



Combined Downriver Inter-Municipality Committee
Pollutant Load Analysis – Entire Watershed

**Combined Downriver Watershed
Whole-Watershed Pollutant Load Estimates**

Table F1-1.a. Estimated Current Stormwater and Snowmelt Runoff-Generated Annual Loads: Biochemical Oxygen Demand (lbs./year)
Existing (2000) Land Use, Total Impervious Area (TIA)

Land Use Category	Acres (Au)	BOD Conc. (mg/L) (Cu)	Percent Total Imperviousness (Iu)	Annual Precipitation (in.) (P)	P _j	Runoff Coefficient (Rvu)	BOD Annual Load (lbs/yr)	% of Total Load	% of Land Use
Low Density Residential	12,362.5	38	18.8	31	0.9	0.219	651,212	33.0%	25.2%
Medium Density Residential	0.0	38	37.8	31	0.9	0.390	0	0.0%	0.0%
High Density Residential	1,137.3	14	51.4	31	0.9	0.513	51,615	2.6%	2.3%
Transportation	5,667.2	24	52.9	31	0.9	0.526	452,522	22.9%	11.6%
Commercial	3,425.1	21	56.2	31	0.9	0.556	252,815	12.8%	7.0%
Mixed Residential/Commercial Use	0.0	30	47.0	31	0.9	0.473	0	0.0%	0.0%
Forest & Rural Open	7,521.3	3	1.9	31	0.9	0.067	9,575	0.5%	15.4%
Wetland	8,334.5	4	2.4	31	0.9	0.072	15,095	0.8%	17.0%
Water	648.7	4	100.0	31	0.9	0.950	15,589	0.8%	1.3%
Active Agriculture	3,096.7	3	2.0	31	0.9	0.068	3,995	0.2%	6.3%
Urban Open	2,137.0	3	10.9	31	0.9	0.148	6,004	0.3%	4.4%
Industrial	4,637.0	24	75.9	31	0.9	0.733	515,945	26.1%	9.5%
Total	48,967.3						1,974,368	100.0%	100.0%

Table F1-1.b. Estimated Current Stormwater and Snowmelt Runoff-Generated Annual Loads: Biochemical Oxygen Demand (lbs./year)
Existing (2000) Land Use, Directly Connected Impervious Area (DCIA)

Land Use Category	Acres (Au)	BOD Conc. (mg/L) (Cu)	Percent Directly Connected Imperviousness (Iu)	Annual Precipitation (in.) (P)	P _j	Runoff Coefficient (Rvu)	BOD Annual Load (lbs/yr)	% of Total Load	% of Land Use
Low Density Residential	12,362.5	38	2.4	31	0.9	0.072	212,713	18.7%	25.2%
Medium Density Residential	0.0	38	16.6	31	0.9	0.199	0	0.0%	0.0%
High Density Residential	1,137.3	14	30.3	31	0.9	0.323	32,493	2.9%	2.3%
Transportation	5,667.2	24	22.7	31	0.9	0.254	218,735	19.2%	11.6%
Commercial	3,425.1	21	43.9	31	0.9	0.445	202,461	17.8%	7.0%
Mixed Residential/Commercial Use	0.0	30	30.3	31	0.9	0.322	0	0.0%	0.0%
Forest & Rural Open	7,521.3	3	1.1	31	0.9	0.060	8,547	0.8%	15.4%
Wetland	8,334.5	4	2.4	31	0.9	0.072	15,095	1.3%	17.0%
Water	648.7	4	100.0	31	0.9	0.950	15,589	1.4%	1.3%
Active Agriculture	3,096.7	3	0.1	31	0.9	0.051	2,990	0.3%	6.3%
Urban Open	2,137.0	3	4.2	31	0.9	0.088	3,560	0.3%	4.4%
Industrial	4,637.0	24	61.9	31	0.9	0.607	427,268	37.5%	9.5%
Total	48,967.3						1,139,453	100.0%	100.0%

Table F1-1.c. Estimated Future Stormwater and Snowmelt Runoff-Generated Annual Loads: Biochemical Oxygen Demand (lbs./year)
Future (2030) Land Use, Total Impervious Area (TIA)

Land Use Category	Acres (Au)	BOD Conc. (mg/L) (Cu)	Percent Total Imperviousness (Iu)	Annual Precipitation (in.) (P)	P _j	Runoff Coefficient (Rvu)	BOD Annual Load (lbs/yr)	% of Total Load	% of Land Use
Low Density Residential	4,776.8	38	18.8	31	0.9	0.219	251,625	6.4%	9.8%
Medium Density Residential	14,386.2	38	37.8	31	0.9	0.390	1,348,990	34.3%	29.4%
High Density Residential	1,726.1	14	51.4	31	0.9	0.513	78,337	2.0%	3.5%
Transportation	5,876.2	24	52.9	31	0.9	0.526	469,211	11.9%	12.0%
Commercial	7,475.8	21	56.2	31	0.9	0.556	551,807	14.0%	15.3%
Mixed Residential/Commercial Use	1,146.6	30	47.0	31	0.9	0.473	101,178	2.6%	2.3%
Forest & Rural Open	1,340.4	3	1.9	31	0.9	0.067	1,706	0.0%	2.7%
Wetland	0.0	4	2.4	31	0.9	0.072	0	0.0%	0.0%
Water	411.7	4	100.0	31	0.9	0.950	9,894	0.3%	0.8%
Active Agriculture	1,761.6	3	2.0	31	0.9	0.068	2,273	0.1%	3.6%
Urban Open	0.0	3	10.9	31	0.9	0.148	0	0.0%	0.0%
Industrial	10,023.2	24	75.9	31	0.9	0.733	1,115,251	28.4%	20.5%
Total	48,924.6						3,930,271	100.0%	100.0%

Table F1-1.d. Estimated Future Stormwater and Snowmelt Runoff-Generated Annual Loads: Biochemical Oxygen Demand (lbs./year)
Future (2030) Land Use, Directly Connected Impervious Area (DCIA)

Land Use Category	Acres (Au)	BOD Conc. (mg/L) (Cu)	Percent Directly Connected Imperviousness (Iu)	Annual Precipitation (in.) (P)	P _j	Runoff Coefficient (Rvu)	BOD Annual Load (lbs/yr)	% of Total Load	% of Land Use
Low Density Residential	4,776.8	38	2.4	31	0.9	0.072	82,191	3.3%	9.8%
Medium Density Residential	14,386.2	38	16.6	31	0.9	0.199	689,361	27.6%	29.4%
High Density Residential	1,726.1	14	30.3	31	0.9	0.323	49,316	2.0%	3.5%
Transportation	5,876.2	24	22.7	31	0.9	0.254	226,802	9.1%	12.0%
Commercial	7,475.8	21	43.9	31	0.9	0.445	441,902	17.7%	15.3%
Mixed Residential/Commercial Use	1,146.6	30	30.3	31	0.9	0.322	68,932	2.8%	2.3%
Forest & Rural Open	1,340.4	3	1.1	31	0.9	0.060	1,523	0.1%	2.7%
Wetland	0.0	4	2.4	31	0.9	0.072	0	0.0%	0.0%
Water	411.7	4	100.0	31	0.9	0.950	9,894	0.4%	0.8%
Active Agriculture	1,761.6	3	0.1	31	0.9	0.051	1,701	0.1%	3.6%
Urban Open	0.0	3	4.2	31	0.9	0.088	0	0.0%	0.0%
Industrial	10,023.2	24	61.9	31	0.9	0.607	923,570	37.0%	20.5%
Total	48,924.6						2,495,191	100.0%	100.0%

**Combined Downriver Watershed
Whole-Watershed Pollutant Load Estimates**

Table F1-2.a. Estimated Current Stormwater and Snowmelt Runoff-Generated Annual Loads: Chemical Oxygen Demand (lbs./year)
Existing (2000) Land Use, Total Impervious Area (TIA)

Land Use Category	Acres (Au)	COD Conc. (mg/L) (Cu)	Percent Total Imperviousness (Iu)	Annual Precipitation (in.) (P)	P _j	Runoff Coefficient (Rvu)	COD Annual Load (lbs/yr)	% of Total Load	% of Land Use
Low Density Residential	12,362.5	124	18.8	31	0.9	0.219	2,125,007	28.7%	25.2%
Medium Density Residential	0.0	124	37.8	31	0.9	0.390	0	0.0%	0.0%
High Density Residential	1,137.3	79	51.4	31	0.9	0.513	291,254	3.9%	2.3%
Transportation	5,667.2	103	52.9	31	0.9	0.526	1,942,075	26.2%	11.6%
Commercial	3,425.1	80	56.2	31	0.9	0.556	963,105	13.0%	7.0%
Mixed Residential/Commercial Use	0.0	102	47.0	31	0.9	0.473	0	0.0%	0.0%
Forest & Rural Open	7,521.3	27	1.9	31	0.9	0.067	86,173	1.2%	15.4%
Wetland	8,334.5	6	2.4	31	0.9	0.072	22,643	0.3%	17.0%
Water	648.7	6	100.0	31	0.9	0.950	23,384	0.3%	1.3%
Active Agriculture	3,096.7	53	2.0	31	0.9	0.068	70,579	1.0%	6.3%
Urban Open	2,137.0	27	10.9	31	0.9	0.148	54,040	0.7%	4.4%
Industrial	4,637.0	85	75.9	31	0.9	0.733	1,827,305	24.7%	9.5%
Total	48,967.3						7,405,565	100.0%	100.0%

Table F1-2.b. Estimated Current Stormwater and Snowmelt Runoff-Generated Annual Loads: Chemical Oxygen Demand (lbs./year)
Existing (2000) Land Use, Directly Connected Impervious Area (DCIA)

Land Use Category	Acres (Au)	COD Conc. (mg/L) (Cu)	Percent Directly Connected Imperviousness (Iu)	Annual Precipitation (in.) (P)	P _j	Runoff Coefficient (Rvu)	COD Annual Load (lbs/yr)	% of Total Load	% of Land Use
Low Density Residential	12,362.5	124	2.4	31	0.9	0.072	694,117	16.1%	25.2%
Medium Density Residential	0.0	124	16.6	31	0.9	0.199	0	0.0%	0.0%
High Density Residential	1,137.3	79	30.3	31	0.9	0.323	183,355	4.3%	2.3%
Transportation	5,667.2	103	22.7	31	0.9	0.254	938,737	21.8%	11.6%
Commercial	3,425.1	80	43.9	31	0.9	0.445	771,281	17.9%	7.0%
Mixed Residential/Commercial Use	0.0	102	30.3	31	0.9	0.322	0	0.0%	0.0%
Forest & Rural Open	7,521.3	27	1.1	31	0.9	0.060	76,926	1.8%	15.4%
Wetland	8,334.5	6	2.4	31	0.9	0.072	22,643	0.5%	17.0%
Water	648.7	6	100.0	31	0.9	0.950	23,384	0.5%	1.3%
Active Agriculture	3,096.7	53	0.1	31	0.9	0.051	52,830	1.2%	6.3%
Urban Open	2,137.0	27	4.2	31	0.9	0.088	32,037	0.7%	4.4%
Industrial	4,637.0	85	61.9	31	0.9	0.607	1,513,241	35.1%	9.5%
Total	48,967.3						4,308,552	100.0%	100.0%

