

## **2. LAKE ONTARIO**

### **2.1 OSWEGO RIVER AOC, OSWEGO COUNTY, NY**

The Oswego River Area of Concern (AOC) is located in Oswego County on the southeastern shore of Lake Ontario. The AOC includes the harbor areas and lower segment of the Oswego River from the harbor up to the Varick power dam and is centered in the city of Oswego. The Oswego River AOC was delisted as an AOC on June 19, 2006 (EPA 2006).

#### **2.1.1 Hazardous Waste Sites Relevant to the Oswego River AOC**

No public health assessments developed by ATSDR for this area were within the Oswego River AOC as reported by EPA (June 2004).

#### **2.1.2 TRI Data for the Oswego River AOC**

The TRI onsite chemical releases for Oswego County, NY are summarized in Table 2.1-A. Total onsite releases in 2001 were 204,417 pounds, primarily to air. Very little was released to surface water, and even less to land.

Only 171.3 pounds (0.08%) of the total onsite releases were IJC critical pollutants. The IJC critical pollutants released were PCDDs and PCDFs (primarily to air), lead and lead compounds (to air), and mercury (to land). The facilities that released these pollutants are listed in Table 2.1-B.

There were no releases of non-IJC chemicals  $\geq 100,000$  pounds. Releases in the range of 50,000-99,999 pounds were ozone (to air) and n-butyl alcohol (primarily to air.)

#### **2.1.3 NPDES Data for the Oswego River AOC**

The NPDES permitted discharges for Oswego County, NY are summarized in Table 2.1-C. The total average annual permitted discharges in 2004 were 147,377 pounds, primarily consisting of ammonia nitrogen, and also aluminum. No IJC critical pollutants were the subject of permitted (quantity average limit) discharge amounts.

#### **2.1.4 County Demographics and Health Status Data for the Oswego River AOC**

The demographic profile, from the 2000 U.S. Census, for vulnerable populations living in Oswego County is as follows:

Children 6 years and younger	11,122
Females aged 15-44	27,269
Adults 65 and older	13,875

According to the 2000 HRSA community health status reports, Oswego County health status indicators that compared unfavorably with those of the U.S. and also with the median of the peer counties were as follows:

Infant mortality (per 1,000 births)

- white infant mortality

Birth measures (as percent)

- unmarried mothers

Death measures (per 100,000 population)

- colon cancer

## **2.1.5 Summary and Conclusions for the Oswego River AOC**

### **2.1.5.1 TRI Data**

The TRI onsite chemical releases for Oswego County, NY in 2001 totaled 204,417 pounds, primarily to air, as listed in Table 2.1-A.

Only 171.3 pounds (0.08%) of the total onsite releases were IJC critical pollutants. The IJC critical pollutants released were PCDDs and PCDFs (primarily to air), lead and lead compounds (to air), and mercury (to land). The facilities that released these pollutants are listed in Table 2.1-B.

There were no releases of non-IJC chemicals  $\geq 100,000$  pounds.

### **2.1.5.2 NPDES Data**

The NPDES permitted discharges for Oswego County, NY are summarized in Table 2.1-C. The total average annual permitted discharges in 2004 were 147,377 pounds, primarily consisting of ammonia nitrogen, and also aluminum. No IJC critical pollutants were the subject of permitted (quantity average limit) discharge amounts.

### **2.1.5.3 County Health Data Indicators**

Vulnerable populations in Oswego County, NY totaled 52,266. Only three Oswego County health status indicators compared unfavorably with both U.S. indicators and the median of peer county indicators. These health status indicators were white infant mortality, percentage of unmarried mothers, and deaths from colon cancer.

### **2.1.5.4 Beneficial Use Impairments (BUIs)**

Delisting of this site resolved the BUI's for this AOC site. Further information is available at the EPA web site (<http://www.epa.gov/glnpo/aoc/>).

