
APPENDIX N**BSQV ANALYSIS**

The bioaccumulation-based sediment quality value (BSQV) for total mercury was developed in the Onondaga Lake Feasibility Study (Parsons, 2004) in consideration of the potential for methylmercury bioaccumulation from sediment to fish (NYSDEC and USEPA, 2005). The mercury BSQV of 0.8 mg/kg (part per million) is to be met on an area-wide basis by the year 2027, which is 10 years following the remediation of upland sources, dredging and/or isolation capping of littoral sediment, and initial thin-layer capping in the profundal zone. Because the BSQV applies to surface sediment, results of natural recovery modeling presented in Appendix N have been incorporated into this BSQV analysis. This appendix presents details of the BSQV analysis of lake surface sediment mercury data including a series of spreadsheets that surface sediment mercury concentrations summarized in Table N.1 and also two figures presented as Figures N.1 and N.2 that illustrate how available surface sediment mercury data were applied to develop this analysis of BSQV.

Area-weighted average surface sediment mercury concentrations were calculated for five areas of the lake: the North Basin, Ninemile Creek Outlet Area, Saddle, South Basin and South Corner based on area Theissan polygons with border lines equidistant from the adjacent sample location (see Figures N.1 and N.2 for locations, concentrations and polygons). Sediment data available as of May 2010 from the littoral zone (labeled as 'L' in the last column of the spreadsheets) and from the profundal zone or SMU 8 (labeled as 'P' in the last column) are included in this analysis. Surface-weighted average surface sediment mercury concentrations in the littoral zone are assumed to remain constant over time and range from 0.12 to 0.86 mg/kg outside the remediation areas. Sediment mercury concentrations in the surface layer of the future engineered cap was assigned for this analysis a concentration of 0.1 mg/kg based on cap material mercury concentrations in fill materials placed to date at other Syracuse area remediation projects such as LCP. Surface-weighted average surface sediment mercury concentrations in the profundal zone (SMU 8) continue to decline over time due to ongoing natural recovery documented in Appendix M. By the end of the 10-year MNR monitoring period in the year 2027, surface sediment mercury concentrations in SMU 8 will be much lower than concentrations shown in the Appendix N spreadsheets.

The total weighted average surface sediment mercury concentrations for each of the five Onondaga Lake sub-areas are predicted to be significantly less than the BSQV of 0.8 mg/kg by the year 2027 as presented below and in Table N.1:

North Basin area	0.61 mg/kg
Ninemile Creek Outlet area	0.38 mg/kg
Saddle area	0.49 mg/kg
South Basin area	0.49 mg/kg
South Corner area	0.34 mg/kg
Lakewide average	0.46 mg/kg

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Average mercury concentrations higher than 0.1 mg/kg in the surface layer of the engineered cap in any of the remediation areas would still result in predicted surface sediment mercury concentrations below the BSQV in any of the five areas.

The mercury BSQV is predicted to be met by the end of the 10-year MNR monitoring period (i.e., the year 2027) without additional thin-layer capping. If future monitoring and modeling predict that the mercury BSQV for the year 2027 will exceed 0.8 mg/kg for any areas of the lake assessed herein, then contingency actions will be implemented at that time as appropriate.

TABLES

**Table N.1
Surface-Weighted Average Sediment Mercury Concentrations in Onondaga Lake**

	Area Average Surface Sediment Mercury Concentration (mg/kg)					Total Area (square meters)	Total Area (acres)
	Profundal Zone (Existing)	Littoral Zone Following Dredging and Capping	Total Weighted Average for the Littoral Zone following Dredging and Capping and the Profundal Zone (Existing) ¹	Total Weighted Average for the Littoral Zone following Dredging and Capping and the Profundal Zone by the Year 2027 ² Based on Natural Recovery			
North Basin	1.07	0.86	1.03	0.61	3,474,557.11	871.37	
Ninemile Creek Outlet "Saddle"	1.82	0.24	1.04	0.38	898,268.79	221.97	
South Basin	1.44	0.44	1.12	0.49	966,706.89	238.88	
South Corner	3.05	0.41	2.50	0.49	3,360,882.74	830.49	
	2.14	0.12	1.15	0.34	1,574,028.44	388.95	
Total Area-Based Average	1.91	0.41	1.37	0.46	10,274,443.97	2,551.64	

(1) Total = area weighted average for littoral zone plus profundal zone without future benefits expected from natural recovery concentrations predicted based on future natural recovery as modeled (see Appendix M).

(2) These concentrations incorporate predictions for future natural recovery presented in Appendix M.

**TABLE N.1
BACKUP FILES**

Table N.1 (continued)
Surface-Weighted Average Sediment Mercury Concentrations in Onondaga Lake