Table F1-2.c. Estimated Future Stormwater and Snowmelt Runoff-Generated Annual Loads: Chemical Oxygen Demand (lbs./year)
Future (2030) Land Use, Total Impervious Area (TIA)

Land Use Category	Acres (Au)	COD Conc. (mg/L) (Cu)	Percent Total Imperviousness (Iu)	Annual Precipitation (in.) (P)	P _j	Runoff Coefficient (Rvu)	COD Annual Load (lbs/yr)	% of Total Load	% of Land Use
Low Density Residential	4,776.8	124	18.8	31	0.9	0.219	821,091	5.8%	9.8%
Medium Density Residential	14,386.2	124	37.8	31	0.9	0.390	4,401,968	31.1%	29.4%
High Density Residential	1,726.1	79	51.4	31	0.9	0.513	442,042	3.1%	3.5%
Transportation	5,876.2	103	52.9	31	0.9	0.526	2,013,696	14.2%	12.0%
Commercial	7,475.8	80	56.2	31	0.9	0.556	2,102,123	14.9%	15.3%
Mixed Residential/Commercial Use	1,146.6	102	47.0	31	0.9	0.473	349,836	2.5%	2.3%
Forest & Rural Open	1,340.4	27	1.9	31	0.9	0.067	15,357	0.1%	2.7%
Wetland	0.0	6	2.4	31	0.9	0.072	0	0.0%	0.0%
Water	411.7	6	100.0	31	0.9	0.950	14,840	0.1%	0.8%
Active Agriculture	1,761.6	53	2.0	31	0.9	0.068	40,150	0.3%	3.6%
Urban Open	0.0	27	10.9	31	0.9	0.148	0	0.0%	0.0%
Industrial	10,023.2	85	75.9	31	0.9	0.733	3,949,848	27.9%	20.5%
Total	48,924.6						14,150,952	100.0%	100.0%

Table F1-2.d. Estimated Future Stormwater and Snowmelt Runoff-Generated Annual Loads: Chemical Oxygen Demand (lbs./year)
Future (2030) Land Use, Directly Connected Impervious Area (DCIA)

Land Use Category	Acres (Au)	COD Conc. (mg/L) (Cu)	Percent Directly Connected Imperviousness (Iu)	Annual Precipitation (in.) (P)	P _j	Runoff Coefficient (Rvu)	COD Annual Load (lbs/yr)	% of Total Load	% of Land Use
Low Density Residential	4,776.8	124	2.4	31	0.9	0.072	268,203	3.0%	9.8%
Medium Density Residential	14,386.2	124	16.6	31	0.9	0.199	2,249,494	24.9%	29.4%
High Density Residential	1,726.1	79	30.3	31	0.9	0.323	278,281	3.1%	3.5%
Transportation	5,876.2	103	22.7	31	0.9	0.254	973,357	10.8%	12.0%
Commercial	7,475.8	80	43.9	31	0.9	0.445	1,683,438	18.7%	15.3%
Mixed Residential/Commercial Use	1,146.6	102	30.3	31	0.9	0.322	238,340	2.6%	2.3%
Forest & Rural Open	1,340.4	27	1.1	31	0.9	0.060	13,709	0.2%	2.7%
Wetland	0.0	6	2.4	31	0.9	0.072	0	0.0%	0.0%
Water	411.7	6	100.0	31	0.9	0.950	14,840	0.2%	0.8%
Active Agriculture	1,761.6	53	0.1	31	0.9	0.051	30,053	0.3%	3.6%
Urban Open	0.0	27	4.2	31	0.9	0.088	0	0.0%	0.0%
Industrial	10,023.2	85	61.9	31	0.9	0.607	3,270,976	36.3%	20.5%
Total	48,924.6						9,020,692	100.0%	100.0%

**Combined Downriver Watershed
Whole-Watershed Pollutant Load Estimates**

Table F1-3.a. Estimated Current Stormwater and Snowmelt Runoff-Generated Annual Loads: Total Suspended Solids (lbs./year)
Existing (2000) Land Use, Total Impervious Area (TIA)

Land Use Category	Acres (Au)	TSS Conc. (mg/L) (Cu)	Percent Total Imperviousness (Iu)	Annual Precipitation (in.) (P)	P _j	Runoff Coefficient (Rvu)	TSS Annual Load (lbs/yr)	% of Total Load	% of Land Use
Low Density Residential	12,362.5	70	18.8	31	0.9	0.219	1,197,217	14.9%	25.2%
Medium Density Residential	0.0	70	37.8	31	0.9	0.390	0	0.0%	0.0%
High Density Residential	1,137.3	97	51.4	31	0.9	0.513	357,616	4.5%	2.3%
Transportation	5,667.2	141	52.9	31	0.9	0.526	1,855,702	23.1%	11.6%
Commercial	3,425.1	77	56.2	31	0.9	0.556	923,301	11.5%	7.0%
Mixed Residential/Commercial Use	0.0	74	47.0	31	0.9	0.473	0	0.0%	0.0%
Forest & Rural Open	7,521.3	51	1.9	31	0.9	0.067	158,768	2.0%	15.4%
Wetland	8,334.5	6	2.4	31	0.9	0.072	22,523	0.3%	17.0%
Water	648.7	6	100.0	31	0.9	0.950	22,132	0.3%	1.3%
Active Agriculture	3,096.7	145	2.0	31	0.9	0.068	192,260	2.4%	6.3%
Urban Open	2,137.0	51	10.9	31	0.9	0.148	102,076	1.3%	4.4%
Industrial	4,637.0	149	75.9	31	0.9	0.733	3,203,159	39.9%	9.5%
Total	48,967.3						8,034,754	100.0%	100.0%

Table F1-3.b. Estimated Current Stormwater and Snowmelt Runoff-Generated Annual Loads: Total Suspended Solids (lbs./year)
Existing (2000) Land Use, Directly Connected Impervious Area (DCIA)

Land Use Category	Acres (Au)	TSS Conc. (mg/L) (Cu)	Percent Directly Connected Imperviousness (Iu)	Annual Precipitation (in.) (P)	P _j	Runoff Coefficient (Rvu)	TSS Annual Load (lbs/yr)	% of Total Load	% of Land Use
Low Density Residential	12,362.5	70	2.4	31	0.9	0.072	391,062	7.4%	25.2%
Medium Density Residential	0.0	70	16.6	31	0.9	0.199	0	0.0%	0.0%
High Density Residential	1,137.3	97	30.3	31	0.9	0.323	225,132	4.3%	2.3%
Transportation	5,667.2	141	22.7	31	0.9	0.254	896,987	16.9%	11.6%
Commercial	3,425.1	77	43.9	31	0.9	0.445	739,405	14.0%	7.0%
Mixed Residential/Commercial Use	0.0	74	30.3	31	0.9	0.322	0	0.0%	0.0%
Forest & Rural Open	7,521.3	51	1.1	31	0.9	0.060	141,732	2.7%	15.4%
Wetland	8,334.5	6	2.4	31	0.9	0.072	22,523	0.4%	17.0%
Water	648.7	6	100.0	31	0.9	0.950	22,132	0.4%	1.3%
Active Agriculture	3,096.7	145	0.1	31	0.9	0.051	143,913	2.7%	6.3%
Urban Open	2,137.0	51	4.2	31	0.9	0.088	60,515	1.1%	4.4%
Industrial	4,637.0	149	61.9	31	0.9	0.607	2,652,623	50.1%	9.5%
Total	48,967.3						5,296,023	100.0%	100.0%

Table F1-3.c. Estimated Future Stormwater and Snowmelt Runoff-Generated Annual Loads: Total Suspended Solids (lbs./year)
Future (2030) Land Use, Total Impervious Area (TIA)

Land Use Category	Acres (Au)	TSS Conc. (mg/L) (Cu)	Percent Total Imperviousness (Iu)	Annual Precipitation (in.) (P)	P _j	Runoff Coefficient (Rvu)	TSS Annual Load (lbs/yr)	% of Total Load	% of Land Use
Low Density Residential	4,776.8	70	18.8	31	0.9	0.219	463,519	3.2%	9.8%
Medium Density Residential	14,386.2	70	37.8	31	0.9	0.390	2,484,982	16.9%	29.4%
High Density Residential	1,726.1	97	51.4	31	0.9	0.513	542,760	3.7%	3.5%
Transportation	5,876.2	141	52.9	31	0.9	0.526	1,818,087	12.4%	12.0%
Commercial	7,475.8	77	56.2	31	0.9	0.556	2,023,293	13.8%	15.3%
Mixed Residential/Commercial Use	1,146.6	74	47.0	31	0.9	0.473	252,088	1.7%	2.3%
Forest & Rural Open	1,340.4	51	1.9	31	0.9	0.067	29,008	0.2%	2.7%
Wetland	0.0	6	2.4	31	0.9	0.072	0	0.0%	0.0%
Water	411.7	6	100.0	31	0.9	0.950	13,913	0.1%	0.8%
Active Agriculture	1,761.6	145	2.0	31	0.9	0.068	109,844	0.7%	3.6%
Urban Open	0.0	51	10.9	31	0.9	0.148	0	0.0%	0.0%
Industrial	10,023.2	149	75.9	31	0.9	0.733	6,923,444	47.2%	20.5%
Total	48,924.6						14,660,938	100.0%	100.0%

Table F1-3.d. Estimated Future Stormwater and Snowmelt Runoff-Generated Annual Loads: Total Suspended Solids (lbs./year)
Future (2030) Land Use, Directly Connected Impervious Area (DCIA)

Land Use Category	Acres (Au)	TSS Conc. (mg/L) (Cu)	Percent Directly Connected Imperviousness (Iu)	Annual Precipitation (in.) (P)	P _j	Runoff Coefficient (Rvu)	TSS Annual Load (lbs/yr)	% of Total Load	% of Land Use
Low Density Residential	4,776.8	70	2.4	31	0.9	0.072	151,405	1.5%	9.8%
Medium Density Residential	14,386.2	70	16.6	31	0.9	0.199	1,269,876	12.3%	29.4%
High Density Residential	1,726.1	97	30.3	31	0.9	0.323	341,687	3.3%	3.5%
Transportation	5,876.2	141	22.7	31	0.9	0.254	878,805	8.5%	12.0%
Commercial	7,475.8	77	43.9	31	0.9	0.445	1,620,309	15.7%	15.3%
Mixed Residential/Commercial Use	1,146.6	74	30.3	31	0.9	0.322	171,745	1.7%	2.3%
Forest & Rural Open	1,340.4	51	1.1	31	0.9	0.060	25,895	0.3%	2.7%
Wetland	0.0	6	2.4	31	0.9	0.072	0	0.0%	0.0%
Water	411.7	6	100.0	31	0.9	0.950	13,913	0.1%	0.8%
Active Agriculture	1,761.6	145	0.1	31	0.9	0.051	82,221	0.8%	3.6%
Urban Open	0.0	51	4.2	31	0.9	0.088	0	0.0%	0.0%
Industrial	10,023.2	149	61.9	31	0.9	0.607	5,733,492	55.7%	20.5%
Total	48,924.6						10,289,348	100.0%	100.0%

