

Appendix G

1999 Streambank Erosion Surveys

During the summer of 1999 the Central New York Regional Planning and Development Board (CNY RPDB), in cooperation with the Madison and Onondaga County Soil and Water Conservation Districts, hired two graduate student interns from the SUNY College of Environmental Science and Forestry to assess streambank erosion rates in Madison and Onondaga County streams that flow into Oneida Lake. The study was designed to help identify point source inputs of sediment to Oneida Lake. Streambanks on Butternut, Limestone, Canaseraga, Cowaselon, Canastota, and Chittenango Creeks were characterized.

The interns were trained in the “New York Procedure for Calculating Streambank Erosion” (a procedure that had been used on Oneida Creek) during a one-day training session at the beginning of the summer. Using this method, numerical values were assigned for soil texture, stream alignment, vegetation, stream gradient, slope of bank, and slope of inside depositional bar. By multiplying these assigned values, an estimated recession rate of the stream bank was produced. The volume of soil in cubic feet that erodes annually was determined by multiplying the recession rate by the average height, and then by multiplying that total by the length of eroding bank. This figure was then converted to tons by multiplying cubic feet eroded times bulk density for the soil texture (bulk density is pounds per cubic foot) and dividing by 2000 pounds per ton.

A total of 64.4 miles of stream were assessed. Table 1 provides a summary of the results. The last column, which indicates erosion in tons/mile/year, provides a comparison between the reaches on the tributaries in each County. Table 2 provides a prioritization of the reaches. A copy of the entire erosion survey report is available at the CNY RPDB.

Table 1: Statistical Summary of Streams and Reaches Assessed for 1999 Streambank Characterization

Stream/Intern	Reach	Erosion Total Tons/Year	Length	Erosion Tons/Mile/Year
Canaseraga Creek/ John Hallock	Rt. 5 to Erie Canal	84.872	0.9 miles	94.3
	Erie Canal to Conrail	127.968	1.5 miles	85.3
	Conrail to I 90	426.540	2.2 miles	193.9
	I 90 to Cowaselon-Douglas Ditch	132.749	3.2 miles	41.5
	Lake to Cowaselon-Douglas Ditch	8.425	1.4 miles	6.0
	Total	780.554	9.2 miles	
Cowaselon Creek/John Hallock	Rt. 5 to Erie Canal	130.329	1.6 miles	81.5
	Erie Canal to N. Court	130.769	1.6 miles	81.7
	N. Court to Rt. 13	200.281	1.9 miles	105.4
	Rt. 13 to end of Ditch Bank Road	151.614	6.3 miles	24.4
	Total	612.994		
Canastota Creek/John Hallock	Route 5 to Road after Lewis Road	88.044	1.1 miles	80.0
	Road after Lewis to Cowaselon Creek	156.611	1.3 miles	120.5
	Total	244.655		
Chittenango Creek/John Hallock	Tuscarora Rd. to McGraw Road	169.405	1.7 miles	98.7
	McGraw Road to Bolivar Road	67.635	1.6 miles	42.3
	Bolivar Road to Hoag Road	110.456	2.5 miles	44.2
	Total	347.496		
	Grand Total	19,856.99 Total	28.8 Total	68.9 Average

Stream/Intern	Reach	Erosion Total Tons/Year	Length	Erosion Tons/Mile/Year
Chittenango Creek/Jerry Meade	Hoag Road Bridge to Kirkville Road	27.555	2.3 miles	12.0
	Kirkville Rd. Bridge to Fyler Road	58.4853	3.0 miles	19.5
	Bridge near Fyler Road to Limestone flows in Chittenango	1.2597	0.4 miles	3.1
	Limestone flows into Peck Road	2.6884	0.9 miles	3.0
	Peck Road to Black Creek (Marsh Mills Rd.)	23.2605	3.6 miles	6.5
	Black Creek to Oxbow Road Bridge	2.9401	0.6 miles	4.9
	Oxbow Road Bridge to Power Line	4.9086	0.9 miles	5.5
	Power Line Crossing to Bridgeport	1.3027	2.8 miles	0.5
	Bridgeport to Oneida Lake	0.2369	3.4 miles	0.1
Limestone Creek/Jerry Meade	Fayetteville Bridge to Old Erie Canal	10.0336	1.2 miles	8.4
	Old Erie Canal to Route 290	5.9212	1.1 miles	5.4
	Route 290 to Minoa Rd. Bridge	8.558	1.0 miles	8.6
	Minoa Rd. Bridge to Conrail Railroad	7.4967	0.8 miles	9.4
	Conrail RR near Dewitt Yds to Brdg., E.Ave.	4.4928	1.4 miles	3.2
	Bridge, E. Ave., Minoa to Kirkville Bridge	3.2412	0.6 miles	5.4
	Kirkville Bridge to Interstate 90	2.3150	0.6 miles	3.9
	Interstate 90 to Meyers Road Bridge	1.1016	0.4 miles	2.8
	Meyers Road Bridge to Manlius Rd. Bridge	2.0120	1.4 miles	1.4
	Manlius Rd. Brg. to Flows into Chittenango	3.2965	0.2 miles	16.5
Butternut Creek/Jerry Meade	County Rt. 5 to Kinne Rd. Bridge	2.2471	0.8 miles	2.8
	Kinne Rd. Brg. to Utility Brg. near Pyle Dr.	7.9466	1.2 miles	6.6
	Utility Bridge to Route 290	1.3365	0.4 miles	3.3
	Route 290 to Conrail near Dewitt Yards	1.8489	0.4 miles	4.6
	Conrail to Kirkville Brg. Near Benedict Rd.	2.5040	1.6 miles	1.6
	Kirkville Bridge to Freemont Bridge	0.6090	1.0 miles	0.7
	Freemont Bridge to Interstate 90	13.4417	1.9 miles	7.1
	Interstate 90 to Meyers Road Bridge	1.0761	0.2 miles	5.4
	Meyers Rd. Brg. to Flows into Limestone Ck.	23.5897	1.5 miles	15.7
Grand Total		225.709 Total	35.6 Total	6.3 Average

Table 2: Prioritization of Reaches Asses for 1999 Streambank Survey

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