North Basin

Group	Location_ID	Field_Sample ID	Parameter	Samp. Date	Result ¹	Predicted 2027 Mercury Sediment Concentration		Sample Interval (cm)	SMU	Area (sq. meters)	Acres	Section	Sum ²	Sum 2027	Littoral(L)/Profunda(P) ³
						(mg/kg)	Report_Units							Predicted Hg	
PDI Phase 3	OL-STA-80067	OL-0462-01	MERCURY	11/12/2007	1	0.49	mg/kg	2	8	543775.483	134.37	North Basin	543775.483	266449.9867	P
PDI Phase 3	OL-STA-80068	OL-0458-05	MERCURY	11/9/2007	0.86	0.48	mg/kg	2	8	574561.218	141.98	North Basin	494122.6475	275789.3846	P
PDI Phase 3	OL-STA-80069	OL-0458-01	MERCURY	11/9/2007	1.2	0.49	mg/kg	2	8	302139.799	74.66	North Basin	362567.7588	148048.5015	P
PDI Phase 3	OL-STA-80070	OL-0462-09	MERCURY	11/12/2007	2.2	0.51	mg/kg	9	8	246683.603	60.96	North Basin	542703.9266	125808.6375	P
PDI Phase 3	OL-STA-80071	OL-0460-07	MERCURY	11/9/2007	1.3	0.49	mg/kg	2	8	204667.504	50.57	North Basin	266067.7552	100287.077	P
PDI Phase 3	OL-STA-80072	OL-0460-02	MERCURY	11/9/2007	0.98	0.49	mg/kg	2	8	267687.444	66.15	North Basin	262333.6951	131166.8476	P
PDI Phase 1	OL-SS-80002-SS	OL-0104-03	MERCURY	11/5/2005	0.64	0.48	mg/kg	1.5	8	394667.381	97.52	North Basin	252587.1238	189440.3429	P
Totals										2534182.432	626.21		2724158.39	1236990.778	1.074965384
															0.488122229
PDI Phase 2	OL-VC-50003	OL-0204-01	MERCURY	10/6/2006	1.7		mg/kg	15	5	51751.550	12.79	North Basin	87977.635		L
PDI Phase 2	OL-VC-50004	OL-0204-02	MERCURY	10/6/2006	2.7		mg/kg	15	5	1627.470	0.40	North Basin	4394.169		L
PDI Phase 2	OL-VC-50005	OL-0204-03	MERCURY	10/6/2006	0.59		mg/kg	15	5	1262.365	0.31	North Basin	744.79535		L
PDI Phase 2	OL-VC-50006	OL-0204-04	MERCURY	10/6/2006	2.1		mg/kg	15	5	525.878	0.13	North Basin	1104.3438		L
PDI Phase 2	OL-VC-50007	OL-0204-05	MERCURY	10/6/2006	0.67		mg/kg	15	5	13094.163	3.24	North Basin	8773.08921		L
PDI Phase 2	OL-VC-50008	OL-0204-06	MERCURY	10/6/2006	0.78		mg/kg	15	5	577.821	0.14	North Basin	450.70038		L
PDI Phase 2	OL-VC-50010	OL-0204-08	MERCURY	10/6/2006	0.06		mg/kg	15	5	34496.981	8.52	North Basin	2069.81886		L
RI	S110	S00501	MERCURY	7/20/1992	2.2		mg/kg	2	5	60046.938	14.84	North Basin	132103.2636		L
RI	S93	S00550	MERCURY	7/31/1992	0.39		mg/kg	2	5	55116.383	13.62	North Basin	21495.38937		L
RI	S105	S00552	MERCURY	7/31/1992	1.6		mg/kg	2	5	24724.347	6.11	North Basin	39558.9552		L
RI	S111	S00575	MERCURY	8/5/1992	2.936		mg/kg	2	5	1956.253	0.48	North Basin	5743.558808		L
RI	S113	S00577	MERCURY	8/5/1992	0.17		mg/kg	2	5	32165.608	7.95	North Basin	5468.15336		L
RI	S357	SF0003	MERCURY	8/16/2000	1.2		mg/kg	2	5	23702.672	5.86	North Basin	28443.2064		L
RI	S374	SF0043	MERCURY	8/17/2000	0.34		mg/kg	15	5	175210.944	43.30	North Basin	59571.72096		L
PDI Phase 2	OL-VC-50009	OL-0204-07	MERCURY	10/6/2006	2.3		mg/kg	15	5	18359.537	4.54	North Basin	42226.9351		L
RI	S372	BC0027	MERCURY	8/2/2000	1.45		mg/kg	15	5	62419.176	15.42	North Basin	90507.8052		L
RI	S94	S00512	MERCURY	7/22/1992	0.96		mg/kg	2	5	59520.871	14.71	North Basin	57140.03616		L
RI	S92	S00551	MERCURY	7/31/1992	0.54		mg/kg	2	5	54985.453	13.59	North Basin	29692.14462		L
RI	S112	S00576	MERCURY	8/5/1992	1.1		mg/kg	2	5	121389.722	30.00	North Basin	133528.6942		L
RI	S104	S00578	MERCURY	8/5/1992	1.4		mg/kg	2	5	30096.747	7.44	North Basin	42135.4458		L
RI	S100	S00608	MERCURY	8/11/1992	0.36		mg/kg	2	5	43068.997	10.64	North Basin	15504.83892		L
RI	S101	S00641	MERCURY	9/16/1992	0.87		mg/kg	2	5	66186.593	16.36	North Basin	57582.33591		L
RI	S373	SF0040	MERCURY	8/17/2000	0.56		mg/kg	2	5	57249.775	14.15	North Basin	32059.874		L
Rem Area ⁴			MERCURY		0.1		mg/kg			2589.988	0.64	North Basin	258.9988		
Totals										992126.232	245.16		898535.908		0.905666919
Total Weighted Average for the Littoral Zone Following Dredging and Capping and the Profunda Zone (Existing)													3622694.298		1.027333295
Total Weighted Average for the Littoral Zone Following Dredging and Capping and the Profunda Zone (Year 2027)													2135526.686		0.605598344

Notes:

1. Surface Sediment Mercury Concentration
2. Sum = Result times Area (sq. meters). Area is from GIS
3. Area-Average Mercury Concentration
4. Rem area = remediation (cap) area

Table N.1 (continued)
Surface-Weighted Average Sediment Mercury Concentrations in Onondaga Lake