**Combined Downriver Watershed
Whole-Watershed Pollutant Load Estimates**

Table F1-4.a. Estimated Current Stormwater and Snowmelt Runoff-Generated Annual Loads: Total Dissolved Solids (lbs./year)
Existing (2000) Land Use, Total Impervious Area (TIA)

Land Use Category	Acres (Au)	TDS Conc. (mg/L) (Cu)	Percent Total Imperviousness (Iu)	Annual Precipitation (in.) (P)	P _j	Runoff Coefficient (Rvu)	TDS Annual Load (lbs/yr)	% of Total Load	% of Land Use
Low Density Residential	12,362.5	144	18.8	31	0.9	0.219	2,467,750	12.7%	25.2%
Medium Density Residential	0.0	144	37.8	31	0.9	0.390	0	0.0%	0.0%
High Density Residential	1,137.3	189	51.4	31	0.9	0.513	696,799	3.6%	2.3%
Transportation	5,667.2	294	52.9	31	0.9	0.526	5,543,398	28.6%	11.6%
Commercial	3,425.1	294	56.2	31	0.9	0.556	3,539,411	18.3%	7.0%
Mixed Residential/Commercial Use	0.0	219	47.0	31	0.9	0.473	0	0.0%	0.0%
Forest & Rural Open	7,521.3	415	1.9	31	0.9	0.067	1,324,510	6.8%	15.4%
Wetland	8,334.5	12	2.4	31	0.9	0.072	45,286	0.2%	17.0%
Water	648.7	12	100.0	31	0.9	0.950	46,767	0.2%	1.3%
Active Agriculture	3,096.7	415	2.0	31	0.9	0.068	552,647	2.9%	6.3%
Urban Open	2,137.0	415	10.9	31	0.9	0.148	830,615	4.3%	4.4%
Industrial	4,637.0	202	75.9	31	0.9	0.733	4,342,537	22.4%	9.5%
Total	48,967.3						19,389,720	100.0%	100.0%

Table F1-4.b. Estimated Current Stormwater and Snowmelt Runoff-Generated Annual Loads: Total Dissolved Solids (lbs./year)
Existing (2000) Land Use, Directly Connected Impervious Area (DCIA)

Land Use Category	Acres (Au)	TDS Conc. (mg/L) (Cu)	Percent Directly Connected Imperviousness (Iu)	Annual Precipitation (in.) (P)	P _j	Runoff Coefficient (Rvu)	TDS Annual Load (lbs/yr)	% of Total Load	% of Land Use
Low Density Residential	12,362.5	144	2.4	31	0.9	0.072	806,072	6.4%	25.2%
Medium Density Residential	0.0	144	16.6	31	0.9	0.199	0	0.0%	0.0%
High Density Residential	1,137.3	189	30.3	31	0.9	0.323	438,660	3.5%	2.3%
Transportation	5,667.2	294	22.7	31	0.9	0.254	2,679,502	21.4%	11.6%
Commercial	3,425.1	294	43.9	31	0.9	0.445	2,834,458	22.6%	7.0%
Mixed Residential/Commercial Use	0.0	219	30.3	31	0.9	0.322	0	0.0%	0.0%
Forest & Rural Open	7,521.3	415	1.1	31	0.9	0.060	1,182,387	9.4%	15.4%
Wetland	8,334.5	12	2.4	31	0.9	0.072	45,286	0.4%	17.0%
Water	648.7	12	100.0	31	0.9	0.950	46,767	0.4%	1.3%
Active Agriculture	3,096.7	415	0.1	31	0.9	0.051	413,673	3.3%	6.3%
Urban Open	2,137.0	415	4.2	31	0.9	0.088	492,424	3.9%	4.4%
Industrial	4,637.0	202	61.9	31	0.9	0.607	3,596,173	28.7%	9.5%
Total	48,967.3						12,535,401	100.0%	100.0%

Table F1-4.c. Estimated Future Stormwater and Snowmelt Runoff-Generated Annual Loads: Total Dissolved Solids (lbs./year)
Future (2030) Land Use, Total Impervious Area (TIA)

Land Use Category	Acres (Au)	TDS Conc. (mg/L) (Cu)	Percent Total Imperviousness (Iu)	Annual Precipitation (in.) (P)	P _j	Runoff Coefficient (Rvu)	TDS Annual Load (lbs/yr)	% of Total Load	% of Land Use
Low Density Residential	4,776.8	144	18.8	31	0.9	0.219	953,525	3.0%	9.8%
Medium Density Residential	14,386.2	144	37.8	31	0.9	0.390	5,111,963	16.3%	29.4%
High Density Residential	1,726.1	189	51.4	31	0.9	0.513	1,057,543	3.4%	3.5%
Transportation	5,876.2	294	52.9	31	0.9	0.526	5,747,832	18.4%	12.0%
Commercial	7,475.8	294	56.2	31	0.9	0.556	7,725,301	24.7%	15.3%
Mixed Residential/Commercial Use	1,146.6	219	47.0	31	0.9	0.473	751,120	2.4%	2.3%
Forest & Rural Open	1,340.4	415	1.9	31	0.9	0.067	236,046	0.8%	2.7%
Wetland	0.0	12	2.4	31	0.9	0.072	0	0.0%	0.0%
Water	411.7	12	100.0	31	0.9	0.950	29,681	0.1%	0.8%
Active Agriculture	1,761.6	415	2.0	31	0.9	0.068	314,381	1.0%	3.6%
Urban Open	0.0	415	10.9	31	0.9	0.148	0	0.0%	0.0%
Industrial	10,023.2	202	75.9	31	0.9	0.733	9,386,698	30.0%	20.5%
Total	48,924.6						31,314,090	100.0%	100.0%

Table F1-4.d. Estimated Future Stormwater and Snowmelt Runoff-Generated Annual Loads: Total Dissolved Solids (lbs./year)
Future (2030) Land Use, Directly Connected Impervious Area (DCIA)

Land Use Category	Acres (Au)	TDS Conc. (mg/L) (Cu)	Percent Directly Connected Imperviousness (Iu)	Annual Precipitation (in.) (P)	P _j	Runoff Coefficient (Rvu)	TDS Annual Load (lbs/yr)	% of Total Load	% of Land Use
Low Density Residential	4,776.8	144	2.4	31	0.9	0.072	311,462	1.5%	9.8%
Medium Density Residential	14,386.2	144	16.6	31	0.9	0.199	2,612,315	12.3%	29.4%
High Density Residential	1,726.1	189	30.3	31	0.9	0.323	665,761	3.1%	3.5%
Transportation	5,876.2	294	22.7	31	0.9	0.254	2,778,319	13.0%	12.0%
Commercial	7,475.8	294	43.9	31	0.9	0.445	6,186,635	29.0%	15.3%
Mixed Residential/Commercial Use	1,146.6	219	30.3	31	0.9	0.322	511,730	2.4%	2.3%
Forest & Rural Open	1,340.4	415	1.1	31	0.9	0.060	210,718	1.0%	2.7%
Wetland	0.0	12	2.4	31	0.9	0.072	0	0.0%	0.0%
Water	411.7	12	100.0	31	0.9	0.950	29,681	0.1%	0.8%
Active Agriculture	1,761.6	415	0.1	31	0.9	0.051	235,323	1.1%	3.6%
Urban Open	0.0	415	4.2	31	0.9	0.088	0	0.0%	0.0%
Industrial	10,023.2	202	61.9	31	0.9	0.607	7,773,379	36.5%	20.5%
Total	48,924.6						21,315,323	100.0%	100.0%

**Combined Downriver Watershed
Whole-Watershed Pollutant Load Estimates**

Table F1-5.a. Estimated Current Stormwater and Snowmelt Runoff-Generated Annual Loads: Total Phosphorus (lbs./year)
Existing (2000) Land Use, Total Impervious Area (TIA)

Land Use Category	Acres (Au)	TP Conc. (mg/L) (Cu)	Percent Total Imperviousness (Iu)	Annual Precipitation (in.) (P)	P _j	Runoff Coefficient (Rvu)	TP Annual Load (lbs/yr)	% of Total Load	% of Land Use
Low Density Residential	12,362.5	0.52	18.8	31	0.9	0.219	8,924	31.2%	25.2%
Medium Density Residential	0.0	0.52	37.8	31	0.9	0.390	0	0.0%	0.0%
High Density Residential	1,137.3	0.24	51.4	31	0.9	0.513	857	3.0%	2.3%
Transportation	5,667.2	0.43	52.9	31	0.9	0.526	6,316	22.1%	11.6%
Commercial	3,425.1	0.33	56.2	31	0.9	0.556	3,961	13.9%	7.0%
Mixed Residential/Commercial Use	0.0	0	47.0	31	0.9	0.473	0	0.0%	0.0%
Forest & Rural Open	7,521.3	0.11	1.9	31	0.9	0.067	345	1.2%	15.4%
Wetland	8,334.5	0.08	2.4	31	0.9	0.072	301	1.1%	17.0%
Water	648.7	0.08	100.0	31	0.9	0.950	300	1.0%	1.3%
Active Agriculture	3,096.7	0.37	2.0	31	0.9	0.068	491	1.7%	6.3%
Urban Open	2,137.0	0.11	10.9	31	0.9	0.148	220	0.8%	4.4%
Industrial	4,637.0	0.32	75.9	31	0.9	0.733	6,879	24.1%	9.5%
Total	48,967.3						28,594	100.0%	100.0%

Table F1-5.b. Estimated Current Stormwater and Snowmelt Runoff-Generated Annual Loads: Total Phosphorus (lbs./year)
Existing (2000) Land Use, Directly Connected Impervious Area (DCIA)

Land Use Category	Acres (Au)	TP Conc. (mg/L) (Cu)	Percent Directly Connected Imperviousness (Iu)	Annual Precipitation (in.) (P)	P _j	Runoff Coefficient (Rvu)	TP Annual Load (lbs/yr)	% of Total Load	% of Land Use
Low Density Residential	12,362.5	0.52	2.4	31	0.9	0.072	2,915	17.4%	25.2%
Medium Density Residential	0.0	0.52	16.6	31	0.9	0.199	0	0.0%	0.0%
High Density Residential	1,137.3	0.24	30.3	31	0.9	0.323	539	3.2%	2.3%
Transportation	5,667.2	0.43	22.7	31	0.9	0.254	3,053	18.2%	11.6%
Commercial	3,425.1	0.33	43.9	31	0.9	0.445	3,172	18.9%	7.0%
Mixed Residential/Commercial Use	0.0	0	30.3	31	0.9	0.322	0	0.0%	0.0%
Forest & Rural Open	7,521.3	0.11	1.1	31	0.9	0.060	308	1.8%	15.4%
Wetland	8,334.5	0.08	2.4	31	0.9	0.072	301	1.8%	17.0%
Water	648.7	0.08	100.0	31	0.9	0.950	300	1.8%	1.3%
Active Agriculture	3,096.7	0.37	0.1	31	0.9	0.051	368	2.2%	6.3%
Urban Open	2,137.0	0.11	4.2	31	0.9	0.088	131	0.8%	4.4%
Industrial	4,637.0	0.32	61.9	31	0.9	0.607	5,697	33.9%	9.5%
Total	48,967.3						16,783	100.0%	100.0%