Table 2.1-A TRI Releases (in pounds, 2001) for the Oswego River AOC

Chemical	IJC Tracking number	Total Air Emissions	Surface Water Discharges	Under-ground Injection	Releases to Land	Total Onsite Releases	Total Offsite Releases	Total On and Offsite Releases
DIOXIN AND DIOXIN-LIKE COMPOUNDS	2	0.00624015	4.41E-06	0	0	0.00624456	1.30095E-04	0.006374655
(PCDDs and PCDFs)	3							
LEAD	8	14	No data	0	0	14	586.3	600.3
LEAD COMPOUNDS	8	132.3	No data	0	0	132.3	5507.8	5640.1
MERCURY	9	0	No data	0	25	25	0	25
	<b>Total IJC</b>	<b>146.3062402</b>	<b>4.41E-06</b>	<b>0</b>	<b>25</b>	<b>171.3062446</b>	<b>6094.10013</b>	<b>6265.406375</b>
ALUMINUM (FUME OR DUST)		1654	No data	0	0	1654	41805	43459
AMMONIA		8898	No data	0	0	8898	0	8898
BARIUM COMPOUNDS		10	11	0	0	21	216	237
BENZO(G,H,I) PERYLENE		0.09	No data	0	0	0.09	0	0.09
CHLORINE		1651	72	0	0	1723	0	1723
CHROMIUM		152	No data	0	0	152	105	257
COPPER		74	No data	0	0	74	70215	70289
COPPER COMPOUNDS		250	No data	0	0	250	755	1005
HYDROCHLORIC ACID (1995 AND AFTER 'ACID AEROSOLS' ONLY)		36691	No data	0	0	36691	0	36691
MANGANESE		96	No data	0	0	96	967	1063
N-BUTYL ALCOHOL		42288	2527	0	0	44815	0	44815
N-HEXANE		341	No data	0	0	341	7619	7960
OZONE		89900	No data	0	0	89900	0	89900
POLYCYCLIC AROMATIC COMPOUNDS		0.64	No data	0	0	0.64	0	0.64
SULFURIC ACID (1994 AND AFTER 'ACID AEROSOLS' ONLY)		19000	No data	0	0	19000	0	19000
TOLUENE		170	No data	0	0	170	4685	4855
ZINC COMPOUNDS		0	460	0	0	460	2440	2900
	<b>Total Non-IJC</b>	<b>201175.73</b>	<b>3070</b>	<b>0</b>	<b>0</b>	<b>204245.73</b>	<b>128807</b>	<b>333052.73</b>
	<b>Total</b>	<b>201322.0362</b>	<b>3070.000004</b>	<b>0</b>	<b>25</b>	<b>204417.0362</b>	<b>134901.1001</b>	<b>339318.1364</b>

**Table 2.1-B TRI Facilities Releasing IJC Critical Pollutants Onsite for the Oswego River AOC**

<b>IJC Critical Pollutant</b>	<b>Number of Facilities</b>	<b>Facility Name</b>	<b>TRIF ID</b>	<b>City</b>
<b>Dioxin and dioxin-like compounds (PCDDs and PCDFs)</b>	<b>2</b>			
Oswego County, NY	2	ALCAN ALUMINUM CORP.	13126LCNRLLAKE	OSWEGO
		OSWEGO HARBOR POWER	13126NGRMH261WA	OSWEGO
<b>Lead and lead compounds</b>	<b>3</b>			
Oswego County, NY	3	ALCAN ALUMINUM CORP.	13126LCNRLLAKE	OSWEGO
		OSWEGO HARBOR POWER	13126NGRMH261WA	OSWEGO
		OWENS-BROCKWAY GLASS CONTAINER INC. PLANT 25	13069WNSLLRD5GR	FULTON
<b>Mercury and mercury compounds</b>	<b>1</b>			
Oswego County, NY	1	NESTLE CONFECTIONS & SNACKS	13069NSTLF555SO	FULTON

**Table 2.1-C NPDES Permitted Average Annual Discharges (in pounds, 2004) to Surface Water,  
Oswego River AOC**

<b>Chemical</b>	<b>IJC Tracking Number</b>	<b>Discharge</b>
	<b>Total IJC</b>	<b>0</b>
ALUMINUM, TOTAL (AS AL)		13310.33
CHROMIUM, TOTAL (AS CR)		192.36
CYANIDE, TOTAL (AS CN)		19.71
NITROGEN, AMMONIA, TOTAL (AS NH3)		131400
PHENOLS		268.28
ZINC, TOTAL (AS ZN)		2186.35
	<b>Total Non-IJC</b>	<b>147377.03</b>
	<b>Total</b>	<b>147377.03</b>

