A SPRING BOTANICAL INVENTORY OF A SMALL SPRING-FED WETLAND at the KALAMAZOO TOWNSHIP OFFICES

KALAMAZOO TOWNSHIP, MI

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Setting

A spring in the hillside behind the Kalamazoo Township offices on the corner of Mt. Olivet Street and Riverview Drive (Kalamazoo County, MI; T2S R11W Sec 11) forms a small permanent wetland. A stream runs out of this wetland, across Riverview Drive, and into the nearby Kalamazoo River, a major watershed that drains more than 5,000 km^2 and empties into Lake Michigan about 45 miles to the west-northwest near Saugatuck, MI. The hillside above the wetland is occupied by the Mt. Olivet cemetery, although prior to European settlement it was likely an oak-hickory woodland, one of the dominant cover types in southwest Michigan.

Status and Potential of the Wetland

This permanent wetland is a spring-fed peatland (*fen*), sitting atop a thick layer of peat (organic soil) formed by the partial decomposition of plant material over several thousand years. The hydrology, or movement of water, in and through fens is crucial for maintaining their representative species as well as the quality of water that flows out of them. The wetland is an active area of seepage and likely remains saturated year-round. Several native species are present, including Joe-pye weed, blue-joint grass, common boneset, and Missouri ironweed; however, these are all species typical of disturbed conditions. The replacement of natural cover (trees and other native species) by lawn grasses in the uplands surrounding the fen has likely increased erosion of soils and warm water flows into the wetland. These are both frequent causes of degradation in fens. Indeed, the species that dominate- cattatils, purple loosestrife, watercress, glossy buckthorn, and reed canary grass- are mostly non-native species that invade wetlands and thrive in disturbed conditions.

The flush of vegetation in the stream, mostly the non-native watercress, is likely a result of removal of shrubs and other plants along the stream's edge. Vegetation along a stream's edge provides shading, keeping the water cool, and controls erosion and runoff. Both processes maintain naturally low productivity of vegetation in the stream, keeping it mostly free of vegetation. The plants that now occur in the "triangle" along the stream are typically weedy species, most of which are non-native (see table below). Sandbar willow and red osier dogwood, native shrubs appropriate for re-vegetation of this site, are present but rare in this area. Other shrubs that would be appropriate include: black elderberry, ninebark, shrubby cinquefoil, and meadowsweet.

	COMMON NAME	SCIENTIFIC NAME	LIFE FORM
	BARNYARD GRASS	ECHINOCHLOA CRUSGALLI	Ad A-Grass
X	BITTER DOCK	RUMEX OBTUSIFOLIUS	Ad P-Forb
	BLACK SNAKEROOT	Sanicula gregaria	Nt P-Forb
F	BLUE JOINT GRASS	Calamagrostis canadensis	Nt P-Grass
	BOX ELDER	Acer negundo	Nt Tree
	BROAD LEAVED CATTAIL	Typha latifolia	Nt P-Forb
	BULL THISTLE	CIRSIUM VULGARE	Ad B-Forb
X	CANADA GOLDENROD	Solidago canadensis	Nt P-Forb
X	CANADA THISTLE	CIRSIUM ARVENSE	Ad P-Forb
X	CATNIP	NEPETA CATARIA	Ad P-Forb
	COMMON BLACKBERRY	Rubus allegheniensis	Nt Shrub
F	COMMON BONESET	Eupatorium perfoliatum	Nt P-Forb
	COMMON BUCKTHORN	RHAMNUS CATHARTICA	Ad Tree
X	COMMON BURDOCK	ARCTIUM MINUS	Ad B-Forb
	COMMON DANDELION	TARAXACUM OFFICINALE	Ad P-Forb
X	COMMON RAGWEED	Ambrosia artemisiifolia	Nt A-Forb
	COTTONWOOD	Populus deltoides	Nt Tree
	CREEPING BENT	AGROSTIS STOLONIFERA	Ad P-Grass
X	DAISY FLEABANE	Erigeron strigosus	Nt P-Forb
	ELDERBERRY	Sambucus canadensis	Nt Shrub
	EUROPEAN HIGHBUSH CRANBERRY	VIBURNUM OPULUS	Ad Shrub
	FIELD GARLIC	ALLIUM VINEALE	Ad P-Forb
X	GARLIC MUSTARD	ALLIARIA PETIOLATA	Ad B-Forb
	GRAY DOGWOOD	Cornus foemina	Nt Shrub
	INDIAN HEMP	Apocynum cannabinum	Nt P-Forb
F	JOE PYE WEED	Eupatorium maculatum	Nt P-Forb
X	KENTUCKY BLUEGRASS	POA PRATENSIS	Ad P-Grass
F	MISSOURI IRONWEED	Vernonia missurica	Nt P-Forb
X	MOTHERWORT	LEONURUS CARDIACA	Ad P-Forb
	MULTIFLORA ROSE	ROSA MULTIFLORA	Ad Shrub
X	POISION IVY	Toxicodenron radicans	Nt P-Vine
X	PURPLE LOOSESTRIFE	LYTHRUM SALICARIA	Ad P-Forb
X	QUEEN-ANNE'S-LACE	DAUCUS CAROTA	Ad B-Forb
X	RED ASH	Fraxinus pensylvanica	Nt Tree
X	RED OSIER DOGWOOD	Cornus stolonifera	Nt Shrub
	REED CANARY GRASS	Phalaris arundinacea	Nt P-Grass
X	SANDBAR WILLOW	Salix exigua	Nt Shrub
	SCOURING RUSH	Equisetum hyemale	Nt Fern Ally
	SEDGE	Carex blanda	Nt P-Sedge
F	SEDGE	Carex leptalea	Nt P-Sedge
	SEDGE	Carex vulpinoidea	Nt P-Sedge
X	SENSITIVE FERN	Onoclea sensibilis	Nt Fern
	SKUNK CABBAGE	Symplocarpus foetidus	Nt P-Forb
F	SMALL BEDSTRAW	Galium trifidum	Nt P-Forb

	COMMON NAME	SCIENTIFIC NAME	LIFE FORM
X	SMOOTH BROME	BROMUS INERMIS	Ad P-Grass
	SMOOTH SWAMP ASTER	Aster firmus	Nt P-Forb
X	SMOOTH TARTARIAN HONEYSUCKLE	LONICERA TATARICA	Ad Shrub
	SOFT STEMMED RUSH	Juncus effusus	Nt P-Forb
X	SPOTTED TOUCH ME NOT	Impatiens capensis	Nt A-Forb
X	STICKSEED	Hackelia virginica	Nt P-Forb
	SWAMP GOLDENROD	Solidago patula	Nt P-Forb
	SYCAMORE	Platanus occidentalis	Nt Tree
	TALL AGRIMONY	Agrimonia gryposepala	Nt P-Forb
X	VIRGINIA CREEPER	Parthenocissus quinquefolia	Nt P-Vine
	WATERCRESS	NASTURTIUM OFFICINALE	Ad P-Grass
X	WHITE AVENS	Geum canadense	Nt P-Forb
X	WHITE CATCHFLY	SILENE LATIFOLIA	Ad P-Forb
X	WHITE SWEET CLOVER	MELILOTUS ALBA	Ad P-Forb
F	WILD BLACK CURRANT	Ribes americanum	Nt Shrub
	WILLOW HERB	Epilobium ciliatum	Nt P-Forb
	WOOL GRASS	Scirpus cyperinus	Nt P-Sedge
X	YELLOW ROCKET	BARBAREA VULGARIS	Ad B-Forb

X= Present in stream-edge "triangle"
F= Typical species of fens