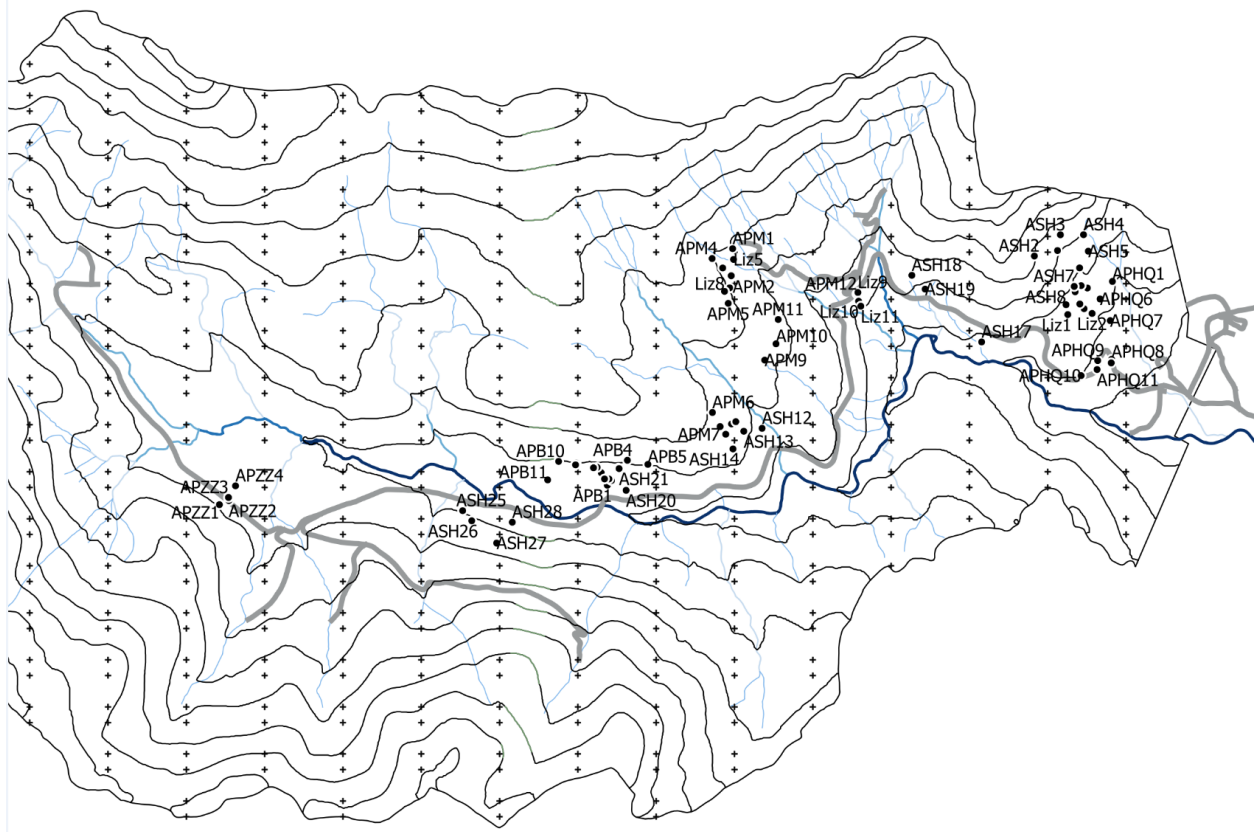
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Locations of candidate plots for Ash Protection Experiment within Hubbard Brook Experimental Forest