Table F1-5.c. Estimated Future Stormwater and Snowmelt Runoff-Generated Annual Loads: Total Phosphorus (lbs./year)
Future (2030) Land Use, Total Impervious Area (TIA)

Land Use Category	Acres (Au)	TP Conc. (mg/L) (Cu)	Percent Total Imperviousness (Iu)	Annual Precipitation (in.) (P)	P _j	Runoff Coefficient (Rvu)	TP Annual Load (lbs/yr)	% of Total Load	% of Land Use
Low Density Residential	4,776.8	0.52	18.8	31	0.9	0.219	3,443	6.3%	9.8%
Medium Density Residential	14,386.2	0.52	37.8	31	0.9	0.390	18,460	33.5%	29.4%
High Density Residential	1,726.1	0.24	51.4	31	0.9	0.513	1,343	2.4%	3.5%
Transportation	5,876.2	0.43	52.9	31	0.9	0.526	6,309	11.5%	12.0%
Commercial	7,475.8	0.33	56.2	31	0.9	0.556	8,671	15.7%	15.3%
Mixed Residential/Commercial Use	1,146.6	0	47.0	31	0.9	0.473	1,458	2.6%	2.3%
Forest & Rural Open	1,340.4	0.11	1.9	31	0.9	0.067	63	0.1%	2.7%
Wetland	0.0	0.08	2.4	31	0.9	0.072	0	0.0%	0.0%
Water	411.7	0.08	100.0	31	0.9	0.950	189	0.3%	0.8%
Active Agriculture	1,761.6	0.37	2.0	31	0.9	0.068	280	0.5%	3.6%
Urban Open	0.0	0.11	10.9	31	0.9	0.148	0	0.0%	0.0%
Industrial	10,023.2	0.32	75.9	31	0.9	0.733	14,869	27.0%	20.5%
Total	48,924.6						55,085	100.0%	100.0%

Table F1-5.d. Estimated Future Stormwater and Snowmelt Runoff-Generated Annual Loads: Total Phosphorus (lbs./year)
Future (2030) Land Use, Directly Connected Impervious Area (DCIA)

Land Use Category	Acres (Au)	TP Conc. (mg/L) (Cu)	Percent Directly Connected Imperviousness (Iu)	Annual Precipitation (in.) (P)	P _j	Runoff Coefficient (Rvu)	TP Annual Load (lbs/yr)	% of Total Load	% of Land Use
Low Density Residential	4,776.8	0.52	2.4	31	0.9	0.072	1,125	3.2%	9.8%
Medium Density Residential	14,386.2	0.52	16.6	31	0.9	0.199	9,433	26.8%	29.4%
High Density Residential	1,726.1	0.24	30.3	31	0.9	0.323	845	2.4%	3.5%
Transportation	5,876.2	0.43	22.7	31	0.9	0.254	3,050	8.7%	12.0%
Commercial	7,475.8	0.33	43.9	31	0.9	0.445	6,944	19.8%	15.3%
Mixed Residential/Commercial Use	1,146.6	0	30.3	31	0.9	0.322	993	2.8%	2.3%
Forest & Rural Open	1,340.4	0.11	1.1	31	0.9	0.060	56	0.2%	2.7%
Wetland	0.0	0.08	2.4	31	0.9	0.072	0	0.0%	0.0%
Water	411.7	0.08	100.0	31	0.9	0.950	189	0.5%	0.8%
Active Agriculture	1,761.6	0.37	0.1	31	0.9	0.051	210	0.6%	3.6%
Urban Open	0.0	0.11	4.2	31	0.9	0.088	0	0.0%	0.0%
Industrial	10,023.2	0.32	61.9	31	0.9	0.607	12,314	35.0%	20.5%
Total	48,924.6						35,159	100.0%	100.0%

**Combined Downriver Watershed
Whole-Watershed Pollutant Load Estimates**

Table F1-6.a. Estimated Current Stormwater and Snowmelt Runoff-Generated Annual Loads: Ortho-Phosphorus (lbs./year)
Existing (2000) Land Use, Total Impervious Area (TIA)

Land Use Category	Acres (Au)	O-P Conc. (mg/L) (Cu)	Percent Total Imperviousness (Iu)	Annual Precipitation (in.) (P)	P _j	Runoff Coefficient (Rvu)	Ortho-P Annual Load (lbs/yr)	% of Total Load	% of Land Use
Low Density Residential	12,362.5	0.27	18.8	31	0.9	0.219	4,627	32.9%	25.2%
Medium Density Residential	0.0	0.27	37.8	31	0.9	0.390	0	0.0%	0.0%
High Density Residential	1,137.3	0.08	51.4	31	0.9	0.513	295	2.1%	2.3%
Transportation	5,667.2	0.22	52.9	31	0.9	0.526	4,148	29.5%	11.6%
Commercial	3,425.1	0.17	56.2	31	0.9	0.556	2,047	14.6%	7.0%
Mixed Residential/Commercial Use	0.0	0	47.0	31	0.9	0.473	0	0.0%	0.0%
Forest & Rural Open	7,521.3	0.03	1.9	31	0.9	0.067	96	0.7%	15.4%
Wetland	8,334.5	0.04	2.4	31	0.9	0.072	151	1.1%	17.0%
Water	648.7	0.04	100.0	31	0.9	0.950	156	1.1%	1.3%
Active Agriculture	3,096.7	0.09	2.0	31	0.9	0.068	120	0.9%	6.3%
Urban Open	2,137.0	0.03	10.9	31	0.9	0.148	60	0.4%	4.4%
Industrial	4,637.0	0.11	75.9	31	0.9	0.733	2,365	16.8%	9.5%
Total	48,967.3						14,064	100.0%	100.0%

Table F1-6.b. Estimated Current Stormwater and Snowmelt Runoff-Generated Annual Loads: Ortho-Phosphorus (lbs./year)
Existing (2000) Land Use, Directly Connected Impervious Area (DCIA)

Land Use Category	Acres (Au)	O-P Conc. (mg/L) (Cu)	Percent Directly Connected Imperviousness (Iu)	Annual Precipitation (in.) (P)	P _j	Runoff Coefficient (Rvu)	Ortho-P Annual Load (lbs/yr)	% of Total Load	% of Land Use
Low Density Residential	12,362.5	0.27	2.4	31	0.9	0.072	1,511	19.3%	25.2%
Medium Density Residential	0.0	0.27	16.6	31	0.9	0.199	0	0.0%	0.0%
High Density Residential	1,137.3	0.08	30.3	31	0.9	0.323	186	2.4%	2.3%
Transportation	5,667.2	0.22	22.7	31	0.9	0.254	2,005	25.6%	11.6%
Commercial	3,425.1	0.17	43.9	31	0.9	0.445	1,639	21.0%	7.0%
Mixed Residential/Commercial Use	0.0	0	30.3	31	0.9	0.322	0	0.0%	0.0%
Forest & Rural Open	7,521.3	0.03	1.1	31	0.9	0.060	85	1.1%	15.4%
Wetland	8,334.5	0.04	2.4	31	0.9	0.072	151	1.9%	17.0%
Water	648.7	0.04	100.0	31	0.9	0.950	156	2.0%	1.3%
Active Agriculture	3,096.7	0.09	0.1	31	0.9	0.051	90	1.1%	6.3%
Urban Open	2,137.0	0.03	4.2	31	0.9	0.088	36	0.5%	4.4%
Industrial	4,637.0	0.11	61.9	31	0.9	0.607	1,958	25.1%	9.5%
Total	48,967.3						7,817	100.0%	100.0%

Table F1-6.c. Estimated Current Stormwater and Snowmelt Runoff-Generated Annual Loads: Ortho-Phosphorus (lbs./year)
Future (2030) Land Use, Total Impervious Area (TIA)

Land Use Category	Acres (Au)	O-P Conc. (mg/L) (Cu)	Percent Total Imperviousness (Iu)	Annual Precipitation (in.) (P)	P _j	Runoff Coefficient (Rvu)	Ortho-P Annual Load (lbs/yr)	% of Total Load	% of Land Use
Low Density Residential	4,776.8	0.27	18.8	31	0.9	0.219	1,788	6.7%	9.8%
Medium Density Residential	14,386.2	0.27	37.8	31	0.9	0.390	9,585	36.0%	29.4%
High Density Residential	1,726.1	0.08	51.4	31	0.9	0.513	448	1.7%	3.5%
Transportation	5,876.2	0.22	52.9	31	0.9	0.526	4,301	16.1%	12.0%
Commercial	7,475.8	0.17	56.2	31	0.9	0.556	4,467	16.8%	15.3%
Mixed Residential/Commercial Use	1,146.6	0	47.0	31	0.9	0.473	755	2.8%	2.3%
Forest & Rural Open	1,340.4	0.03	1.9	31	0.9	0.067	17	0.1%	2.7%
Wetland	0.0	0.04	2.4	31	0.9	0.072	0	0.0%	0.0%
Water	411.7	0.04	100.0	31	0.9	0.950	99	0.4%	0.8%
Active Agriculture	1,761.6	0.09	2.0	31	0.9	0.068	68	0.3%	3.6%
Urban Open	0.0	0.03	10.9	31	0.9	0.148	0	0.0%	0.0%
Industrial	10,023.2	0.11	75.9	31	0.9	0.733	5,112	19.2%	20.5%
Total	48,924.6						26,639	100.0%	100.0%

Table F1-6.d. Estimated Current Stormwater and Snowmelt Runoff-Generated Annual Loads: Ortho-Phosphorus (lbs./year)
Future (2030) Land Use, Directly Connected Impervious Area (DCIA)

Land Use Category	Acres (Au)	O-P Conc. (mg/L) (Cu)	Percent Directly Connected Imperviousness (Iu)	Annual Precipitation (in.) (P)	P _j	Runoff Coefficient (Rvu)	Ortho-P Annual Load (lbs/yr)	% of Total Load	% of Land Use
Low Density Residential	4,776.8	0.27	2.4	31	0.9	0.072	584	3.6%	9.8%
Medium Density Residential	14,386.2	0.27	16.6	31	0.9	0.199	4,898	30.0%	29.4%
High Density Residential	1,726.1	0.08	30.3	31	0.9	0.323	282	1.7%	3.5%
Transportation	5,876.2	0.22	22.7	31	0.9	0.254	2,079	12.7%	12.0%
Commercial	7,475.8	0.17	43.9	31	0.9	0.445	3,577	21.9%	15.3%
Mixed Residential/Commercial Use	1,146.6	0	30.3	31	0.9	0.322	514	3.1%	2.3%
Forest & Rural Open	1,340.4	0.03	1.1	31	0.9	0.060	15	0.1%	2.7%
Wetland	0.0	0.04	2.4	31	0.9	0.072	0	0.0%	0.0%
Water	411.7	0.04	100.0	31	0.9	0.950	99	0.6%	0.8%
Active Agriculture	1,761.6	0.09	0.1	31	0.9	0.051	51	0.3%	3.6%
Urban Open	0.0	0.03	4.2	31	0.9	0.088	0	0.0%	0.0%
Industrial	10,023.2	0.11	61.9	31	0.9	0.607	4,233	25.9%	20.5%
Total	48,924.6						16,333	100.0%	100.0%