## 2.2 ROCHESTER EMBAYMENT AOC, MONROE COUNTY, NY

The Rochester Embayment AOC includes the Rochester Embayment; an area of Lake Ontario formed by the indentation of the shoreline of Monroe County, NY and includes approximately 6 miles of the Genesee River that is influenced by lake levels, from the river's mouth to the Lower Falls (see AOC map in the appendix). The drainage area consists of the entire Genesee River Basin and parts of two other drainage basins.

### 2.2.1 Hazardous Waste Sites Relevant to the Rochester Embayment AOC

ATSDR has evaluated the data for one hazardous waste site in Monroe County, and reached conclusions regarding the public health threat posed by this site, which is summarized in Table 2.2-A, along with information regarding the date and type of assessment, and the type and location of the site:

**Table 2.2-A Hazardous Waste Sites in Monroe County, NY**

Site Name	Public Health Hazard Category	EPA NPL Status	Site ID	City
Rochester City of APCO Site (Remediated)	2 (2000 HC)	Non NPL	NYR000042770	Rochester

2 = Public Health Hazard  
HC = Health Consultation

For hazardous waste sites in Monroe County that *at any time* had Public Health Hazard Categories of 1-3, (1 site) the total number of chemicals present at concentrations exceeding health-based screening concentrations was 32, as summarized in Table 2.2-B. Most of the records were for the soil media groups.

Five records were for IJC critical pollutants, all in soil. These IJC critical pollutants were: carcinogenic PAHs [which would include B(a)P], lead, and mercury. The IJC chemicals accounted for 15% of the total detections above health-based screening values.

Further evaluation of the data for this site was conducted by ATSDR, and is summarized in the following section.

#### 2.2.1.1 Rochester City of APCO Site (Former APCO Property Brownfield Site)

This site covers about 5 acres in the City of Rochester, Monroe County, NY. The site was used by general contracting firms since at least the 1930s until the City foreclosed on the property in 1996. The site includes a construction and demolition debris disposal area and underground storage tanks areas that have soil and groundwater contaminated with VOCs. The tanks were used for gasoline and diesel fuel and some of them were leaking. Stained surface soils with elevated PAHs were thought to be associated with dumping/spillage of used motor oil. Information on this site is taken from the 2000 ATSDR health consultation.

**Category of Public Health Hazard:** ATSDR concluded that this site presents a *Public Health Hazard* (Category 2) due to potential future exposures to site-related contaminants in soil and groundwater.

**Contaminants of Concern in Completed Exposure Pathways:** Contaminants that exceeded health-based screening concentrations include the IJC critical pollutants B(a)P, lead, and mercury in soil, and also VOCs (primarily BTEX) in groundwater. There are no known current completed exposure pathways. The site is fenced, and groundwater is not used for water supply wells. There are potential future pathways for exposure through direct contact with contaminated soils if the site is developed, and for migration of soil gas vapors from contaminated groundwater, or for contaminated groundwater itself to migrate into the basements of adjacent residences, causing inhalation exposure.

**Demographic Data:** The NYS DOH estimated from the 1990 U.S. Census that 24,060 people live within one mile of this site:

Children 6 years and younger	2,334
Females aged 15-44	6,229
Adults 65 and older	Not Reported

**Public Health Outcome Data:** Not reported.

**Conclusions:** Although exposures are not currently occurring, the site is a potential source of the IJC critical pollutants B(a)P, lead, and mercury, as well as other contaminants such as the BTEX and other gasoline-related chemicals. The site is relatively small, however, compared with waste disposal sites. As of January 2000, it had not been remediated, and ATSDR recommended its remediation.

However, in June 2004, EPA reported that the APCO site had been successfully remediated through the joint efforts of local, county, and state governments.

