 262/284-8270 Ozaukee County	Agenda	Minutes	Newsletter	Our Mission To form an alliance of concerned citizens, landowners, and public and private organizations to protect and improve the water quality and natural habitats in the UlaO Creek Watershed.
	Evolution of the Partnership	Goals	Organization Structure	
	Importance of UlaO Creek	Partners	Past Projects	
	Planning & Resource Management	Stormwater Management Plan		
	Membership	What's New		



THE VEGETATION OF ULAO SWAMP

By Jill Hewitt - UWM Graduate Student

Because UlaO (YOU – LAY – OH) Swamp is large enough to extend across section lines, it was described and mapped in the original land surveyor notes. In 1835, the wetland vegetation was recorded as a mixture of American beech, black and white ash, birch, white cedar, and tamarack. Left undisturbed, these forest types typically are invaded by white cedar, which once established, prevents further regeneration of shade intolerant species. Gradually, the forest becomes dominated by white cedar, almost to the total exclusion of all other species. The pre-settlement upland forest surrounding UlaO Swamp consisted of American beech, sugar maple, white ash, birch, bur oak, hickory, American elm, and ironwood.

Since the Government Land Survey 167 years ago, the tamarack population has disappeared, the beech population has been reduced greatly, and only a small amount of cedar remains in the northern portion of UlaO Swamp. The current vegetation is a mosaic of degraded hardwood swamps (snags and damaged trees), southern wet-mesic forest, shrub-carr, alder thicket, southern and northern sedge meadow, and southern cattail marsh. Active and fallow agricultural fields, commercial development, and private homes have largely replaced the pre-settlement beech-maple forest surrounding the swamp.



Forked Aster, a Wisconsin State Threatened Species, was found in the UlaO Swamp during the survey.

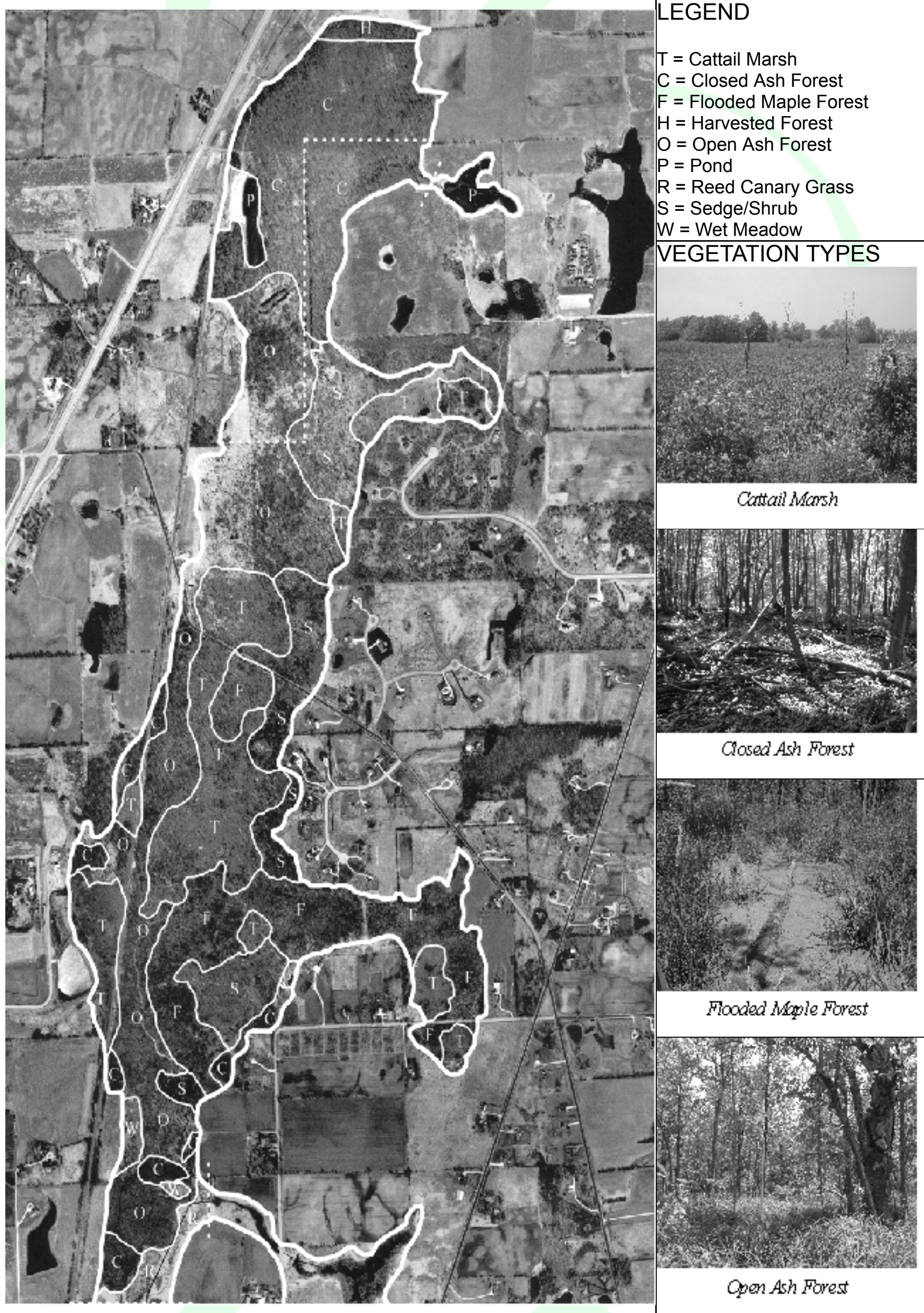
I collected 231 vascular plant species in UlaO Swamp during 2000 and 2001 when the wetland was examined. Of these, 97% are native, and 92% are perennial. The wetland flora includes 24 tree, 36 shrub and woody vine, and 171 herbaceous species. Tree canopy in the relic lowland forest varies from completely open to very dense. Depth of surface water varies throughout the site, ranging from 0 to 100 cm. Average pH measured in UlaO Swamp was 6.65 (neutral to slightly acidic).