Ninemile Creek Outlet

Group	Location_ID	Field_Sample ID	Parameter	Samp. Date	Result ¹	Predicted 2027 Mercury Sediment Concentration		Sample Interval (cm)	SMU	Area (sq. meters)	Acres	Section	Sum ²	Sum 2027	
						(mg/kg)	Report_Units							Predicted Hg	Littoral/Profunda ³
PDI Phase 3	OL-STA-80073	OL-0458-18	MERCURY	11/9/2007	1.25	0.51	mg/kg	2	8	146732.825	36.26	NMC	183416.0313	74833.74075	P
PDI Phase 3	OL-STA-80074	OL-0458-14	MERCURY	11/9/2007	1.4	0.52	mg/kg	2	8	127613.578	31.53	NMC	178659.0092	66359.06056	P
PDI Phase 3	OL-STA-80091	OL-0462-05	MERCURY	11/12/2007	1.5	0.52	mg/kg	2	8	21887.548	5.41	NMC	32831.322	11381.52496	P
PDI Phase 2	OL-VC-80046	OL-0206-09	MERCURY	10/7/2006	3.1	0.53	mg/kg	15	8	116530.702	28.80	NMC	361245.1762	61761.27206	P
PDI Phase 2	OL-VC-80047	OL-0207-06	MERCURY	10/9/2006	1.6	0.52	mg/kg	15	8	11395.411	2.82	NMC	18232.6576	5925.61372	P
PDI Phase 2	OL-VC-80048	OL-0207-08	MERCURY	10/9/2006	1.7	0.52	mg/kg	15	8	35005.871	8.65	NMC	59509.9807	18203.05292	P
Totals										459165.935	113.46		833894.177	238464.265	1.816106365
RI	S358	SF0006	MERCURY	8/16/2000	0.05		mg/kg	15	4	15713.517	3.88	NMC	785.67585		L
RI	S306	VC0212	MERCURY	7/21/2000	0.69		mg/kg	15	3	52237.654	12.91	NMC	36043.98126		L
RI	S87	S00511	MERCURY	7/22/1992	1		mg/kg	2	5	33239.170	8.21	NMC	33239.17		L
	Rem Area ⁴		MERCURY		0.1					337912.511	83.50	NMC	33791.2511		
Totals										439102.852	108.51		103860.0782		0.236527906
Total Weighted Average for the Littoral Zone Following Dredging and Capping and the Profundal Zone (Existing)										898268.787	221.97		937754.2552		1.043957297
Total Weighted Average for the Littoral Zone Following Dredging and Capping and the Profundal Zone (2027)													342324.3432		0.381093441

Notes:

1. Surface Sediment Mercury Concentration
2. Sum = Result times Area (sq. meters). Area is from GIS
3. Area-Average Mercury Concentration
4. Rem area = remediation (cap) area

Table N.1 (continued)
Surface-Weighted Average Sediment Mercury Concentrations in Onondaga Lake

Saddle

Group	Location_ID	Field_Sample ID	Parameter	Samp. Date	Result ¹	Predicted 2027 Mercury Sediment Concentration (mg/kg)	Report_Units	Sample Interval (cm)	SMU	Area (sq. meters)	Acres	Section	Sum 2027 Predicted		Littoral/Profundal ³
													Sum ²	Hg	
PDI Phase 3	OL-STA-80075	OL-0456-04	MERCURY	11/8/2007	1.35	0.52	mg/kg	2	8	243160.790	60.09	Saddle	328267.07	126443.61	P
PDI Phase 4	OL-STA-80103	OL-0706-08	MERCURY	11/26/2008	1.5	0.51	mg/kg	2	8	412207.679	101.86	Saddle	618311.52	210225.92	P
Totals										655368.469	161.94		946578.59	336669.53	1.444345631
RI	S74	S00510	MERCURY	7/22/1992	0.84		mg/kg	2	3	15315.162	3.78	Saddle	12864.736		L
RI	S72	S00599	MERCURY	8/10/1992	0.79		mg/kg	2	5	21616.190	5.34	Saddle	17076.79		L
RI	S73	S00600	MERCURY	8/10/1992	0.16		mg/kg	2	5	37869.671	9.36	Saddle	6059.1474		L
RI	S362	SF0015	MERCURY	8/15/2000	0.086		mg/kg	15	3	25806.869	6.38	Saddle	2219.3907		L
RI	S370	SF0033	MERCURY	8/17/2000	0.6115		mg/kg	2	5	29402.490	7.27	Saddle	17979.623		L
PDI Phase 5	OL-VC-30145	OL-1025-12	MERCURY	9/23/2009	1.02		mg/kg	15	3	5804.363	1.43	Saddle	5920.4503		L
RI	S71	S00598	MERCURY	8/10/1992	0.14		mg/kg	2	5	30487.931	7.53	Saddle	4268.3103		L
RI	S361	SF0013	MERCURY	8/15/2000	0.36		mg/kg	15	3	37835.073	9.35	Saddle	13620.626		L
RI	S371	SF0036	MERCURY	8/17/2000	0.49		mg/kg	15	5	102506.524	25.33	Saddle	50228.197		L
PDI Phase 5	OL-VC-30144	OL-1025-17	MERCURY	9/23/2009	1.56		mg/kg	15	3	4694.147	1.16	Saddle	7322.8693		L
Totals										311338.420	76.93		137560.14		0.441834772
Total Weighted Average for the Littoral Zone Following Dredging and Capping and the Profundal Zone (Existing)										966706.889	238.88		1084138.7		1.121476155
Total Weighted Average for the Littoral Zone Following Dredging and Capping and the Profundal Zone (2027)													474229.67		0.490562002

Notes:

1. Surface Sediment Mercury Concentration
2. Sum = Result times Area (sq. meters). Area is from GIS
3. Area-Average Mercury Concentration

Table N.1 (continued)
Surface-Weighted Average Sediment Mercury Concentrations in Onondaga Lake