### 2.2.2 TRI Data for the Rochester Embayment AOC

The TRI onsite chemical releases for Monroe County, NY are summarized in Table 2.2-C. Total onsite releases in 2001 were 6,967,728 pounds, the majority of which were released to air, followed by releases to surface water. Very little was released to land.

Only 2,017 pounds (0.03%) of the total onsite releases were IJC critical pollutants. The IJC critical pollutants released were PCDDs and PCDFs (primarily to air and surface water), lead and lead compounds (primarily to surface water and less to air), and mercury and mercury compounds (primarily to air). The facilities that released these pollutants are listed in Table 2.2-D.

The major releases ( $\geq 500,000$  pounds) of non-IJC chemicals were of hydrochloric acid aerosol, dichloromethane, and sulfuric acid aerosols (solely or primarily to air), and nitrate compounds (primarily to surface water).

### 2.2.3 NPDES Data for the Rochester Embayment AOC

The NPDES permitted discharges for Monroe County, NY are summarized in Table 2.2-E. The total average annual permitted discharges in 2004 were 3,597,331 pounds, primarily consisting of nitrogen (as ammonia or nitrogen, each >1,000,000 pounds), and also ethylene glycol (474,500 pounds) and manganese (113,150 pounds). No IJC critical pollutants were the subject of permitted (quantity average limit) discharge amounts.

### 2.2.4 County Demographics and Health Status Data for the Rochester Embayment AOC

The demographic profile, from the 2000 U.S. Census, for vulnerable populations living in Monroe County, NY, is as follows:

Children 6 years and younger	67,651
Females aged 15-44	160,054
Adults 65 and older	95,779

According to the 2000 HRSA community health status reports, Monroe County (NY) health status indicators that compared unfavorably with those of the U.S. and also with the median of the peer counties were as follows:

Infant mortality (per 1,000 births)

- black infant mortality
- neonatal infant mortality

Birth measures (as percent)

- no care in first trimester

Death measures (per 100,000 population)

- None

### 2.2.5 Summary and Conclusions for the Rochester Embayment AOC

#### 2.2.5.1 Hazardous Waste Sites

One site, a Brownfields site, in Monroe County, NY has been categorized by ATSDR in health hazard Categories 1-3. Exposures to site-related contaminants are not currently occurring, but the Rochester City, APCO site, was a potential source of the IJC critical pollutants B(a)P, lead, and mercury (in soil), as well as other contaminants such as BTEX (in groundwater). However, the site is relatively small compared with waste disposal sites. In January 2000, ATSDR recommended its remediation, and the site was subsequently remediated through the joint efforts of local, county, and state governments as reported by EPA (June 2004).

#### 2.2.5.2 TRI Data

The TRI onsite chemical releases for Monroe County, NY in 2001 were 6,967,728 pounds, the majority of which were released to air, followed by releases to surface water.

Only 2,017 pounds (0.03%) of the total onsite releases were IJC critical pollutants. The IJC critical pollutants released were PCDDs and PCDFs (primarily to air and surface water), lead and lead compounds (primarily to surface water and less to air), and mercury and mercury compounds (primarily to air).

The major releases ( $\geq 500,000$  pounds) of non-IJC chemicals were of hydrochloric acid aerosol, dichloromethane, and sulfuric acid aerosols (solely or primarily to air), and nitrate compounds (primarily to surface water).

### **2.2.5.3 NPDES Data**

The NPDES permitted discharges for Monroe County, NY are summarized in Table 2.2-E. The total average annual permitted discharges in 2004 were 3,597,331 pounds, primarily consisting of nitrogen (as ammonia or nitrogen, each  $>1,000,000$  pounds), and also ethylene glycol (474,500 pounds) and manganese (113,150 pounds). No IJC critical pollutants were the subject of permitted (quantity average limit) discharge amounts.

### **2.2.5.4 County Demographics and Health Status Indicators**

Vulnerable populations for Monroe County, NY, totaled 323,484. Only three Monroe County health status indicators compared unfavorably with both U.S. indicators and with the median of peer county indicators. These health status indicators were black infant mortality, neonatal infant mortality, and no care in first trimester.