**Combined Downriver Watershed
Whole-Watershed Pollutant Load Estimates**

Table F1-7.a. Estimated Current Stormwater and Snowmelt Runoff-Generated Annual Loads: Total Kjeldahl Nitrogen (lbs./year)
Existing (2000) Land Use, Total Impervious Area (TIA)

Land Use Category	Acres (Au)	TKN Conc. (mg/L) (Cu)	Percent Total Imperviousness (Iu)	Annual Precipitation (in.) (P)	P _j	Runoff Coefficient (Rvu)	TKN Annual Load (lbs/yr)	% of Total Load	% of Land Use
Low Density Residential	12,362.5	3.32	18.8	31	0.9	0.219	57,007	33.6%	25.2%
Medium Density Residential	0.0	3.32	37.8	31	0.9	0.390	0	0.0%	0.0%
High Density Residential	1,137.3	1.17	51.4	31	0.9	0.513	4,176	2.5%	2.3%
Transportation	5,667.2	1.82	52.9	31	0.9	0.526	29,421	17.3%	11.6%
Commercial	3,425.1	1.74	56.2	31	0.9	0.556	20,909	12.3%	7.0%
Mixed Residential/Commercial Use	0.0	3	47.0	31	0.9	0.473	0	0.0%	0.0%
Forest & Rural Open	7,521.3	0.94	1.9	31	0.9	0.067	2,965	1.7%	15.4%
Wetland	8,334.5	0.79	2.4	31	0.9	0.072	2,974	1.8%	17.0%
Water	648.7	0.79	100.0	31	0.9	0.950	3,004	1.8%	1.3%
Active Agriculture	3,096.7	1.92	2.0	31	0.9	0.068	2,552	1.5%	6.3%
Urban Open	2,137.0	0.94	10.9	31	0.9	0.148	1,881	1.1%	4.4%
Industrial	4,637.0	2.08	75.9	31	0.9	0.733	44,716	26.4%	9.5%
Total	48,967.3						169,604	100.0%	100.0%

Table F1-7.b. Estimated Current Stormwater and Snowmelt Runoff-Generated Annual Loads: Total Kjeldahl Nitrogen (lbs./year)
Existing (2000) Land Use, Directly Connected Impervious Area (DCIA)

Land Use Category	Acres (Au)	TKN Conc. (mg/L) (Cu)	Percent Directly Connected Imperviousness (Iu)	Annual Precipitation (in.) (P)	P _j	Runoff Coefficient (Rvu)	TKN Annual Load (lbs/yr)	% of Total Load	% of Land Use
Low Density Residential	12,362.5	3.32	2.4	31	0.9	0.072	18,621	18.5%	25.2%
Medium Density Residential	0.0	3.32	16.6	31	0.9	0.199	0	0.0%	0.0%
High Density Residential	1,137.3	1.17	30.3	31	0.9	0.323	2,629	2.6%	2.3%
Transportation	5,667.2	1.82	22.7	31	0.9	0.254	14,221	14.1%	11.6%
Commercial	3,425.1	1.74	43.9	31	0.9	0.445	16,744	16.6%	7.0%
Mixed Residential/Commercial Use	0.0	3	30.3	31	0.9	0.322	0	0.0%	0.0%
Forest & Rural Open	7,521.3	0.94	1.1	31	0.9	0.060	2,647	2.6%	15.4%
Wetland	8,334.5	0.79	2.4	31	0.9	0.072	2,974	2.9%	17.0%
Water	648.7	0.79	100.0	31	0.9	0.950	3,004	3.0%	1.3%
Active Agriculture	3,096.7	1.92	0.1	31	0.9	0.051	1,910	1.9%	6.3%
Urban Open	2,137.0	0.94	4.2	31	0.9	0.088	1,115	1.1%	4.4%
Industrial	4,637.0	2.08	61.9	31	0.9	0.607	37,031	36.7%	9.5%
Total	48,967.3						100,896	100.0%	100.0%

Table F1-7.c. Estimated Future Stormwater and Snowmelt Runoff-Generated Annual Loads: Total Kjeldahl Nitrogen (lbs./year)
Future (2030) Land Use, Total Impervious Area (TIA)

Land Use Category	Acres (Au)	TKN Conc. (mg/L) (Cu)	Percent Total Imperviousness (Iu)	Annual Precipitation (in.) (P)	P _j	Runoff Coefficient (Rvu)	TKN Annual Load (lbs/yr)	% of Total Load	% of Land Use
Low Density Residential	4,776.8	3.32	18.8	31	0.9	0.219	21,984	6.6%	9.8%
Medium Density Residential	14,386.2	3.32	37.8	31	0.9	0.390	117,859	35.6%	29.4%
High Density Residential	1,726.1	1.17	51.4	31	0.9	0.513	6,547	2.0%	3.5%
Transportation	5,876.2	1.82	52.9	31	0.9	0.526	29,848	9.0%	12.0%
Commercial	7,475.8	1.74	56.2	31	0.9	0.556	45,721	13.8%	15.3%
Mixed Residential/Commercial Use	1,146.6	3	47.0	31	0.9	0.473	8,677	2.6%	2.3%
Forest & Rural Open	1,340.4	0.94	1.9	31	0.9	0.067	535	0.2%	2.7%
Wetland	0.0	0.79	2.4	31	0.9	0.072	0	0.0%	0.0%
Water	411.7	0.79	100.0	31	0.9	0.950	1,896	0.6%	0.8%
Active Agriculture	1,761.6	1.92	2.0	31	0.9	0.068	1,454	0.4%	3.6%
Urban Open	0.0	0.94	10.9	31	0.9	0.148	0	0.0%	0.0%
Industrial	10,023.2	2.08	75.9	31	0.9	0.733	96,652	29.2%	20.5%
Total	48,924.6						331,174	100.0%	100.0%

Table F1-7.d. Estimated Future Stormwater and Snowmelt Runoff-Generated Annual Loads: Total Kjeldahl Nitrogen (lbs./year)
Future (2030) Land Use, Directly Connected Impervious Area (DCIA)

Land Use Category	Acres (Au)	TKN Conc. (mg/L) (Cu)	Percent Directly Connected Imperviousness (Iu)	Annual Precipitation (in.) (P)	P _j	Runoff Coefficient (Rvu)	TKN Annual Load (lbs/yr)	% of Total Load	% of Land Use
Low Density Residential	4,776.8	3.32	2.4	31	0.9	0.072	7,181	3.4%	9.8%
Medium Density Residential	14,386.2	3.32	16.6	31	0.9	0.199	60,228	28.4%	29.4%
High Density Residential	1,726.1	1.17	30.3	31	0.9	0.323	4,121	1.9%	3.5%
Transportation	5,876.2	1.82	22.7	31	0.9	0.254	14,428	6.8%	12.0%
Commercial	7,475.8	1.74	43.9	31	0.9	0.445	36,615	17.3%	15.3%
Mixed Residential/Commercial Use	1,146.6	3	30.3	31	0.9	0.322	5,912	2.8%	2.3%
Forest & Rural Open	1,340.4	0.94	1.1	31	0.9	0.060	477	0.2%	2.7%
Wetland	0.0	0.79	2.4	31	0.9	0.072	0	0.0%	0.0%
Water	411.7	0.79	100.0	31	0.9	0.950	1,896	0.9%	0.8%
Active Agriculture	1,761.6	1.92	0.1	31	0.9	0.051	1,089	0.5%	3.6%
Urban Open	0.0	0.94	4.2	31	0.9	0.088	0	0.0%	0.0%
Industrial	10,023.2	2.08	61.9	31	0.9	0.607	80,040	37.8%	20.5%
Total	48,924.6						211,988	100.0%	100.0%

**Combined Downriver Watershed
Whole-Watershed Pollutant Load Estimates**

Table F1-8.a. Estimated Current Stormwater and Snowmelt Runoff-Generated Annual Loads: Nitrite + Nitrate Nitrogen (lbs./year)
Existing (2000) Land Use, Total Impervious Area (TIA)

Land Use Category	Acres (Au)	NO ₂ +NO ₃ Conc. (mg/L) (Cu)	Percent Total Imperviousness (Iu)	Annual Precipitation (in.) (P)	P _f	Runoff Coefficient (Rvu)	NO ₂ +NO ₃ Annual Load (lbs/yr)	% of Total Load	% of Land Use
Low Density Residential	12,362.5	1.83	18.8	31	0.9	0.219	31,429	25.7%	25.2%
Medium Density Residential	0.0	1.83	37.8	31	0.9	0.390	0	0.0%	0.0%
High Density Residential	1,137.3	2.12	51.4	31	0.9	0.513	7,567	6.2%	2.3%
Transportation	5,667.2	0.83	52.9	31	0.9	0.526	13,922	11.4%	11.6%
Commercial	3,425.1	1.23	56.2	31	0.9	0.556	14,787	12.1%	7.0%
Mixed Residential/Commercial Use	0.0	2	47.0	31	0.9	0.473	0	0.0%	0.0%
Forest & Rural Open	7,521.3	0.8	1.9	31	0.9	0.067	2,530	2.1%	15.4%
Wetland	8,334.5	0.59	2.4	31	0.9	0.072	2,222	1.8%	17.0%
Water	648.7	0.59	100.0	31	0.9	0.950	2,257	1.8%	1.3%
Active Agriculture	3,096.7	4.06	2.0	31	0.9	0.068	5,398	4.4%	6.3%
Urban Open	2,137.0	0.8	10.9	31	0.9	0.148	1,601	1.3%	4.4%
Industrial	4,637.0	1.89	75.9	31	0.9	0.733	40,632	33.2%	9.5%
Total	48,967.3						122,345	100.0%	100.0%

Table F1-8.b. Estimated Current Stormwater and Snowmelt Runoff-Generated Annual Loads: Nitrite + Nitrate Nitrogen (lbs./year)
Existing (2000) Land Use, Directly Connected Impervious Area (DCIA)

Land Use Category	Acres (Au)	NO ₂ +NO ₃ Conc. (mg/L) (Cu)	Percent Directly Connected Imperviousness (Iu)	Annual Precipitation (in.) (P)	P _f	Runoff Coefficient (Rvu)	NO ₂ +NO ₃ Annual Load (lbs/yr)	% of Total Load	% of Land Use
Low Density Residential	12,362.5	1.83	2.4	31	0.9	0.072	10,266	13.0%	25.2%
Medium Density Residential	0.0	1.83	16.6	31	0.9	0.199	0	0.0%	0.0%
High Density Residential	1,137.3	2.12	30.3	31	0.9	0.323	4,764	6.0%	2.3%
Transportation	5,667.2	0.83	22.7	31	0.9	0.254	6,730	8.5%	11.6%
Commercial	3,425.1	1.23	43.9	31	0.9	0.445	11,842	15.0%	7.0%
Mixed Residential/Commercial Use	0.0	2	30.3	31	0.9	0.322	0	0.0%	0.0%
Forest & Rural Open	7,521.3	0.8	1.1	31	0.9	0.060	2,259	2.9%	15.4%
Wetland	8,334.5	0.59	2.4	31	0.9	0.072	2,222	2.8%	17.0%
Water	648.7	0.59	100.0	31	0.9	0.950	2,257	2.9%	1.3%
Active Agriculture	3,096.7	4.06	0.1	31	0.9	0.051	4,040	5.1%	6.3%
Urban Open	2,137.0	0.8	4.2	31	0.9	0.088	949	1.2%	4.4%
Industrial	4,637.0	1.89	61.9	31	0.9	0.607	33,648	42.6%	9.5%
Total	48,967.3						78,976	100.0%	100.0%

