

LAKESHORE NATURE PRESERVE
WILLOW CREEK WOODS PLAN PROPOSAL

Prepared by Cathie Bruner for consideration at
Preserve Committee meeting Jan. 27, 2009

The objective of this plan is to manage the Willow Creek Woods site to create an open condition that appears savanna- like in appearance. Many of the suggestions from the Thomforde Willow Creek Woods report distributed to the Preserve Committee January 23, 2009 are incorporated here except for noted amendments below with regard to timing the removals of trees and shrubs.

There are several options in how we proceed with timing invasive tree removals but achieving the ultimate site objective of creating a savanna-like appearance will require removal of the majority of the existing trees on the site. Removal in one single operation will result in a “clear cut” condition. Many in FP&M feel this is not the preferred approach as this may distress people and reduce support for the Preserve. Additionally, removal of debris and standing timber could exhaust the gift funding. FPM is proposing a strategy that will help to reduce cost and avoid abrupt landscape change. Completion of the whole site to desirable maintainable condition will still be dependent on the actual labor cost.

Many of the trees that should be removed are green ash (*Fraxinus pensylvanica*), a species likely to be severely impacted by Emerald Ash Borer in the near future. Removing these trees may reduce any impacts of the borer in the immediate vicinity and reduce cost of disposal of borer infected wood. Therefore it is prudent to reduce ash trees as soon as expedient within the above mentioned cost management and public relations constraints.

No trees/plants on site now require rapid removal of over story trees for their preservation. Canopy opening was performed two years ago to provide existing desirable trees with minimum canopy clearance.

PROPOSED OPTION:

- a. year 1 (winter-fall 2009): Start with understory and limited tree removal and clean up of ground debris and logs. This allows us to establish a mowing regime along with ‘adaptive management’ plots for observation. This site should appear to people as “open woodland”, allow for gradual transition to a more open condition, and only delay “sun loving” plant establishment.
 - i) *Understory removal*: See details below. Labor availability within Physical plant and by volunteers makes initial removal of (mostly) understory plants more cost effective than also trying to remove significant numbers of canopy trees immediately.
 - ii) *Selected sunlight patches*: See details below. Options that allow more sunlight to reach the ground in some locations will allow us to begin re-establishment of herbaceous and woody plants more quickly to provide examples of the intended site goals. Sunlight levels sufficient to establish groundlayer vegetation on the currently bare earth will reduce stormwater runoff and loss of soil from the archaeological site.

- b) year 2 (winter 2009-spring 2010): Establish an open lattice structure of trees by removal of up to 50% canopy trees considered invasive (box elder, green ash, mulberry).
 - i) Potential Issue: We may find that people prefer the open woodland appearance for the northern part of the site with mowed fescue and do not wish us to then remove the remaining trees. We propose planting new oaks of multiple sizes as soon as light levels reaching the ground will support them.

ALTERNATIVE OPTION:

Proceed with site clearing over 2-year time period of all undesirable trees starting from the west half and proceeding in the following year towards the east.

PROPOSED ACTION ITEMS FOR LAKESHORE NATURE PRESERVE COMMITTEE

- A. **Approve** Stephen Thomforde`s “Lakeshore Nature Preserve Management Draft Report For Willow Creek Woods Management Unit 2” dated January 2007 with amendments as noted under (B). below.

Thomforde’s DRAFT report covered the following topics:

1. Statement of Purpose
2. Mission
3. Use Policy
4. Goals
5. Objectives
6. Project Overview
7. Status
8. Current State
9. Activities
10. Site Preparation and Management Activity guidelines for Archaeological interests
11. Removal of Undesirable Canopy and Understory Species with details of removal methodology
12. Ground Layer Vegetation Installation methodology and Adaptive Management Options
13. Installation of Shrub Screen
14. Mow Management Regime
15. Plant list for re-establishment of a ground layer

B. **Amendments:**

Thomforde’s Report recommends removal of all tree and shrub species except oak and hickory as the desired site condition. We are proposing that this original recommendation be modified based on options listed under (3) below:

ADD: To retain both open woodland character and areas of full sun re- plant the site with oak and hickory saplings and seeds primarily on the north and eastern portions of the site. A Multi-age cohort structure is desired to provide long term canopy across the site. Proposed distribution of new trees on site is available for review.

ADD: Create planting holes not to exceed 24” deep and 24” wide to plant new oaks and hickories within archaeology guidelines.

ADD: Stump grinding is desirable only where desired tree planting cannot otherwise be accomplished. DR rough mowing and persistent presence of stumps is aesthetically acceptable.

Option 1: Remove all tree and shrub species during a 3-year period as follows:

1. February-October 2009
 - a. For the whole site remove:
 - i. All undesirable understory including trees less than 5” dbh
 - ii. All trees which are hazards now that the Unit has become a work and study site.

- iii. Trees over 5" dbh within 20 feet of all existing oaks and hickory to be preserved.
 - iv. All ground debris and logs.
 - b. Site management after removal:
 - i. Set up mow vs control adaptive management plots to observe vegetation response.
 - ii. Stabilize erodable slopes with shade tolerant species and matting as needed.
 - iii. Plant new red, white, swamp white oak trees according to archaeology limitations for site protection and where light levels and protection from remaining removal procedures permit.
 - iv. As light levels increase, plant additional ground layer species per seed list in Thomforde plan

- 2. November 2009 to March 2010
 - a. For the whole site remove:
 - i. 50% of trees throughout the site leaving a stand of trees throughout the site in an open framework that allows increased light and mowing between the trees.
 - ii. Trees within 30 feet of existing oaks and hickory
 - b. Site management after removal:
 - i. Monitor adaptive management plots to observe vegetation response.
 - ii. Stabilize erodable slopes with shade tolerant species and matting as needed.
 - iii. Plant new red, white, swamp white oak, hickory trees according to archaeology limitations for site protection and where light levels and protection from remaining removal procedures permit.
 - iv. Plant groundlayer per seed list in Thomforde plan.

- 3. November 2010 to March 2011
 - a. For the whole site remove:
 - i. Remaining undesirable trees throughout the site
 - b. Site management after removal:
 - i. Monitor adaptive management plots to observe vegetation response.
 - ii. Stabilize erodable slopes with shade tolerant species and matting as prudent.
 - iii. Plant new red, white, swamp white oak, hickory trees according to archaeology limitations for site protection and where light levels and protection from remaining removal procedures permit.
 - iv. Plant groundlayer per seed list in Thomforde plan

Option 2: Remove all tree and shrub species except oak and hickory in a 2 year sequence proceeding from west to east working from the service road that now bisects WCW and from the Lakeshore Path.. Completion of whole site to desired maintainable condition is dependent on actual labor cost.

- a. Site management of each of the west and east sections after removals:
 - i. Set up mowing vs 'adaptive management' plots to observe vegetation response.
 - ii. Stabilize erodable slopes with shade tolerant species and matting as needed.
 - iii. Plant new red, white, swamp white, hickory trees according to archaeology limitations for site protection and where light levels and protection from remaining removal procedures permit.
 - iv. Plant ground layer per seed list in Thomforde plan