

Woodcock Meadow Restoration at Nahanton Park

A Conservation Partnership



Friends of Nahanton Park



Goal: Restore and maintain the Woodcock Meadow at Nahanton Park, an area of unique habitat and also historic, scenic, and recreational values for the City of Newton.

Objectives:

- Implement MassAudubon’s recommendations for the restoration and management of Woodcock Meadow as contained in MassAudubon’s 2011 *Nahanton Park Management Plan*.
- Reduce the density of woody vegetation and control non-native and invasive Black Locust that have intruded into the Meadow in recent decades, to the point at which the Meadow will be lost if prompt action is not taken.
- Maintain a mix of open grassland, interspersed with native shrubs, to provide habitat for the American Woodcock, designated as a “Species of Greatest Conservation Need” (SGCN) in the Commonwealth. The Woodcock Meadow will also provide habitat for a great diversity of migratory and breeding birds, native wildflowers, pollinators, and butterflies.
- Increase public awareness of this unique Newton gem, and its significance.

Introduction: Nahanton Park is home to a unique habitat area known as Woodcock Meadow (Figures 1 and 2). This is the only grassland of its kind remaining in Newton. It supports a unique mix of native plants indicative of “warm season grassland” and American Woodcock, identified as a Species of Greatest Conservation Need (SGCN) by the Massachusetts Division of Fisheries & Wildlife (Figure 3).

Many native plants and animals from migratory songbirds to some of our showiest wildflowers depend on early successional habitats such as the grassland and shrubland in and around the Woodcock Meadow. These often-scenic open areas are also essential for bees, other pollinators and many butterflies. While the dry, sandy soils associated with glacial Lake Charles help to maintain the grassland, active management is required to maintain this unique habitat area. Invasive species such as Black Locust and other woody vegetation are overwhelming the grassland and the meadow has been severely degraded since the mid-1990’s (Figure 4).



In recognition of their unique habitat, scenic, and recreational values, organizations such as MassAudubon, MassWildlife, The Trustees of Reservations and many municipalities are working to manage and maintain Massachusetts grasslands and shrublands. MassAudubon’s 2011 *Nahanton Park Management Plan* highlights restoration and management of the Woodcock Meadow as a high priority. In addition to its habitat values, Woodcock Meadow has historical significance as the site of a 1950’s, Cold War Anti-aircraft Artillery installation.

Although the City has supported past volunteer management efforts by the Newton Conservators and Friends of Nahanton Park, such efforts have not been able to keep up with the need, and urgent action is now required to save the Woodcock Meadow.



Figure 2. Woodcock Meadow



Desired Future Conditions:

Open grassland meadow dominated by Little Bluestem interspersed with other native grasses and forbs such as bush clover, asters, and goldenrods. Maintain approximately 15-20% native shrub and small tree cover within the grassland, including Red Cedar, Scrub Oak, blueberry, Gray Birch and sumac. Maintain additional shrub-transitional habitat along portions of the edge of the meadow to increase

habitat diversity (e.g. Gray Birch, Aspen, Pitch Pine, Sumac, Scrub Oak, other berry-yielding native shrubs).

Figure 4. Aerial photographs showing meadow habitat loss over time. Note woody vegetation intruding into the center of the meadow, as well as encroachment at the edges.