### **2.2.5.5 Beneficial Use Impairments (BUIs)**

Of the three health-related BUIs, restrictions on fish and wildlife consumption and drinking water and beach closings were the three BUIs listed as impaired at this AOC site. Further information is available at the EPA web site (<http://www.epa.gov/glnpo/aoc/>).

**Table 2.2-B Waste site Contaminants that Exceeded Health-Based Screening Values  
Rochester Embayment AOC**

CAS No.	Chemical Name	IJC Tracking Number	Number of Records						
			Air	Biota	Human Material	Other Media	Soil	Water	Total
HZ1500-02-T	PAHS (CARCINOGENIC)	4					2		2
007439-92-1	LEAD	8					1		1
007439-97-6	MERCURY	9					2		2
		<b>Total IJC</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>5</b>	<b>0</b>	<b>5</b>
007440-38-2	ARSENIC						2		2
000095-63-6	1,2,4-TRIMETHYLBENZENE						2		2
000071-43-2	BENZENE						2	2	4
000056-55-3	BENZO(A)ANTHRACENE						2		2
000205-99-2	BENZO(B)FLUORANTHENE						3		3
000053-70-3	DIBENZO(A,H)ANTHRACENE						2		2
130498-29-2	POLYCYCLIC AROMATIC HYDROCARBONS						2		2
000127-18-4	TETRACHLOROETHYLENE						1		1
HZ1000-21-T	BTEX							1	1
HZ1900-01-T	VOLATILE ORGANIC COMPOUNDS N.O.S.						1	3	4
HZ1900-02-T	SEMIVOLATILE ORGANIC COMPOUNDS N.O.S.						1		1
							1	2	3
		<b>Total Non-IJC</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>20</b>	<b>6</b>	<b>27</b>
		<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>25</b>	<b>6</b>	<b>32</b>

**Table 2.2-C TRI Releases (in pounds, 2001) for the Rochester Embayment AOC**

Chemical	IJC Tracking Number	Total Air Emissions	Surface Water Discharges	Under-ground Injection	Releases to Land	Total Onsite Releases	Total Offsite Releases	Total On and Offsite Releases
DIOXIN AND DIOXIN-LIKE COMPOUNDS	2	0.0078057	0.007056	0	3.31E-06	0.014865008	0.004313004	0.019178012
(PCDDs and PCDFs)	3							
LEAD	8	108.34	18	0	218	344.34	2572.44	2916.78
LEAD COMPOUNDS	8	477.04	1032	0	8	1517.04	6278.48	7795.52
MERCURY	9	0.9	0	0	0	0.9	0	0.9
MERCURY COMPOUNDS	9	151	4	0	0.049	155.049	23.27	178.319
	<b>Total IJC</b>	<b>737.2878057</b>	<b>1054.007056</b>	<b>0</b>	<b>226.0490033</b>	<b>2017.343865</b>	<b>8874.194313</b>	<b>10891.53818</b>
1,1,1-TRICHLOROETHANE		0	No data	0	0	0	5	5
1,2,4-TRIMETHYLBENZENE		725	0	0	0	725	254	979
1,2-DICHLOROPROPANE		16350	82	0	0	16432	0	16432
1,4-DIOXANE		1194	1800	0	0	2994	2	2996
2-METHOXYETHANOL		969	0	0	0	969	0	969
4,4'-ISOPROPYLIDENE-DIPHENOL		0	0	0	0	0	1	1
ACETALDEHYDE		9520	0	0	0	9520	2	9522
ACETONITRILE		9381	1800	0	0	11181	47	11228
ACRYLAMIDE		0	4	0	0	4	0	4
AMMONIA		24905	20680	0	0	45585	0	45585
ANILINE		172	4	0	0	176	46	222
ANTIMONY COMPOUNDS		390	5200	0	4	5594	343	5937
BARIUM		10	No data	0	0	10	22005	22015
BARIUM COMPOUNDS		1635	5046	0	120	6801	67863	74664
BENZENE		1834	0	0	0	1834	253	2087
BENZO(G,H,I)PERYLENE		0.183	0	0	0	0.183	0	0.183
BUTYL ACRYLATE		195	37	0	0	232	350	582
CARBON TETRACHLORIDE		1928	No data	0	0	1928	0	1928
CERTAIN GLYCOL ETHERS		31329	3300	0	0	34629	1110	35739
CHLORINE		42223	1	0	0	42224	0	42224
CHLORODIFLUORO-METHANE		11000	0	0	0	11000	0	11000
CHLOROFORM		280	No data	0	0	280	0	280
CHLOROMETHANE		480	0	0	0	480	0	480
CHLOROPHENOLS		87	1	0	0	88	28	116
CHROMIUM		765	No data	0	0	765	264	1029
CHROMIUM COMPOUNDS (EXCEPT CHROMITE ORE MINED IN THE TRANSPAAL REGION)		370	625	0	13	1008	16371	17379
COPPER		2031	40	0	0	2071	2306	4377
COPPER COMPOUNDS		0	No data	0	0	0	250	250
CRESOL (MIXED ISOMERS)		150	150	0	0	300	69	369
CUMENE		500	No data	0	0	500	250	750
CYCLOHEXANE		37000	0	0	0	37000	270	37270
DIBUTYL PHTHALATE		12	43	0	0	55	19	74
DICHLOROMETHANE		900112	3010	0	0	903122	920	904042
DIETHANOLAMINE		3	2	0	0	5	0	5
ETHYLBENZENE		731	0	0	0	731	253	984
ETHYLENE GLYCOL		3927	9600	0	6800	20327	46	20373
FORMALDEHYDE		1240	0	0	0	1240	3	1243