Table F1-8.c. Estimated Future Stormwater and Snowmelt Runoff-Generated Annual Loads: Nitrite + Nitrate Nitrogen (lbs./year)
Future (2030) Land Use, Total Impervious Area (TIA)

Land Use Category	Acres (Au)	NO ₂ +NO ₃ Conc. (mg/L) (Cu)	Percent Total Imperviousness (Iu)	Annual Precipitation (in.) (P)	P _f	Runoff Coefficient (Rvu)	NO ₂ +NO ₃ Annual Load (lbs/yr)	% of Total Load	% of Land Use
Low Density Residential	4,776.8	1.83	18.8	31	0.9	0.219	12,118	5.2%	9.8%
Medium Density Residential	14,386.2	1.83	37.8	31	0.9	0.390	64,965	27.8%	29.4%
High Density Residential	1,726.1	2.12	51.4	31	0.9	0.513	11,862	5.1%	3.5%
Transportation	5,876.2	0.83	52.9	31	0.9	0.526	14,203	6.1%	12.0%
Commercial	7,475.8	1.23	56.2	31	0.9	0.556	32,320	13.8%	15.3%
Mixed Residential/Commercial Use	1,146.6	2	47.0	31	0.9	0.473	5,248	2.2%	2.3%
Forest & Rural Open	1,340.4	0.8	1.9	31	0.9	0.067	455	0.2%	2.7%
Wetland	0.0	0.59	2.4	31	0.9	0.072	0	0.0%	0.0%
Water	411.7	0.59	100.0	31	0.9	0.950	1,426	0.6%	0.8%
Active Agriculture	1,761.6	4.06	2.0	31	0.9	0.068	3,076	1.3%	3.6%
Urban Open	0.0	0.8	10.9	31	0.9	0.148	0	0.0%	0.0%
Industrial	10,023.2	1.89	75.9	31	0.9	0.733	87,824	37.6%	20.5%
Total	48,924.6						233,496	100.0%	100.0%

Table F1-8.d. Estimated Future Stormwater and Snowmelt Runoff-Generated Annual Loads: Nitrite + Nitrate Nitrogen (lbs./year)
Future (2030) Land Use, Directly Connected Impervious Area (DCIA)

Land Use Category	Acres (Au)	NO ₂ +NO ₃ Conc. (mg/L) (Cu)	Percent Directly Connected Imperviousness (Iu)	Annual Precipitation (in.) (P)	P _f	Runoff Coefficient (Rvu)	NO ₂ +NO ₃ Annual Load (lbs/yr)	% of Total Load	% of Land Use
Low Density Residential	4,776.8	1.83	2.4	31	0.9	0.072	3,958	2.5%	9.8%
Medium Density Residential	14,386.2	1.83	16.6	31	0.9	0.199	33,198	21.0%	29.4%
High Density Residential	1,726.1	2.12	30.3	31	0.9	0.323	7,468	4.7%	3.5%
Transportation	5,876.2	0.83	22.7	31	0.9	0.254	6,865	4.4%	12.0%
Commercial	7,475.8	1.23	43.9	31	0.9	0.445	25,883	16.4%	15.3%
Mixed Residential/Commercial Use	1,146.6	2	30.3	31	0.9	0.322	3,575	2.3%	2.3%
Forest & Rural Open	1,340.4	0.8	1.1	31	0.9	0.060	406	0.3%	2.7%
Wetland	0.0	0.59	2.4	31	0.9	0.072	0	0.0%	0.0%
Water	411.7	0.59	100.0	31	0.9	0.950	1,426	0.9%	0.8%
Active Agriculture	1,761.6	4.06	0.1	31	0.9	0.051	2,302	1.5%	3.6%
Urban Open	0.0	0.8	4.2	31	0.9	0.088	0	0.0%	0.0%
Industrial	10,023.2	1.89	61.9	31	0.9	0.607	72,730	46.1%	20.5%
Total	48,924.6						157,811	100.0%	100.0%

**Combined Downriver Watershed
Whole-Watershed Pollutant Load Estimates**

Table F1-9.a. Estimated Current Stormwater and Snowmelt Runoff-Generated Annual Loads: Lead (lbs./year)
Existing (2000) Land Use, Total Impervious Area (TIA)

Land Use Category	Acres (Au)	Pb Conc. (mg/L) (Cu)	Percent Total Imperviousness (Iu)	Annual Precipitation (in.) (P)	P _j	Runoff Coefficient (Rvu)	Pb Annual Load (lbs/yr)	% of Total Load	% of Land Use
Low Density Residential	12,362.5	0.057	18.8	31	0.9	0.219	979	23.3%	25.2%
Medium Density Residential	0.0	0.057	37.8	31	0.9	0.390	0	0.0%	0.0%
High Density Residential	1,137.3	0.041	51.4	31	0.9	0.513	146	3.5%	2.3%
Transportation	5,667.2	0.049	52.9	31	0.9	0.526	822	19.6%	11.6%
Commercial	3,425.1	0.049	56.2	31	0.9	0.556	589	14.0%	7.0%
Mixed Residential/Commercial Use	0.0	0	47.0	31	0.9	0.473	0	0.0%	0.0%
Forest & Rural Open	7,521.3	0	1.9	31	0.9	0.067	0	0.0%	15.4%
Wetland	8,334.5	0.011	2.4	31	0.9	0.072	41	1.0%	17.0%
Water	648.7	0.011	100.0	31	0.9	0.950	42	1.0%	1.3%
Active Agriculture	3,096.7	0	2.0	31	0.9	0.068	0	0.0%	6.3%
Urban Open	2,137.0	0.014	10.9	31	0.9	0.148	28	0.7%	4.4%
Industrial	4,637.0	0.072	75.9	31	0.9	0.733	1,548	36.9%	9.5%
Total	48,967.3						4,196	100.0%	100.0%

Table F1-9.b. Estimated Current Stormwater and Snowmelt Runoff-Generated Annual Loads: Lead (lbs./year)
Existing (2000) Land Use, Directly Connected Impervious Area (DCIA)

Land Use Category	Acres (Au)	Pb Conc. (mg/L) (Cu)	Percent Directly Connected Imperviousness (Iu)	Annual Precipitation (in.) (P)	P _j	Runoff Coefficient (Rvu)	Pb Annual Load (lbs/yr)	% of Total Load	% of Land Use
Low Density Residential	12,362.5	0.057	2.4	31	0.9	0.072	320	12.0%	25.2%
Medium Density Residential	0.0	0.057	16.6	31	0.9	0.199	0	0.0%	0.0%
High Density Residential	1,137.3	0.041	30.3	31	0.9	0.323	92	3.5%	2.3%
Transportation	5,667.2	0.049	22.7	31	0.9	0.254	397	14.9%	11.6%
Commercial	3,425.1	0.049	43.9	31	0.9	0.445	472	17.7%	7.0%
Mixed Residential/Commercial Use	0.0	0	30.3	31	0.9	0.322	0	0.0%	0.0%
Forest & Rural Open	7,521.3	0	1.1	31	0.9	0.060	0	0.0%	15.4%
Wetland	8,334.5	0.011	2.4	31	0.9	0.072	41	1.6%	17.0%
Water	648.7	0.011	100.0	31	0.9	0.950	42	1.6%	1.3%
Active Agriculture	3,096.7	0	0.1	31	0.9	0.051	0	0.0%	6.3%
Urban Open	2,137.0	0.014	4.2	31	0.9	0.088	17	0.6%	4.4%
Industrial	4,637.0	0.072	61.9	31	0.9	0.607	1,282	48.1%	9.5%
Total	48,967.3						2,663	100.0%	100.0%

Table F1-9.c. Estimated Future Stormwater and Snowmelt Runoff-Generated Annual Loads: Lead (lbs./year)
Future (2030) Land Use, Total Impervious Area (TIA)

Land Use Category	Acres (Au)	Pb Conc. (mg/L) (Cu)	Percent Total Imperviousness (Iu)	Annual Precipitation (in.) (P)	P _j	Runoff Coefficient (Rvu)	Pb Annual Load (lbs/yr)	% of Total Load	% of Land Use
Low Density Residential	4,776.8	0.057	18.8	31	0.9	0.219	377	4.5%	9.8%
Medium Density Residential	14,386.2	0.057	37.8	31	0.9	0.390	2,023	24.3%	29.4%
High Density Residential	1,726.1	0.041	51.4	31	0.9	0.513	229	2.8%	3.5%
Transportation	5,876.2	0.049	52.9	31	0.9	0.526	838	10.1%	12.0%
Commercial	7,475.8	0.049	56.2	31	0.9	0.556	1,288	15.5%	15.3%
Mixed Residential/Commercial Use	1,146.6	0	47.0	31	0.9	0.473	182	2.2%	2.3%
Forest & Rural Open	1,340.4	0	1.9	31	0.9	0.067	0	0.0%	2.7%
Wetland	0.0	0.011	2.4	31	0.9	0.072	0	0.0%	0.0%
Water	411.7	0.011	100.0	31	0.9	0.950	27	0.3%	0.8%
Active Agriculture	1,761.6	0	2.0	31	0.9	0.068	0	0.0%	3.6%
Urban Open	0.0	0.014	10.9	31	0.9	0.148	0	0.0%	0.0%
Industrial	10,023.2	0.072	75.9	31	0.9	0.733	3,346	40.3%	20.5%
Total	48,924.6						8,310	100.0%	100.0%

Table F1-9.d. Estimated Future Stormwater and Snowmelt Runoff-Generated Annual Loads: Lead (lbs./year)
Future (2030) Land Use, Directly Connected Impervious Area (DCIA)

Land Use Category	Acres (Au)	Pb Conc. (mg/L) (Cu)	Percent Directly Connected Imperviousness (Iu)	Annual Precipitation (in.) (P)	P _j	Runoff Coefficient (Rvu)	Pb Annual Load (lbs/yr)	% of Total Load	% of Land Use
Low Density Residential	4,776.8	0.057	2.4	31	0.9	0.072	123	2.2%	9.8%
Medium Density Residential	14,386.2	0.057	16.6	31	0.9	0.199	1,034	18.3%	29.4%
High Density Residential	1,726.1	0.041	30.3	31	0.9	0.323	144	2.6%	3.5%
Transportation	5,876.2	0.049	22.7	31	0.9	0.254	405	7.2%	12.0%
Commercial	7,475.8	0.049	43.9	31	0.9	0.445	1,031	18.2%	15.3%
Mixed Residential/Commercial Use	1,146.6	0	30.3	31	0.9	0.322	124	2.2%	2.3%
Forest & Rural Open	1,340.4	0	1.1	31	0.9	0.060	0	0.0%	2.7%
Wetland	0.0	0.011	2.4	31	0.9	0.072	0	0.0%	0.0%
Water	411.7	0.011	100.0	31	0.9	0.950	27	0.5%	0.8%
Active Agriculture	1,761.6	0	0.1	31	0.9	0.051	0	0.0%	3.6%
Urban Open	0.0	0.014	4.2	31	0.9	0.088	0	0.0%	0.0%
Industrial	10,023.2	0.072	61.9	31	0.9	0.607	2,771	49.0%	20.5%
Total	48,924.6						5,659	100.0%	100.0%