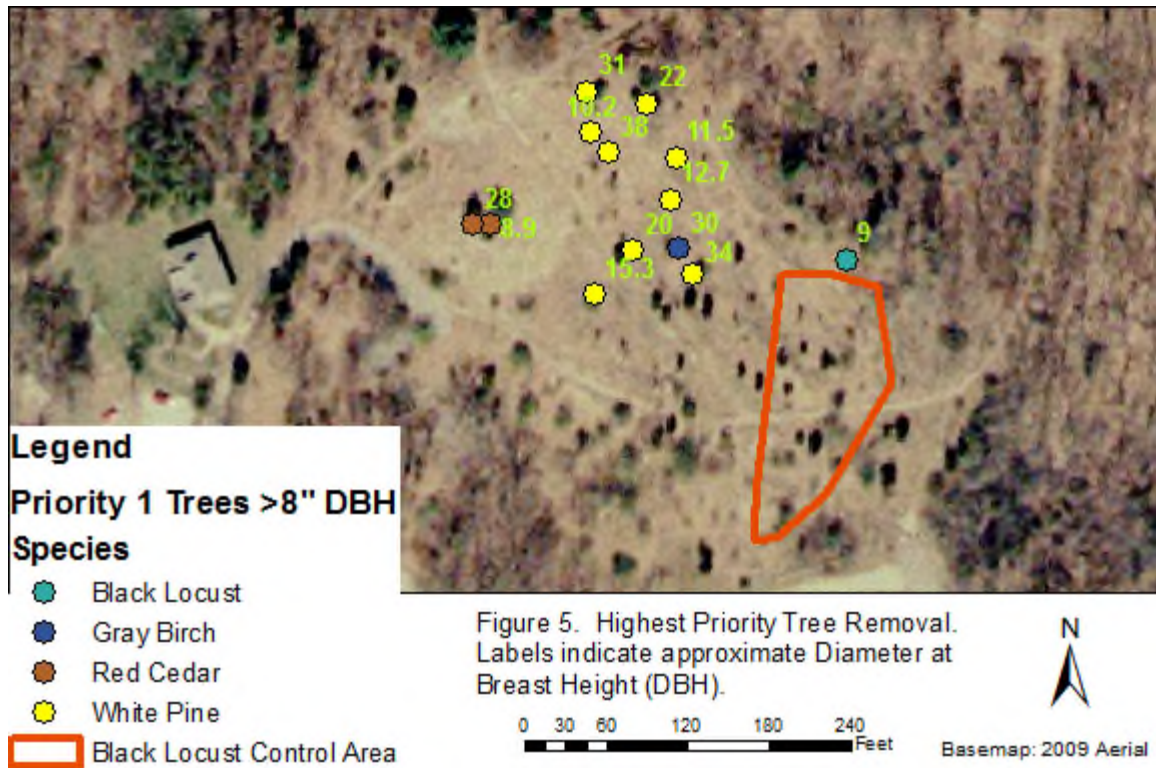
Restoration Actions: Restoration is proposed to occur in two phases, followed by a third “long-term maintenance” phase. The remainder of this document provides a detailed description of Phase 1 and brief overviews of the other phases. No work is proposed in wetland resource area or buffer zone.

Phase 1: This phase will focus on removing some larger white pine and other trees (>8” DBH) that have become established in the middle of the meadow, compromising its integrity. As has been approved by the City in the past, this phase will also involve volunteers selectively removing smaller saplings and shrubs (e.g Red Cedar, invasive, exotic buckthorn and Black Locust) to achieve 15-20% shrub/tree cover as specified above. Finally, this phase will include a licensed herbicide applicator directly applying very small quantities of herbicide to some of the freshly cut stumps (particularly Black Locust) to prevent resprouting.

- Remove 13 trees (>8” DBH) that are having the greatest adverse impact on Woodcock Meadow (Figure 5). We propose that this work be carried out by a professional arborist, contracted through and paid for by the Newton Conservators, with oversight by the City Tree Warden (Winter 2016). Stumps will be cut as flush to the ground as possible.
- Deploy a limited number of Newton Conservators and Friends of Nahanton Park volunteers to cut or pull and remove smaller saplings and shrubs (e.g Red Cedar, invasive, exotic buckthorn and Black Locust) to achieve 15-20% shrub/tree cover as specified above. This work will be carried out with oversight by a Newton Conservators Advisor whose professional experience includes designing, executing, and