South Basin

Group	Location_ID	Field_Sample ID	Parameter	Samp. Date	Result ¹	Predicted 2027 Mercury Sediment Concentration (mg/kg)	Report_Units	Sample Interval (cm)	SMU	Area (sq. meters)	Acres	Section	Sum 2027		Littoral/Profunda ³
													Sum ²	Predicted Hg	
PDI Phase 3	OL-STA-80076	OL-0456-08	MERCURY	11/8/2007	1.2	0.51	mg/kg	2	8	455244.597	112.49	South Basin	546293.516	232174.744	P
PDI Phase 3	OL-STA-80077	OL-0458-09	MERCURY	11/9/2007	1.3	0.52	mg/kg	2	8	306012.647	75.62	South Basin	397816.441	159126.576	P
PDI Phase 3	OL-STA-80078	OL-0452-07	MERCURY	11/7/2007	1.4	0.52	mg/kg	2	8	280831.885	69.40	South Basin	393164.639	146032.580	P
PDI Phase 3	OL-STA-80079	OL-0462-13	MERCURY	11/12/2007	1.6	0.52	mg/kg	6	8	134754.216	33.30	South Basin	215606.746	70072.192	P
PDI Phase 3	OL-STA-80080	OL-0454-19	MERCURY	11/8/2007	1.4	0.52	mg/kg	2	8	194646.907	48.10	South Basin	272505.670	101216.392	P
PDI Phase 3	OL-STA-80081	OL-0452-01	MERCURY	11/7/2007	1.6	0.52	mg/kg	2	8	176086.679	43.51	South Basin	281738.686	91565.073	P
PDI Phase 3	OL-STA-80082	OL-0450-09	MERCURY	11/7/2007	1.1	0.52	mg/kg	2	8	207765.484	51.34	South Basin	228542.032	108038.052	P
PDI Phase 3	OL-STA-80083	OL-0452-11	MERCURY	11/7/2007	1.6	0.52	mg/kg	2	8	214233.755	52.94	South Basin	342774.008	111401.553	P
PDI Phase 3	OL-STA-80084	OL-0454-01	MERCURY	11/8/2007	1.35	0.52	mg/kg	2	8	208569.227	51.54	South Basin	281568.456	108455.998	P
PDI Phase 2	OL-VC-80024	OL-0207-02	MERCURY	10/9/2006	1.8	0.52	mg/kg	15	8	57018.364	14.09	South Basin	102633.055	29649.549	P
PDI Phase 2	OL-VC-80044	OL-0204-14	MERCURY	10/6/2006	2.2	0.52	mg/kg	15	8	97160.843	24.01	South Basin	213753.855	50523.638	P
PDI Phase 2	OL-VC-80045	OL-0204-12	MERCURY	10/6/2006	30.2	0.52	mg/kg	15	8	153737.142	37.99	South Basin	4642861.688	79943.314	P
PDI Phase 4	ST51	OL-0702-08	MERCURY	11/26/2008	1.15	0.51	mg/kg	2	8	175969.464	43.48	South Basin	202364.884	89744.427	P
									Totals	2662031.210	657.80		8121623.677	1377944.089	3.050912268
															0.518
PDI Phase 2	OL-VC-50018	OL-0203-03	MERCURY	10/5/2006	0.18		mg/kg	15	5	29935.204	7.40	South Basin	5388.337		L
PDI Phase 2	OL-VC-50019	OL-0203-04	MERCURY	10/5/2006	0.064		mg/kg	15	5	6379.414	1.58	South Basin	408.282		L
PDI Phase 2	OL-VC-50020	OL-0203-05	MERCURY	10/5/2006	0.086		mg/kg	15	5	47.392	0.01	South Basin	4.076		L
PDI Phase 2	OL-VC-50022	OL-0203-07	MERCURY	10/5/2006	0.091		mg/kg	15	5	18729.394	4.63	South Basin	1704.375		L
RI	S67	S00513	MERCURY	7/23/1992	0.92		mg/kg	2	3	42311.492	10.46	South Basin	38926.573		L
RI	S53	S00529	MERCURY	7/27/1992	0.21		mg/kg	2	3	11589.901	2.86	South Basin	2433.879		L
RI	S46	S00570	MERCURY	8/4/1992	0.39		mg/kg	2	5	18196.941	4.50	South Basin	7096.807		L
RI	S66	S00601	MERCURY	8/10/1992	0.21		mg/kg	2	5	47.424	0.01	South Basin	9.959		L
RI	S369	SF0031	MERCURY	8/15/2000	0.055		mg/kg	15	5	65540.249	16.20	South Basin	3604.714		L
PDI Phase 2	OL-VC-50021	OL-0203-06	MERCURY	10/5/2006	0.1		mg/kg	15	5	37519.184	9.27	South Basin	3751.918		L
RI	S45	S00571	MERCURY	8/4/1992	0.66		mg/kg	2	5	30452.466	7.53	South Basin	20098.628		L
RI	S61	S00589	MERCURY	8/7/1992	0.94		mg/kg	2	5	125066.357	30.90	South Basin	117562.376		L
RI	S364	SF0020	MERCURY	8/15/2000	0.095		mg/kg	15	3	50973.708	12.60	South Basin	4842.502		L
RI	S367	SF0026	MERCURY	8/15/2000	0.7		mg/kg	2	5	41279.442	10.20	South Basin	28895.609		L
RI	S368	SF0029	MERCURY	8/15/2000	0.22		mg/kg	15	5	93023.709	22.99	South Basin	20465.216		L
RI	S324	SF0092	MERCURY	7/13/2000	0.33		mg/kg	15	3	17461.406	4.32	South Basin	5762.264		L
PDI Phase 5	OL-VC-30148	OL-1028-06	MERCURY	9/24/2009	0.131		mg/kg	15	3	26447.251	6.54	South Basin	3464.590		L
PDI Phase 5	OL-VC-30153	OL-1027-01	MERCURY	9/24/2009	0.198		mg/kg	15	3	5891.635	1.46	South Basin	1166.544		L
PDI Phase 2	OL-VC-30034	OL-0195-01	MERCURY	10/3/2006	0.44		mg/kg	15	3	1240.338	0.31	South Basin	545.749		L
RI	S62	S00517	MERCURY	7/24/1992	0.94		mg/kg	2	3	8861.331	2.19	South Basin	8329.651		L
RI	S54	S00514	MERCURY	7/23/1992	1.8		mg/kg	2	3	2500.558	0.62	South Basin	4501.004		L
Rem Area ⁴			MERCURY		0.1		mg/kg			65356.731	16.15	South Basin	6535.673		
									Totals	698851.527	172.69		285498.725		0.40852558
Total Weighted Average for the Littoral Zone Following Dredging and Capping and the Profunda Zone (Existing)										3360882.737	830.49		8407122.402		2.50146258
Total Weighted Average for the Littoral Zone Following Dredging and Capping and the Profunda Zone (2027)													1663442.814		0.494942235