**Combined Downriver Watershed
Whole-Watershed Pollutant Load Estimates**

Table F1-10.a. Estimated Current Stormwater and Snowmelt Runoff-Generated Annual Loads: Copper (lbs./year)
Existing (2000) Land Use, Total Impervious Area (TIA)

Land Use Category	Acres (Au)	Cu Conc. (mg/L) (Cu)	Percent Total Imperviousness (Iu)	Annual Precipitation (in.) (P)	P _j	Runoff Coefficient (Rvu)	Cu Annual Load (lbs/yr)	% of Total Load	% of Land Use
Low Density Residential	12,362.5	0.026	18.8	31	0.9	0.219	447	15.2%	25.2%
Medium Density Residential	0.0	0.026	37.8	31	0.9	0.390	0	0.0%	0.0%
High Density Residential	1,137.3	0.033	51.4	31	0.9	0.513	118	4.0%	2.3%
Transportation	5,667.2	0.037	52.9	31	0.9	0.526	621	21.2%	11.6%
Commercial	3,425.1	0.037	56.2	31	0.9	0.556	445	15.2%	7.0%
Mixed Residential/Commercial Use	0.0	0	47.0	31	0.9	0.473	0	0.0%	0.0%
Forest & Rural Open	7,521.3	0	1.9	31	0.9	0.067	0	0.0%	15.4%
Wetland	8,334.5	0.007	2.4	31	0.9	0.072	26	0.9%	17.0%
Water	648.7	0.007	100.0	31	0.9	0.950	27	0.9%	1.3%
Active Agriculture	3,096.7	0	2.0	31	0.9	0.068	0	0.0%	6.3%
Urban Open	2,137.0	0	10.9	31	0.9	0.148	0	0.0%	4.4%
Industrial	4,637.0	0.058	75.9	31	0.9	0.733	1,247	42.6%	9.5%
Total	48,967.3						2,930	100.0%	100.0%

Table F1-10.b. Estimated Current Stormwater and Snowmelt Runoff-Generated Annual Loads: Copper (lbs./year)
Existing (2000) Land Use, Directly Connected Impervious Area (DCIA)

Land Use Category	Acres (Au)	Cu Conc. (mg/L) (Cu)	Percent Directly Connected Imperviousness (Iu)	Annual Precipitation (in.) (P)	P _j	Runoff Coefficient (Rvu)	Cu Annual Load (lbs/yr)	% of Total Load	% of Land Use
Low Density Residential	12,362.5	0.026	2.4	31	0.9	0.072	146	7.4%	25.2%
Medium Density Residential	0.0	0.026	16.6	31	0.9	0.199	0	0.0%	0.0%
High Density Residential	1,137.3	0.033	30.3	31	0.9	0.323	74	3.8%	2.3%
Transportation	5,667.2	0.037	22.7	31	0.9	0.254	300	15.3%	11.6%
Commercial	3,425.1	0.037	43.9	31	0.9	0.445	356	18.2%	7.0%
Mixed Residential/Commercial Use	0.0	0	30.3	31	0.9	0.322	0	0.0%	0.0%
Forest & Rural Open	7,521.3	0	1.1	31	0.9	0.060	0	0.0%	15.4%
Wetland	8,334.5	0.007	2.4	31	0.9	0.072	26	1.3%	17.0%
Water	648.7	0.007	100.0	31	0.9	0.950	27	1.4%	1.3%
Active Agriculture	3,096.7	0	0.1	31	0.9	0.051	0	0.0%	6.3%
Urban Open	2,137.0	0	4.2	31	0.9	0.088	0	0.0%	4.4%
Industrial	4,637.0	0.058	61.9	31	0.9	0.607	1,033	52.6%	9.5%
Total	48,967.3						1,962	100.0%	100.0%

Table F1-10.c. Estimated Future Stormwater and Snowmelt Runoff-Generated Annual Loads: Copper (lbs./year)
Future (2030) Land Use, Total Impervious Area (TIA)

Land Use Category	Acres (Au)	Cu Conc. (mg/L) (Cu)	Percent Total Imperviousness (Iu)	Annual Precipitation (in.) (P)	P _j	Runoff Coefficient (Rvu)	Cu Annual Load (lbs/yr)	% of Total Load	% of Land Use
Low Density Residential	4,776.8	0.026	18.8	31	0.9	0.219	172	3.0%	9.8%
Medium Density Residential	14,386.2	0.026	37.8	31	0.9	0.390	923	16.2%	29.4%
High Density Residential	1,726.1	0.033	51.4	31	0.9	0.513	185	3.2%	3.5%
Transportation	5,876.2	0.037	52.9	31	0.9	0.526	633	11.1%	12.0%
Commercial	7,475.8	0.037	56.2	31	0.9	0.556	972	17.0%	15.3%
Mixed Residential/Commercial Use	1,146.6	0	47.0	31	0.9	0.473	108	1.9%	2.3%
Forest & Rural Open	1,340.4	0	1.9	31	0.9	0.067	0	0.0%	2.7%
Wetland	0.0	0.007	2.4	31	0.9	0.072	0	0.0%	0.0%
Water	411.7	0.007	100.0	31	0.9	0.950	17	0.3%	0.8%
Active Agriculture	1,761.6	0	2.0	31	0.9	0.068	0	0.0%	3.6%
Urban Open	0.0	0	10.9	31	0.9	0.148	0	0.0%	0.0%
Industrial	10,023.2	0.058	75.9	31	0.9	0.733	2,695	47.2%	20.5%
Total	48,924.6						5,705	100.0%	100.0%

Table F1-10.d. Estimated Future Stormwater and Snowmelt Runoff-Generated Annual Loads: Copper (lbs./year)
Future (2030) Land Use, Directly Connected Impervious Area (DCIA)

Land Use Category	Acres (Au)	Cu Conc. (mg/L) (Cu)	Percent Directly Connected Imperviousness (Iu)	Annual Precipitation (in.) (P)	P _j	Runoff Coefficient (Rvu)	Cu Annual Load (lbs/yr)	% of Total Load	% of Land Use
Low Density Residential	4,776.8	0.026	2.4	31	0.9	0.072	56	1.4%	9.8%
Medium Density Residential	14,386.2	0.026	16.6	31	0.9	0.199	472	11.6%	29.4%
High Density Residential	1,726.1	0.033	30.3	31	0.9	0.323	116	2.9%	3.5%
Transportation	5,876.2	0.037	22.7	31	0.9	0.254	306	7.6%	12.0%
Commercial	7,475.8	0.037	43.9	31	0.9	0.445	779	19.2%	15.3%
Mixed Residential/Commercial Use	1,146.6	0	30.3	31	0.9	0.322	74	1.8%	2.3%
Forest & Rural Open	1,340.4	0	1.1	31	0.9	0.060	0	0.0%	2.7%
Wetland	0.0	0.007	2.4	31	0.9	0.072	0	0.0%	0.0%
Water	411.7	0.007	100.0	31	0.9	0.950	17	0.4%	0.8%
Active Agriculture	1,761.6	0	0.1	31	0.9	0.051	0	0.0%	3.6%
Urban Open	0.0	0	4.2	31	0.9	0.088	0	0.0%	0.0%
Industrial	10,023.2	0.058	61.9	31	0.9	0.607	2,232	55.1%	20.5%
Total	48,924.6						4,051	100.0%	100.0%

**Combined Downriver Watershed
Whole-Watershed Pollutant Load Estimates**

Table F1-11.a. Estimated Current Stormwater and Snowmelt Runoff-Generated Annual Loads: Zinc (lbs./year)
Existing (2000) Land Use, Total Impervious Area (TIA)

Land Use Category	Acres (Au)	Zn Conc. (mg/L) (Cu)	Percent Total Imperviousness (Iu)	Annual Precipitation (in.) (P)	P _j	Runoff Coefficient (Rvu)	Zn Annual Load (lbs/yr)	% of Total Load	% of Land Use
Low Density Residential	12,362.5	0.161	18.8	31	0.9	0.219	2,765	12.1%	25.2%
Medium Density Residential	0.0	0.161	37.8	31	0.9	0.390	0	0.0%	0.0%
High Density Residential	1,137.3	0.218	51.4	31	0.9	0.513	778	3.4%	2.3%
Transportation	5,667.2	0.156	52.9	31	0.9	0.526	2,617	11.5%	11.6%
Commercial	3,425.1	0.156	56.2	31	0.9	0.556	1,875	8.2%	7.0%
Mixed Residential/Commercial Use	0.0	0	47.0	31	0.9	0.473	0	0.0%	0.0%
Forest & Rural Open	7,521.3	0	1.9	31	0.9	0.067	0	0.0%	15.4%
Wetland	8,334.5	0.03	2.4	31	0.9	0.072	113	0.5%	17.0%
Water	648.7	0.03	100.0	31	0.9	0.950	115	0.5%	1.3%
Active Agriculture	3,096.7	0	2.0	31	0.9	0.068	0	0.0%	6.3%
Urban Open	2,137.0	0.04	10.9	31	0.9	0.148	80	0.4%	4.4%
Industrial	4,637.0	0.671	75.9	31	0.9	0.733	14,425	63.4%	9.5%
Total	48,967.3						22,768	100.0%	100.0%

Table F1-11.b. Estimated Current Stormwater and Snowmelt Runoff-Generated Annual Loads: Zinc (lbs./year)
Existing (2000) Land Use, Directly Connected Impervious Area (DCIA)

Land Use Category	Acres (Au)	Zn Conc. (mg/L) (Cu)	Percent Directly Connected Imperviousness (Iu)	Annual Precipitation (in.) (P)	P _j	Runoff Coefficient (Rvu)	Zn Annual Load (lbs/yr)	% of Total Load	% of Land Use
Low Density Residential	12,362.5	0.161	2.4	31	0.9	0.072	903	5.5%	25.2%
Medium Density Residential	0.0	0.161	16.6	31	0.9	0.199	0	0.0%	0.0%
High Density Residential	1,137.3	0.218	30.3	31	0.9	0.323	490	3.0%	2.3%
Transportation	5,667.2	0.156	22.7	31	0.9	0.254	1,265	7.7%	11.6%
Commercial	3,425.1	0.156	43.9	31	0.9	0.445	1,502	9.2%	7.0%
Mixed Residential/Commercial Use	0.0	0	30.3	31	0.9	0.322	0	0.0%	0.0%
Forest & Rural Open	7,521.3	0	1.1	31	0.9	0.060	0	0.0%	15.4%
Wetland	8,334.5	0.03	2.4	31	0.9	0.072	113	0.7%	17.0%
Water	648.7	0.03	100.0	31	0.9	0.950	115	0.7%	1.3%
Active Agriculture	3,096.7	0	0.1	31	0.9	0.051	0	0.0%	6.3%
Urban Open	2,137.0	0.04	4.2	31	0.9	0.088	47	0.3%	4.4%
Industrial	4,637.0	0.671	61.9	31	0.9	0.607	11,946	72.9%	9.5%
Total	48,967.3						16,381	100.0%	100.0%

