

ANALYSIS OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS

Bank woody vegetation results from selected sites in the Lake Erie - Lake St. Clair Basin
(National Water-Quality Assessment Program)

Bank woody vegetation surveys were conducted at 3 stream sites in the Lake Erie - Lake St. Clair Basin in 1998. The point-centered quarter method was used to evaluate species, distance, density, basal area, and dominance of stream-bank woody vegetation as described by Meador and others (1993) as part of the National Water-Quality Assessment program. Sampling points were established on both banks at the ends of six transects. Four quarters were established at each sampling point at the intersection of two perpendicular lines, one of which was the transect line. Only trees that were at least 2 meters high and had a diameter at breast height (dbh) of at least 3 cm were included. The sampled trees were identified to species, and the distance from the sampling point measured, along with its dbh. Individual tree transect data (including distance, dbh, right and left bank location) are available from the USGS, Lansing, Michigan. Additional biological, surface-water, and/or water-quality data for these sites can be found in the continuous-record sections of the Indiana, Michigan, New York, and Ohio Water Resources Data Reports.

Family names are in uppercase, scientific names in italics, and common names in parentheses (Barnes and Wagner, 1996). Basal area = the cross sectional area of tree trunks at breast height.

CALENDAR YEAR 1998

STATION NUMBER	STATION NAME	DATE	REACH	Diversity	Distance	Density	Basal Area	Dominance
				Number of Tree Species Measured	Average Distance of Trees from Sampling Point (meters)	Average Number of Trees per 100 square meters	Average Basal Area per 100 square meters (cm ²)	Most Dominant Species
04161820	CLINTON RIVER AT STERLING HEIGHTS, MI	08/12/98	A	11	4.96	4.1	4100	Willow
04193500	MAUMEE RIVER AT WATERVILLE, OH	09/09/98	A	10	4.75	4.4	7800	Silver Maple
04211820	GRAND RIVER AT HARPERSFIELD, OH	08/11/98	A	16	4.55	4.8	5800	Sycamore

ACERACEAE

STATION NUMBER	<i>Acer negundo</i> (boxelder)			<i>Acer rubrum</i> (red maple)			<i>Acer saccharinum</i> (silver maple)			<i>Acer saccharum</i> (sugar maple)		
	Number of Trees Measured	Average Number of Trees per 100 square meters	Average Basal Area (cm ²)	Number of Trees Measured	Average Number of Trees per 100 square meters	Average Basal Area (cm ²)	Number of Trees Measured	Average Number of Trees per 100 square meters	Average Basal Area (cm ²)	Number of Trees Measured	Average Number of Trees per 100 square meters	Average Basal Area (cm ²)
04161820	16	1.37	316	5	0.43	2597	2	0.17	1842	0	0	0
04193500	0	0	0	0	0	0	17	1.56	3505	0	0	0
04211820	1	0.11	292	2	0.22	528	8	0.87	1833	4	0.44	458

ANNONACEAE

BETULACEAE

BIGNONIACEAE

CORNACEAE

STATION NUMBER	<i>Asimina triloba</i> (pawpaw)			<i>Carpinus caroliniana</i> (blue-beech)			<i>Catalpa sp.</i> (catalpa)			<i>Cornus florida</i> (flowering dogwood)		
	Number of Trees Measured	Average Number of Trees per 100 square meters	Average Basal Area (cm ²)	Number of Trees Measured	Average Number of Trees per 100 square meters	Average Basal Area (cm ²)	Number of Trees Measured	Average Number of Trees per 100 square meters	Average Basal Area (cm ²)	Number of Trees Measured	Average Number of Trees per 100 square meters	Average Basal Area (cm ²)
04161820	1	0.09	26	0	0	0	0	0	0	0	0	0
04193500	0	0	0	0	0	0	1	0.09	57	1	0.09	53
04211820	0	0	0	3	0.33	65	0	0	0	1	0.11	234