Notes:

1. Surface Sediment Mercury Concentration
2. Sum = Result times Area (sq. meters). Area is from GIS
3. Area-Average Mercury Concentration
4. Rem area = remediation (cap) area

Table N.1 (continued)
Surface-Weighted Average Sediment Mercury Concentrations in Onondaga Lake

South Corner

Group	Location_ID	Field_Sample ID	Parameter	Samp. Date	Result ¹	Predicted 2027 Mercury Sediment Concentration				SMU	Area (sq. meters)	Acres	Section	Sum ²	Sum 2027 Predicted Hg	Littoral/Profunda ³
						(mg/kg)	Report_Units	Sample Interval (cm)								
PDI Phase 3	OL-STA-80085	OL-0454-09	MERCURY	11/8/2007	1.9	0.55	mg/kg	2	8	157839.074	39.00	South Corner	299894.24	86811.4907	P	
PDI Phase 3	OL-STA-80086	OL-0450-05	MERCURY	11/7/2007	1.5	0.55	mg/kg	2	8	171875.436	42.47	South Corner	257813.15	94531.4898	P	
PDI Phase 3	OL-STA-80087	OL-0454-05	MERCURY	11/8/2007	1.6	0.55	mg/kg	2	8	155628.276	38.46	South Corner	249005.24	85595.5518	P	
PDI Phase 3	OL-STA-80088	OL-0448-01	MERCURY	11/6/2007	1.7	0.55	mg/kg	2	8	135926.633	33.59	South Corner	231075.28	74759.64815	P	
PDI Phase 3	OL-STA-80090	OL-0450-01	MERCURY	11/7/2007	2	0.56	mg/kg	2	8	30640.668	7.57	South Corner	61281.336	17158.77408	P	
PDI Phase 3	OL-STA-80092	OL-0454-15	MERCURY	11/8/2007	2.1	0.55	mg/kg	2	8	54046.564	13.36	South Corner	113497.78	29725.6102	P	
PDI Phase 1	OL-SS-80013-SS	OL-0103-06	MERCURY	11/4/2005	1.9	0.55	mg/kg	1.5	8	69688.226	17.22	South Corner	132407.63	38328.5243	P	
PDI Phase 1	OL-SS-80016-SS	OL-0103-04	MERCURY	11/4/2005	1.7	0.55	mg/kg	9	8	79519.491	19.65	South Corner	135183.13	43735.72005	P	
PDI Phase 1	OL-SS-80018-SS	OL-0103-01	MERCURY	11/4/2005	1.5	0.55	mg/kg	1.5	8	48468.930	11.98	South Corner	72703.395	26657.9115	P	
PDI Phase 1	OL-SS-80020-SS	OL-0104-05	MERCURY	11/5/2005	2.8	0.56	mg/kg	1.5	8	6633.745	2.28	South Corner	18574.486	3714.8972	P	
PDI Phase 2	OL-VC-80027	OL-0207-05	MERCURY	10/9/2006	5.2	0.58	mg/kg	15	8	8324.624	2.06	South Corner	43288.045	4828.28192	P	
PDI Phase 2	OL-VC-80028	OL-0207-10	MERCURY	10/9/2006	5	0.58	mg/kg	15	8	4639.365	1.15	South Corner	23196.825	2690.8317	P	
PDI Phase 2	OL-VC-80032	OL-0210-09	MERCURY	10/10/2006	5.5	0.58	mg/kg	15	8	9170.854	2.27	South Corner	50439.697	5319.09532	P	
PDI Phase 2	OL-VC-80033	OL-0210-16	MERCURY	10/10/2006	2.6	0.56	mg/kg	15	8	11651.618	2.88	South Corner	30294.207	6524.90608	P	
PDI Phase 2	OL-VC-80034	OL-0211-06	MERCURY	10/10/2006	3.2	0.57	mg/kg	15	8	14378.363	3.55	South Corner	46010.762	8195.66691	P	
PDI Phase 2	OL-VC-80035	OL-0211-13	MERCURY	10/10/2006	4	0.58	mg/kg	15	8	16834.804	4.16	South Corner	67339.216	9764.18632	P	
PDI Phase 2	OL-VC-80036	OL-0215-01	MERCURY	10/10/2006	3.7	0.58	mg/kg	15	8	14870.966	3.67	South Corner	55022.574	8625.16028	P	
PDI Phase 2	OL-VC-80037	OL-0206-01	MERCURY	10/7/2006	2.5	0.56	mg/kg	15	8	27685.066	6.84	South Corner	69212.665	15503.63696	P	
PDI Phase 2	OL-VC-80038	OL-0206-03	MERCURY	10/7/2006	2.6	0.56	mg/kg	15	8	24825.367	6.13	South Corner	64545.954	13902.20552	P	
PDI Phase 2	OL-VC-80039	OL-0206-05	MERCURY	10/7/2006	2.7	0.56	mg/kg	15	8	14719.133	3.64	South Corner	39741.659	8242.71448	P	
PDI Phase 2	OL-VC-80040	OL-0206-07	MERCURY	10/7/2006	2.3	0.56	mg/kg	15	8	19858.911	4.91	South Corner	45675.495	11120.99016	P	
PDI Phase 2	OL-VC-80041	OL-0205-03	MERCURY	10/6/2006	3.3	0.57	mg/kg	15	8	9513.066	2.35	South Corner	31393.118	5422.44762	P	