Table F1-11.c. Estimated Future Stormwater and Snowmelt Runoff-Generated Annual Loads: Zinc (lbs./year)
Future (2030) Land Use, Total Impervious Area (TIA)

Land Use Category	Acres (Au)	Zn Conc. (mg/L) (Cu)	Percent Total Imperviousness (Iu)	Annual Precipitation (in.) (P)	P _j	Runoff Coefficient (Rvu)	Zn Annual Load (lbs/yr)	% of Total Load	% of Land Use
Low Density Residential	4,776.8	0.161	18.8	31	0.9	0.219	1,066	2.3%	9.8%
Medium Density Residential	14,386.2	0.161	37.8	31	0.9	0.390	5,715	12.3%	29.4%
High Density Residential	1,726.1	0.218	51.4	31	0.9	0.513	1,220	2.6%	3.5%
Transportation	5,876.2	0.156	52.9	31	0.9	0.526	2,669	5.7%	12.0%
Commercial	7,475.8	0.156	56.2	31	0.9	0.556	4,099	8.8%	15.3%
Mixed Residential/Commercial Use	1,146.6	0	47.0	31	0.9	0.473	544	1.2%	2.3%
Forest & Rural Open	1,340.4	0	1.9	31	0.9	0.067	0	0.0%	2.7%
Wetland	0.0	0.03	2.4	31	0.9	0.072	0	0.0%	0.0%
Water	411.7	0.03	100.0	31	0.9	0.950	73	0.2%	0.8%
Active Agriculture	1,761.6	0	2.0	31	0.9	0.068	0	0.0%	3.6%
Urban Open	0.0	0.04	10.9	31	0.9	0.148	0	0.0%	0.0%
Industrial	10,023.2	0.671	75.9	31	0.9	0.733	31,180	67.0%	20.5%
Total	48,924.6						46,566	100.0%	100.0%

Table F1-11.d. Estimated Future Stormwater and Snowmelt Runoff-Generated Annual Loads: Zinc (lbs./year)
Future (2030) Land Use, Directly Connected Impervious Area (DCIA)

Land Use Category	Acres (Au)	Zn Conc. (mg/L) (Cu)	Percent Directly Connected Imperviousness (Iu)	Annual Precipitation (in.) (P)	P _j	Runoff Coefficient (Rvu)	Zn Annual Load (lbs/yr)	% of Total Load	% of Land Use
Low Density Residential	4,776.8	0.161	2.4	31	0.9	0.072	348	1.0%	9.8%
Medium Density Residential	14,386.2	0.161	16.6	31	0.9	0.199	2,921	8.4%	29.4%
High Density Residential	1,726.1	0.218	30.3	31	0.9	0.323	768	2.2%	3.5%
Transportation	5,876.2	0.156	22.7	31	0.9	0.254	1,290	3.7%	12.0%
Commercial	7,475.8	0.156	43.9	31	0.9	0.445	3,283	9.4%	15.3%
Mixed Residential/Commercial Use	1,146.6	0	30.3	31	0.9	0.322	370	1.1%	2.3%
Forest & Rural Open	1,340.4	0	1.1	31	0.9	0.060	0	0.0%	2.7%
Wetland	0.0	0.03	2.4	31	0.9	0.072	0	0.0%	0.0%
Water	411.7	0.03	100.0	31	0.9	0.950	73	0.2%	0.8%
Active Agriculture	1,761.6	0	0.1	31	0.9	0.051	0	0.0%	3.6%
Urban Open	0.0	0.04	4.2	31	0.9	0.088	0	0.0%	0.0%
Industrial	10,023.2	0.671	61.9	31	0.9	0.607	25,821	74.0%	20.5%
Total	48,924.6						34,874	100.0%	100.0%

**Combined Downriver Watershed
Whole-Watershed Pollutant Load Estimates**

Table F1-12.a. Estimated Current Stormwater and Snowmelt Runoff-Generated Annual Loads: Cadmium (lbs./year)
Existing (2000) Land Use, Total Impervious Area (TIA)

Land Use Category	Acres (Au)	Cd Conc. (mg/L) (Cu)	Percent Total Imperviousness (Iu)	Annual Precipitation (in.) (P)	P _j	Runoff Coefficient (Rvu)	Cd Annual Load (lbs/yr)	% of Total Load	% of Land Use
Low Density Residential	12,362.5	0.004	18.8	31	0.9	0.219	69	24.3%	25.2%
Medium Density Residential	0.0	0.004	37.8	31	0.9	0.390	0	0.0%	0.0%
High Density Residential	1,137.3	0.003	51.4	31	0.9	0.513	11	3.8%	2.3%
Transportation	5,667.2	0.003	52.9	31	0.9	0.526	50	17.8%	11.6%
Commercial	3,425.1	0.003	56.2	31	0.9	0.556	36	12.7%	7.0%
Mixed Residential/Commercial Use	0.0	0	47.0	31	0.9	0.473	0	0.0%	0.0%
Forest & Rural Open	7,521.3	0	1.9	31	0.9	0.067	0	0.0%	15.4%
Wetland	8,334.5	0.001	2.4	31	0.9	0.072	4	1.3%	17.0%
Water	648.7	0.001	100.0	31	0.9	0.950	4	1.4%	1.3%
Active Agriculture	3,096.7	0	2.0	31	0.9	0.068	0	0.0%	6.3%
Urban Open	2,137.0	0.001	10.9	31	0.9	0.148	2	0.7%	4.4%
Industrial	4,637.0	0.005	75.9	31	0.9	0.733	107	38.0%	9.5%
Total	48,967.3						283	100.0%	100.0%

Table F1-12.b. Estimated Current Stormwater and Snowmelt Runoff-Generated Annual Loads: Cadmium (lbs./year)
Existing (2000) Land Use, Directly Connected Impervious Area (DCIA)

Land Use Category	Acres (Au)	Cd Conc. (mg/L) (Cu)	Percent Directly Connected Imperviousness (Iu)	Annual Precipitation (in.) (P)	P _j	Runoff Coefficient (Rvu)	Cd Annual Load (lbs/yr)	% of Total Load	% of Land Use
Low Density Residential	12,362.5	0.004	2.4	31	0.9	0.072	22	12.5%	25.2%
Medium Density Residential	0.0	0.004	16.6	31	0.9	0.199	0	0.0%	0.0%
High Density Residential	1,137.3	0.003	30.3	31	0.9	0.323	7	3.7%	2.3%
Transportation	5,667.2	0.003	22.7	31	0.9	0.254	24	13.5%	11.6%
Commercial	3,425.1	0.003	43.9	31	0.9	0.445	29	16.0%	7.0%
Mixed Residential/Commercial Use	0.0	0	30.3	31	0.9	0.322	0	0.0%	0.0%
Forest & Rural Open	7,521.3	0	1.1	31	0.9	0.060	0	0.0%	15.4%
Wetland	8,334.5	0.001	2.4	31	0.9	0.072	4	2.1%	17.0%
Water	648.7	0.001	100.0	31	0.9	0.950	4	2.1%	1.3%
Active Agriculture	3,096.7	0	0.1	31	0.9	0.051	0	0.0%	6.3%
Urban Open	2,137.0	0.001	4.2	31	0.9	0.088	1	0.7%	4.4%
Industrial	4,637.0	0.005	61.9	31	0.9	0.607	89	49.4%	9.5%
Total	48,967.3						180	100.0%	100.0%

Table F1-12.c. Estimated Future Stormwater and Snowmelt Runoff-Generated Annual Loads: Cadmium (lbs./year)
Future (2030) Land Use, Total Impervious Area (TIA)

Land Use Category	Acres (Au)	Cd Conc. (mg/L) (Cu)	Percent Total Imperviousness (Iu)	Annual Precipitation (in.) (P)	P _j	Runoff Coefficient (Rvu)	Cd Annual Load (lbs/yr)	% of Total Load	% of Land Use
Low Density Residential	4,776.8	0.004	18.8	31	0.9	0.219	26	4.7%	9.8%
Medium Density Residential	14,386.2	0.004	37.8	31	0.9	0.390	142	25.3%	29.4%
High Density Residential	1,726.1	0.003	51.4	31	0.9	0.513	17	3.0%	3.5%
Transportation	5,876.2	0.003	52.9	31	0.9	0.526	51	9.1%	12.0%
Commercial	7,475.8	0.003	56.2	31	0.9	0.556	79	14.0%	15.3%
Mixed Residential/Commercial Use	1,146.6	0	47.0	31	0.9	0.473	12	2.1%	2.3%
Forest & Rural Open	1,340.4	0	1.9	31	0.9	0.067	0	0.0%	2.7%
Wetland	0.0	0.001	2.4	31	0.9	0.072	0	0.0%	0.0%
Water	411.7	0.001	100.0	31	0.9	0.950	2	0.4%	0.8%
Active Agriculture	1,761.6	0	2.0	31	0.9	0.068	0	0.0%	3.6%
Urban Open	0.0	0.001	10.9	31	0.9	0.148	0	0.0%	0.0%
Industrial	10,023.2	0.005	75.9	31	0.9	0.733	232	41.3%	20.5%
Total	48,924.6						562	100.0%	100.0%

Table F1-12.d. Estimated Future Stormwater and Snowmelt Runoff-Generated Annual Loads: Cadmium (lbs./year)
Future (2030) Land Use, Directly Connected Impervious Area (DCIA)

Land Use Category	Acres (Au)	Cd Conc. (mg/L) (Cu)	Percent Directly Connected Imperviousness (Iu)	Annual Precipitation (in.) (P)	P _j	Runoff Coefficient (Rvu)	Cd Annual Load (lbs/yr)	% of Total Load	% of Land Use
Low Density Residential	4,776.8	0.004	2.4	31	0.9	0.072	9	2.3%	9.8%
Medium Density Residential	14,386.2	0.004	16.6	31	0.9	0.199	73	19.0%	29.4%
High Density Residential	1,726.1	0.003	30.3	31	0.9	0.323	11	2.8%	3.5%
Transportation	5,876.2	0.003	22.7	31	0.9	0.254	25	6.5%	12.0%
Commercial	7,475.8	0.003	43.9	31	0.9	0.445	63	16.5%	15.3%
Mixed Residential/Commercial Use	1,146.6	0	30.3	31	0.9	0.322	8	2.1%	2.3%
Forest & Rural Open	1,340.4	0	1.1	31	0.9	0.060	0	0.0%	2.7%
Wetland	0.0	0.001	2.4	31	0.9	0.072	0	0.0%	0.0%
Water	411.7	0.001	100.0	31	0.9	0.950	2	0.6%	0.8%
Active Agriculture	1,761.6	0	0.1	31	0.9	0.051	0	0.0%	3.6%
Urban Open	0.0	0.001	4.2	31	0.9	0.088	0	0.0%	0.0%
Industrial	10,023.2	0.005	61.9	31	0.9	0.607	192	50.3%	20.5%
Total	48,924.6						383	100.0%	100.0%