I located an impressive population of forked aster, a state threatened plant, on the west boundary of UlaO Swamp, just south of UlaO Parkway. Seventeen species listed on SEWRPC's "Uncommon Vascular Plants of Southeastern Wisconsin" also are present in the wetland.

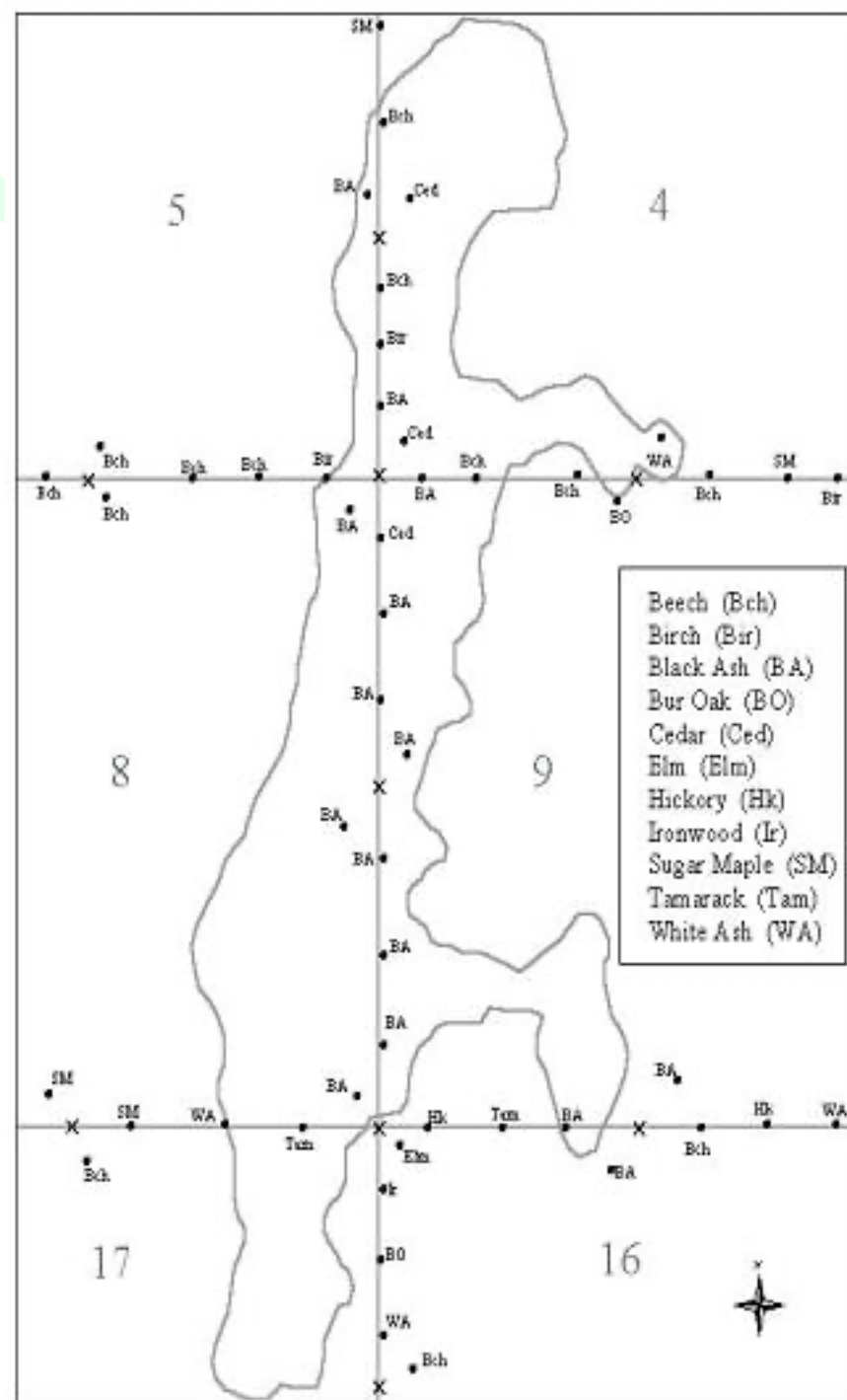
Two herbaceous (reed canary grass and garlic mustard) and three shrub (common buckthorn, glossy buckthorn, and honeysuckle) exotic species considered invasive in our region were recorded in the sampling units. Reed canary grass was located in 19 sample points, while common buckthorn was found in 14. Glossy buckthorn, honeysuckle, and garlic mustard were each identified in 2 sample points.

Using classification and ordination techniques as well as aerial photo interpretation, I classified and mapped the vegetation data into nine cover types: cattail marsh (19%), closed ash forest (22%), flooded maple forest (15%), harvested forest (1%), open ash forest (25%), pond (1%), reed canary grass (3%), sedge/shrub (13%), and wet meadow (1%). Vegetation data and digital pictures of cover types are stored in a Geographic Information System (GIS) developed for the swamp and surrounding watershed. The GIS will enable future measurements of environmental parameters related to vegetation distribution within UlaO Swamp as well as providing storage and comparison of new data as they are collected during and after the restoration period.

Due to the complexity of the wetland hydrologic regime as well as impulsive anthropogenic influence on the area, it is difficult to predict the future course of the UlaO Swamp vegetation. My data suggest that ash and maple species may survive the flooding, and the wetland could regenerate an ash-maple hardwood forest, these species are met. American elm remains susceptible to disease and will not become a future dominant in the swamp canopy. Recent plantings of tamarack and cedar seedlings may avoid the high water levels by clinging to the numerous hummocks created by the fallen trees and associated debris. Given the historical and present disturbance regime of UlaO Swamp, future changes in the vegetation of the lowland forest will be interesting to record. I would like to thank all the landowners who eagerly provided access to the swamp and to the UlaO Creek Partnership, which was instrumental in securing the funding for this project.



Pre-settlement Vegetation of The UlaO Swamp



Trees recorded during the 1835 land survey and their historic location with respect to the current UlaO Swamp boundaries and section lines.

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