PDI Phase 2	OL-VC-80042	OL-0205-01	MERCURY	10/6/2006	2.3	0.56	mg/kg	15	8	55756.463	13.78	South Corner	128239.86	31223.61928	P	
PDI Phase 2	OL-VC-80043	OL-0204-16	MERCURY	10/6/2006	2	0.55	mg/kg	15	8	92900.189	22.96	South Corner	185800.38	51095.10395	P	
PDI Phase 2	OL-VC-80049	OL-0206-11	MERCURY	10/7/2006	2.7	0.56	mg/kg	15	8	20117.358	4.97	South Corner	54316.867	11265.72048	P	
PDI Phase 2	OL-VC-80050	OL-0215-09	MERCURY	10/10/2006	2.9	0.57	mg/kg	15	8	7680.365	1.90	South Corner	22273.059	4377.80805	P	
PDI Phase 2	OL-VC-80051	OL-0217-01	MERCURY	10/10/2006	3.2	0.57	mg/kg	15	8	12202.879	3.02	South Corner	39049.213	6955.64103	P	
PDI Phase 3	OL-VC-80055	OL-0369-09	MERCURY	8/17/2007	2.8	0.56	mg/kg	15	8	7697.642	1.90	South Corner	21553.398	4310.67952	P	
PDI Phase 3	OL-VC-80057	OL-0369-10	MERCURY	8/17/2007	2.6	0.56	mg/kg	15	8	10009.083	2.47	South Corner	26023.616	5605.08648	P	
PDI Phase 3	OL-VC-80058	OL-0369-08	MERCURY	8/17/2007	2.5	0.56	mg/kg	15	8	42591.582	10.53	South Corner	106478.96	23851.28592	P	
PDI Phase 3	OL-VC-80062	OL-0369-05	MERCURY	8/17/2007	2.7	0.56	mg/kg	15	8	30758.692	7.60	South Corner	83048.468	17224.86752	P	
PDI Phase 3	OL-VC-80064	OL-0369-03	MERCURY	8/17/2007	3.6	0.57	mg/kg	15	8	34793.721	8.60	South Corner	125257.4	19832.42097	P	
PDI Phase 3	OL-VC-80065	OL-0376-01	MERCURY	8/22/2007	2.6	0.56	mg/kg	15	8	14719.341	3.64	South Corner	38270.287	8242.83096	P	
PDI Phase 3	OL-VC-80067	OL-0374-03	MERCURY	8/21/2007	3.4	0.57	mg/kg	15	8	16610.303	4.11	South Corner	56475.03	9467.87271	P	
PDI Phase 3	OL-VC-80068	OL-0374-04	MERCURY	8/21/2007	3	0.57	mg/kg	15	8	33448.712	8.27	South Corner	100346.14	19065.76584	P	
PDI Phase 3	OL-VC-80070	OL-0374-01	MERCURY	8/21/2007	3	0.57	mg/kg	15	8	11117.360	2.75	South Corner	33352.08	6336.8952	P	
PDI Phase 3	OL-VC-80071	OL-0374-05	MERCURY	8/21/2007	4.8	0.58	mg/kg	15	8	19099.454	4.72	South Corner	91677.379	11077.68332	P	
PDI Phase 3	OL-STA-80089	OL-0450-13	MERCURY	11/7/2007	1.8	0.55	mg/kg	2	8	127397.234	31.48	South Corner	229315.02	70068.4787	P	
Totals											1623639.558	401.84		3479073	901161.501	2.142761935
RI	S26	S00580	MERCURY	8/6/1992	0.23		mg/kg	2	5	52088.909	12.87	South Corner	11980.449		L	
RI	S328	SF0101	MERCURY	7/15/2000	0.72		mg/kg	15	2	5338.046	1.32	South Corner	3843.3931		L	
RI	S434	SF0170	MERCURY	8/9/2000	0.056		mg/kg	15	2	3858.543	0.95	South Corner	216.07841		L	
RI	S34	S00573	MERCURY	8/4/1992	0.15		mg/kg	2	5	79982.262	19.76	South Corner	11997.339		L	
RI	S366	SF0024	MERCURY	8/15/2000	0.053		mg/kg	15	5	29172.090	7.21	South Corner	1546.1208		L	
RI	S17	S00562	MERCURY	8/3/1992	0.17		mg/kg	2	6	39598.792	9.79	South Corner	6731.7946		L	
RI	S16	S00566	MERCURY	8/3/1992	0.25		mg/kg	2	6	20016.818	4.95	South Corner	5004.2045		L	
RI	S37	S00521	MERCURY	7/24/1992	0.49		mg/kg	2	2	2825.614	0.70	South Corner	1384.5509		L	
RI	S330	SF0105	MERCURY	7/16/2000	0.43		mg/kg	15	2	8277.663	2.05	South Corner	3559.3951		L	
RI	S400	BC0003	MERCURY	7/28/2000	0.37		mg/kg	2	2	2553.574	0.63	South Corner	944.82238		L	
RI	S329	SF0103	MERCURY	7/16/2000	0.11		mg/kg	15	2	8724.186	2.16	South Corner	959.66046		L	
RI	S365	SF0022	MERCURY	8/13/2000	0.65		mg/kg	15	3	23765.090	5.87	South Corner	15447.309		L	
Rem Area ⁴			MERCURY		0.1		mg/kg			1297826.854	320.70	South Corner	129782.69			
Totals											1574028.441	388.95		193397.8		0.122868048