Chemical	IJC Tracking Number	Total Air Emissions	Surface Water Discharges	Under-ground Injection	Releases to Land	Total Onsite Releases	Total Offsite Releases	Total On and Offsite Releases
FORMIC ACID		0	0	0	0	0	16	16
HYDROCHLORIC ACID (1995 AND AFTER 'ACID AEROSOLS' ONLY)		3104151	No data	0	0	3104151	0	3104151
HYDROGEN FLUORIDE		244013	0	0	0	244013	0	244013
HYDROQUINONE		451	290	0	0	741	0	741
MANGANESE		253	No data	0	0	253	16024	16277
METHANOL		406619	15000	0	0	421619	367	421986
METHYL ACRYLATE		63	0	0	0	63	0	63
METHYL ETHYL KETONE		48154	6210	0	0	54364	291	54655
METHYL ISOBUTYL KETONE		7515	1610	0	0	9125	420	9545
METHYL METHACRYLATE		81	4	0	0	85	0	85
METHYL TERT-BUTYL ETHER		3725	No data	0	0	3725	250	3975
M-XYLENE		820	No data	0	0	820	0	820
N,N-DIMETHYLFORMAMIDE		2009	82	0	0	2091	15	2106
NAPHTHALENE		500	No data	0	0	500	250	750
N-BUTYL ALCOHOL		17310	130	0	0	17440	11	17451
N-HEXANE		4482	0	0	0	4482	255	4737
NICKEL		783	No data	0	0	783	476	1259
NITRATE COMPOUNDS		27	980000	0	0	980027	76913	1056940
NITRIC ACID		3992	0	0	0	3992	0	3992
N-METHYL-2-PYRROLIDONE		75000	880	0	0	75880	0	75880
O-XYLENE		900	No data	0	0	900	0	900
OZONE		31031	0	0	0	31031	0	31031
PERCHLOROMETHYL MERCAPTAN		5	No data	0	0	5	0	5
PHENOL		51	0	0	0	51	6	57
POLYCYCLIC AROMATIC COMPOUNDS		2.961	2	0	0	4.961	7.81	12.771
PROPYLENE OXIDE		2032	0	0	0	2032	0	2032
PYRIDINE		12672	160	0	0	12832	79	12911
SILVER COMPOUNDS		781	3919	0	0	4700	96	4796
SODIUM NITRITE		0	0	0	0	0	11240	11240
STYRENE		224	9	0	0	233	110	343
SULFURIC ACID (1994 AND AFTER 'ACID AEROSOLS' ONLY)		740050	No data	0	0	740050	0	740050
TERT-BUTYL ALCOHOL		1550	No data	0	0	1550	250	1800
TOLUENE		60653	58	0	0	60711	352	61063
TOLUENE DIISOCYANATE (MIXED ISOMERS)		500	No data	0	0	500	0	500
TRICHLOROETHYLENE		3074	No data	0	0	3074	0	3074
TRIETHYLAMINE		1514	0	0	0	1514	0	1514
VANADIUM COMPOUNDS		195	No data	0	0	195	170	365
VINYLDENE CHLORIDE		94	0	0	0	94	18	112
XYLENE (MIXED ISOMERS)		9414	56	0	0	9470	310	9780
ZINC COMPOUNDS		2670	10110	0	20	12800	300003	312803
	<b>Total Non-IJC</b>	<b>5888809.144</b>	<b>1069945</b>	<b>0</b>	<b>6957</b>	<b>6965711.144</b>	<b>521259.81</b>	<b>7486970.954</b>
	<b>Total</b>	<b>5889546.432</b>	<b>1070999.007</b>	<b>0</b>	<b>7183.049003</b>	<b>6967728.488</b>	<b>530134.0043</b>	<b>7497862.492</b>