FABACEAE

FAGACEAE

JUGLANDACEAE

STATION NUMBER	<i>Gleditsia triacanthos</i> (honeylocust)			<i>Robinia pseudoacacia</i> (black locust)			<i>Quercus rubra</i> (red oak)			<i>Carya cordiformis</i> (bitternut hickory)		
	Number of Trees Measured	Average Number of Trees per 100 square meters	Average Basal Area (cm ²)	Number of Trees Measured	Average Number of Trees per 100 square meters	Average Basal Area (cm ²)	Number of Trees Measured	Average Number of Trees per 100 square meters	Average Basal Area (cm ²)	Number of Trees Measured	Average Number of Trees per 100 square meters	Average Basal Area (cm ²)
04161820	0	0	0	0	0	0	0	0	0	0	0	0
04193500	1	0.09	100	0	0	0	0	0	0	0	0	0
04211820	0	0	0	2	0.22	700	4	0.44	1844	1	0.11	133

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STATION NUMBER	<u>JUGLANDACEAE - continued</u>			<u>MORACEAE</u>			<u>OLEACEAE</u>			<u>PLATANACEAE</u>		
	<i>Juglans cinerea</i> (butternut)			<i>Morus rubra</i> (red mulberry)			<i>Fraxinus americana</i> (white ash)			<i>Platanus occidentalis</i> (sycamore)		
	Number of Trees Measured	Average Number of Trees per 100 square meters	Average Basal Area (cm ²)	Number of Trees Measured	Average Number of Trees per 100 square meters	Average Basal Area (cm ²)	Number of Trees Measured	Average Number of Trees per 100 square meters	Average Basal Area (cm ²)	Number of Trees Measured	Average Number of Trees per 100 square meters	Average Basal Area (cm ²)
04161820	0	0	0	1	0.09	41	5	0.43	273	0	0	0
04193500	0	0	0	1	0.09	186	16	1.47	249	1	0.09	934
04211820	2	0.22	1671	0	0	0	4	0.44	1135	6	0.65	2736

STATION NUMBER	<u>ROSACEAE</u>			<u>SALICACEAE</u>			<u>TILIACEAE</u>					
	<i>Prunus serotina</i> (black cherry)			<i>Populus deltoides</i> (eastern cottonwood)			<i>Salix sp.</i> (willow)			<i>Tilia americana</i> (basswood)		
	Number of Trees Measured	Average Number of Trees per 100 square meters	Average Basal Area (cm ²)	Number of Trees Measured	Average Number of Trees per 100 square meters	Average Basal Area (cm ²)	Number of Trees Measured	Average Number of Trees per 100 square meters	Average Basal Area (cm ²)	Number of Trees Measured	Average Number of Trees per 100 square meters	Average Basal Area (cm ²)
04161820	0	0	0	1	0.09	2506	4	0.34	4257	1	0.09	230
04193500	0	0	0	4	0.37	4856	0	0	0	0	0	0
04211820	1	0.11	656	1	0.11	467	0	0	0	2	0.22	119

STATION NUMBER	<u>ULMACEAE</u>					
	<i>Celtis occidentalis</i> (northern hackberry)			<i>Ulmus americana</i> (american elm)		
	Number of Trees Measured	Average Number of Trees per 100 square meters	Average Basal Area (cm ²)	Number of Trees Measured	Average Number of Trees per 100 square meters	Average Basal Area (cm ²)
04161820	3	0.26	351	9	0.77	463
04193500	3	0.28	155	3	0.28	137
04211820	0	0	0	2	0.22	214

REFERENCES CITED:

Barnes, B.V., Wagner, W.H., JR., 1996, *Michigan Trees: A guide to the trees of Michigan and the Great Lakes Region*: The University of Michigan Press, 383 p.

Meador, M.R., Hupp, C.R., Cuffney, T.F., Gurtz, M.E., 1993, *Methods for characterizing stream habitat as part of the National Water-Quality Assessment Program*: U.S. Geological Survey Open-File Report 93-408, 48 p.