Table N.1 (continued)
Surface-Weighted Average Sediment Mercury Concentrations in Onondaga Lake

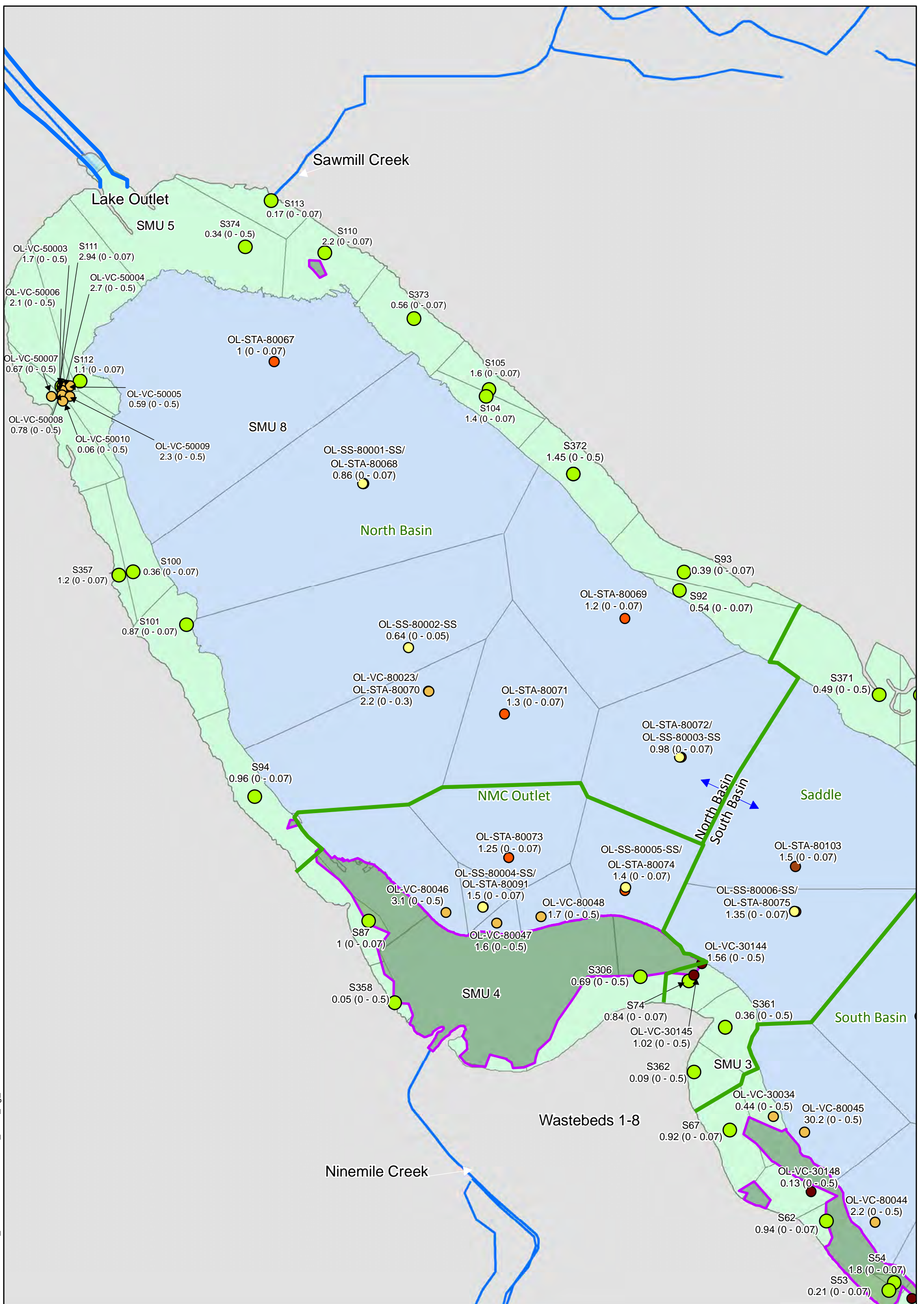
Total Weighted Average for the Littoral Zone Following Dredging and Capping and the Profundal Zone (Existing)	3197667.999	790.79	3672470.8	1.148484097
Total Weighted Average for the Littoral Zone Following Dredging and Capping and the Profundal Zone (2027)			1094559.3	0.342299233

Notes:

1. Surface Sediment Mercury Concentration
2. Sum = Result times Area (sq. meters). Area is from GIS
3. Area-Average Mercury Concentration
4. Rem area = remediation (cap) area

FIGURES

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Legend

- RI (1992 and 2000)
- PDI Phase 1 (2005)
- PDI Phase 2 (2006)
- PDI Phase 3 (2007)
- PDI Phase 4 (2008)
- PDI Phase 5 (2009)
- Remediation Area Boundary
- SMU 8 zone polygons
- Littoral zone polygons
- NYSDEC Demarcation for SMU 8
- OL-VC-80023
2.2 (0-0.3)
● Sediment Sample Location ID with mercury result and depth interval.

