

Appendix K - Vegetative Survey Report

Alley Creek Vegetation Study

Overview

The vegetation in the vicinity of the Alley Creek study sites is primarily a reflection of two factors: first, the positions of the sites relative to the landforms through which Alley Creek flows; and second, human interventions and introduced plants.

The western end of the spring pond, the spring near the confluence of the east branch and the main stem of Alley Creek, Lloyd's well, and the C.S.O. site are all bottom land sites. That is, they all occur on the periphery of and just slightly higher in elevation than the tidal estuary which occurs as Alley Creek empties into Little Neck Bay. None of these sites appear to be within the zone of salt water inundation although the two lowest sites, the C.S.O. and the spring at the confluence may receive saltwater inundation at extreme seasonal high tide conditions such as hurricanes. Yet there are major differences among these bottom land sites.

The western end of the spring pond is near the periphery of the lower wetlands but still within the area dominated by the extensive *Phragmites* reed. Other than a willow (*Salix sp.*) at the spring outfall the pond has no overhead cover. The adjacent middle-aged meadow with its drier and higher soils is clearly the resultant of filling activity which is known to have occurred extensively to the east and south, especially adjacent to the neighboring housing. Introduced "conservation" planting such as Autumn Olive (*Eleagnus umbellata*) in the adjacent meadow give further evidence of fill.

The spring near the confluence of the east branch and the main stem, and all of the east branch is similarly without overhead cover except for the *Phragmites* reed. In contrast, Lloyd's well and the C.S.O. site on the west branch appear to be at or surrounded by slightly higher elevations, show signs of much less disturbance, at least recently, and show less indications of fill, all of which seems to have given rise to an overhead tree canopy.

On the west branch at the USGS gauging station as well as further upstream and nearer the original Alley Pond site, the overhead canopy and cover is extensive. Clearly there has been intensive filling, re-grading and introduction of non-native plants, but these sites are at significantly higher elevations. They are on the fringe of the eroded terminal moraine. Consequently, hardwood upland trees are prominent and provide significant overhead stream cover along the west branch of Alley Creek.

No aquatic plants were noted or identified other than an abundance of water cress (*Rorippa nasturtium-aquaticum* syn. *Nasturtium officinale*) at the outfall of the spring pond, and in the spring near the confluence of the east branch and the main stem.

6/24/00 Observation

Common name

Botanical name

Plants observed along the east branch from the west end of the spring pond to the spring near the confluence of the east branch and the main stem

White willow

Salix alba

Phragmites reed

Phragmites communis var. *Berlandieri*

Jewel-Weed

Impatiens capensis

Wineberry

Rubus phoenicolasius

Field Garlic

Allium vineale

Plants observed along the east branch from the spring to the confluence of the east branch and the main stem

Smooth Sumac

Rhus glabra

Joe-Pye Weed

Eupatorium sp.

White Willow

Salix alba

Blue False Indigo

Batisia australis

Autumn Olive

Eleagnus umbellata

Plants observed along the east branch at approximately 18 feet from the bank from the spring to the confluence of the east branch and main stem

Purple Loosestrife

Lythrum salicaria

Sorrel

Oxalis sp.

Mugwort

Artemisia vulgaris

Red Maple

Acer rubrum

Plants observed along the east branch in the area of the spring

Amaranth

Amaranthus sp.

Hedge Bindweed

Convolvulus sepium

Sedge

Carex sp.

New England Aster

Aster novae-angliae

Plants observed along the east branch from the spring to main stem

Hickory

Carya sp.

Japanese Honeysuckle

Lonicera japonica

Amaranth

Amaranth sp.

White Willow

Salix alba

Silver Maple

Acer saccharinum

Littleleaf Linden

Tilia cordata

New England Aster

Aster novae-anglia

Plants observed along the upper main stem from the junction of the east branch and the main stem to the C.S.O.

Eastern Cottonwood

Populus deltoides

Wild Rose	<i>Rosa multiflora</i>
Wineberry	<i>Rubus phoenicolasius</i>
Wormwood	<i>Artemisia absinthium</i>
Cow parsnip	<i>Heracleum lanatum</i>
Common Elderberry	<i>Sambucus canadensis</i>
Bittersweet	<i>Celastrus sp.</i>
Silver Maple	<i>Acer saccharinum</i>
Shining Elm	<i>Ulmus glabra</i>
Mulberry	<i>Morus rubra</i>
Smartweed	<i>Polygonum sp.</i>

Plants observed along the west branch from the U.S.G.S. gauging station upstream to the site of the former Alley Pond

Poison Ivy	<i>Rhus radicans</i>
Japanese Honeysuckle	<i>Lonicera japonica</i>
Bittersweet	<i>Celastrus sp.</i>
Pin Oak	<i>Quercus palustris</i>
Single Seeded Hawthorne	<i>Crataegus monogyna</i>
Alder	<i>Alnus sp.</i>
Black Locust	<i>Robinia pseudoacacia</i>
Common Witch-hazel	<i>Hamamelis virginiana</i>
Grape	<i>Vitis labrusca</i>
Rose	<i>Rosa Sp.</i>
Autumn Olive	<i>Elaeagnus umbellata</i>
Willow	<i>Salix sp.</i>
Sweetgum	<i>Liquidamber styraciflua</i>
Tulip	<i>Liriodendron tulipifera</i>
White Ash	<i>Fraxinus americana</i>
Tree of Heaven	<i>Ailanthus altissima</i>

Plants observed at right (east?) of former Alley Pond

River Birch	<i>Betula nigra</i>
Pin Oak	<i>Quercus palustris</i>
Tree of Heaven	<i>Ailanthus altissima</i>
Choke Cherry	<i>Prunus virginiana</i>
Wormwood	<i>Artemisia absinthium</i>
Black Raspberry	<i>Rubus sp.</i>

9/16/00 Observation

Overhead stream cover is similar to descriptions on 6/24/00 except that it is denser in foliage. Similar species were observed as on 6/24/00 with the addition of the following.

Goldenrod	<i>Solidago sp.</i>
Chicory	<i>Cichorium intybus</i>

Queen Anne's Lace

Daucus carota

Plants observed along the east branch in the area of the spring

Dock

Rumex sp.

Evening Primrose

Oenothera sp.

Plants observed in along the west branch

Gray Birch

Betula populifolia

12/16/00 Observation

Most trees, shrubs and perennials are dormant. Perennials and biennials are dormant. Annuals have gone to seed. Stream overhead cover is diminished due to leaf shed of deciduous trees and shrubs, and decrease in density of *Phragmites*. No additional species were observed.

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3/17/01 Observation

Observed most plants in similar dormant state as in previous quarter. Overhead stream cover somewhat diminished from previous quarter due to additional leaf drop of by deciduous trees and shrubs. Early growth of the following was observed.

Dock

Rumex sp.

Field Garlic

Allium vineale