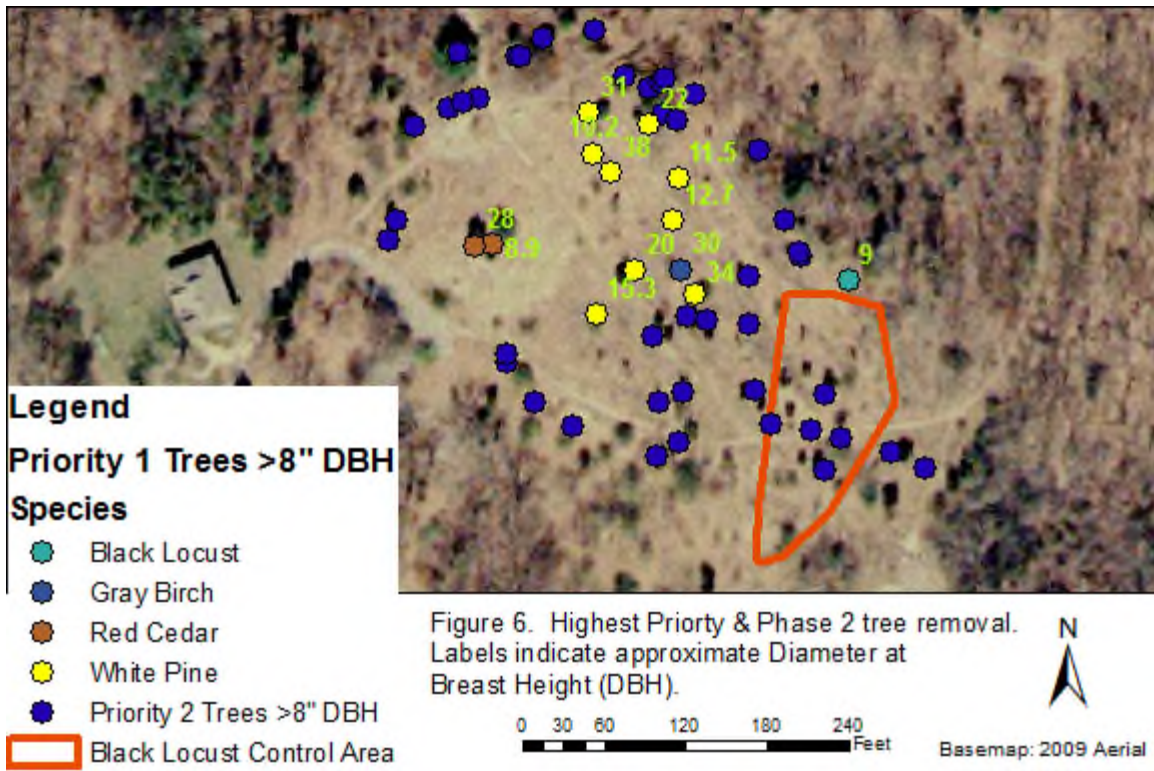
reviewing restoration plans for similar projects. This will include, but not be limited to, removal of a spreading stand of sapling Black Locusts of varying sizes (all <8" DBH) shown in Figure 5 (Winter 2016, with limited follow-up work through the fall, as-needed).

- A Licensed Herbicide Applicator working on behalf of the Newton Conservators will apply very small quantities of herbicide directly to the stumps of recently cut deciduous woody trees and shrubs, particularly the Black Locust. This step is important to prevent resprouting. Additional information on the stump treatment can be found in Attachment 1.



Phase 2: Approximately 40 additional trees have been identified for potential removal, pending availability of resources (Figure 6). These are mostly young, relatively small trees, including some overgrown Red Cedar that exceed 8" DBH. Ideally, Phase 2 would also include removal of a stand of relatively large Black Locust located east of the Woodcock Meadow, but obtaining funding for this may be challenging. Phase 2 will include continued, volunteer-based monitoring and management of shrubs and small saplings (e.g. resprouts, invasive buckthorn). The proposed Phase 2 work could be completed over time as resources become available.

Phase 3: This is the maintenance phase that will require occasional mowing of the field, perhaps every 2-4 years in the fall. The timing of mowing may be varied to help control woody vegetation. Continued volunteer monitoring, along with woody-plant control using hand tools, will supplement the mowing. Introduction of appropriate native forbs and shrubs will be considered. York raking or other techniques to limit the buildup of thatch and organic material will be considered. Additional consultation with the Parks and Recreation department will be required to further develop the long-term maintenance plan.



Attachment 1

Additional Information About Cut-stem Herbicide Treatment (Glyphosate)

Glyphosate is one of the most common herbicides used by nonprofit conservation organizations throughout Massachusetts (and the entire country) in habitat restoration projects due to its effectiveness and its low toxicity in aquatic and terrestrial environments. Glyphosate is labeled for use in both terrestrial and aquatic situations and its use in these environments has been approved by the EPA. Key points about Glyphosate include:

- Glyphosate is systemic: it is absorbed through leaves/stems and transported to roots.
- The primary mode of action of glyphosate is the blocking of aromatic amino acid synthesis, a synthesis process that *occurs only in plants*.
- Extensive research has shown that when glyphosate is used according to labeled directions, it does not adversely impact mammals, birds, invertebrates, or fish, and does not bioaccumulate in the food chain.
- Glyphosate binds to soil on contact and becomes inert. It is then rapidly degraded under both aerobic and anaerobic conditions by indigenous soil micro-organisms.
- The half-life of Glyphosate in water is 1.5 – 14 days.
- Studies show that glyphosate does not accumulate in the soil following multiple applications.
- The end products of glyphosate degradation are carbon dioxide, water, nitrogen, and phosphate.