NOTES

1. The 30-foot water depth contour is the boundary between the littoral zone and SMU 8.
2. Water depth is based on average lake elevation of 362.82 feet.
3. O.X is total mercury concentration in mg/kg (ppm). O.Y is the sample bottom depth in feet.
4. RI results are included for the littoral zone but not for SMU 8 because of natural recovery ongoing in SMU 8.

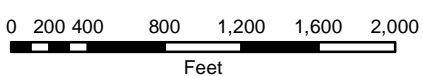


FIGURE N.1

Honeywell Onondaga Lake
Syracuse, New York

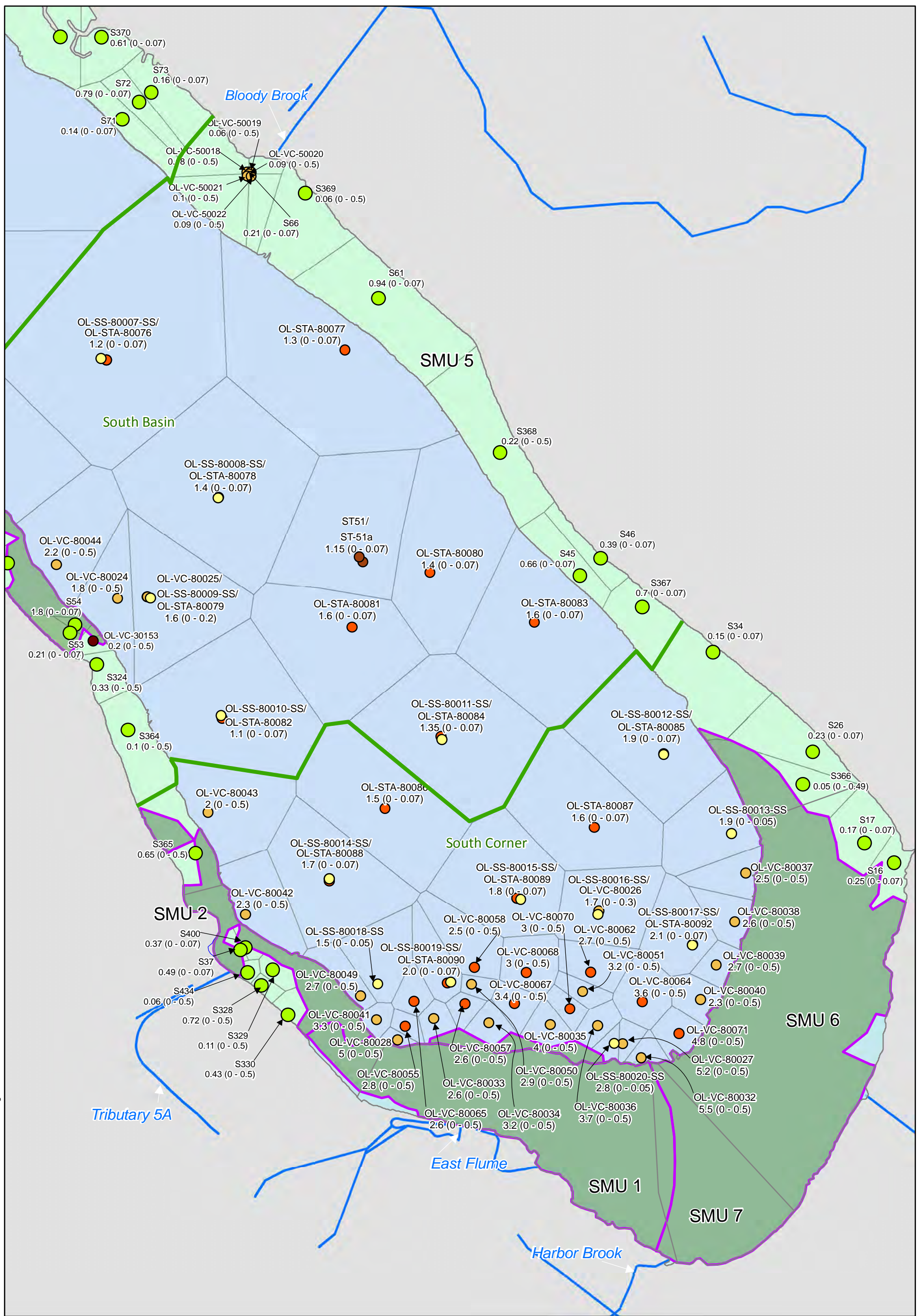
Mercury in Top 6 Inches of Sediment
in North Portion of Lake (mg/kg)

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Path: Q:\GIS\GIS_Lake\MNR\MXD\SMU8_south_Hg_11x17.mxd



Legend

- RI (1992 and 2000)
- PDI Phase 1 (2005)
- PDI Phase 2 (2006)
- PDI Phase 3 (2007)
- PDI Phase 4 (2008)
- PDI Phase 5 (2009)
- Remediation Area Boundary
- SMU 8 zone polygons
- Littoral zone polygons
- NYSDEC Demarcation for SMU 8
- OL-VC-80023
2.2 (0-0.3) Sediment Sample Location ID with mercury result and depth interval.

NOTES

1. The 30-foot water depth contour is the boundary between the littoral zone and SMU 8.
2. Water depth is based on average lake elevation of 362.82 feet.
3. O.X is total mercury concentration in mg/kg (ppm).
O.Y is the sample bottom depth in feet.
4. RI results are included for the littoral zone but not for SMU 8 because of natural recovery ongoing in SMU 8.

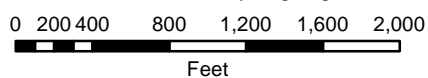


FIGURE N.2

Honeywell Onondaga Lake
Syracuse, New York

Mercury in Top 6 Inches of Sediment
in South Portion of Lake (mg/kg)

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