**Table 2.2-D TRI Facilities Releasing IJC Critical Pollutants Onsite for the Rochester Embayment AOC**

<b>IJC Critical Pollutant</b>	<b>Number of Facilities</b>	<b>Facility Name</b>	<b>TRIF ID</b>	<b>City</b>
<b>Dioxin and dioxin-like compounds (PCDDs and PCDFs)</b>	<b>2</b>			
Monroe County, NY	2	EASTMAN KODAK CO. KODAK PARK	14652STMNK1669L	ROCHESTER
		RUSSELL STATION	14612RSSLL1101B	ROCHESTER
<b>Lead and lead compounds</b>	<b>8</b>			
Monroe County, NY	8	AMETEK POWER INSTRUMENTS	14605MTKPW255NU	ROCHESTER
		EASTMAN KODAK CO. KODAK PARK	14652STMNK1669L	ROCHESTER
		FISHER SCIENTIFIC CO. L.L.C. PFEIFFER GLASS CO.	14616FSHRS140BE	ROCHESTER
		HARRIS CORP. RF COMMUNICATIONS DIV.	14609RFCMM570CU	ROCHESTER
		PJC TECHS. INC. METRO CIRCUITS DIV.	14613PJCTC205LA	ROCHESTER
		RUSSELL STATION	14612RSSLL1101B	ROCHESTER
		SABIN METAL CORP.	14546SBNMT1647W	SCOTTSVILLE
		SEN DEC CORP.	14450SNDCC151PE	FAIRPORT
<b>Mercury and mercury compounds</b>	<b>3</b>			
Monroe County, NY	3	EASTMAN KODAK CO. KODAK PARK	14652STMNK1669L	ROCHESTER
		FISHER SCIENTIFIC CO. L.L.C. PFEIFFER GLASS CO.	14616FSHRS140BE	ROCHESTER
		RUSSELL STATION	14612RSSLL1101B	ROCHESTER

**Table 2.2-E NPDES Permitted Average Annual Discharges (in pounds, 2004) to Surface Water,  
Rochester Embayment AOC**

Chemical	IJC Tracking Number	Discharge
	<b>Total IJC</b>	<b>0</b>
1,1,1-TRICHLOROETHANE		1825
1,1,2-TRICHLOROETHANE		2299.50
1,2-DICHLOROETHANE		5840
1,2-DICHLOROPROPANE		4745
1,4-DIOXANE		74460
2,6-DINITROTOLUENE		693.50
2-METHYL-1,3-DIOXOLANE		21535
2-PHENOXYETHANOL		31755
ALUMINUM, TOTAL (AS AL)		51100
ANTIMONY, TOTAL (AS SB)		18615
ARSENIC, TOTAL (AS AS)		3650
BARIUM, TOTAL (AS BA)		20075
BIS (2-CHLOROETHYL) ETHER		292
CHLOROFORM		1971
CHROMIUM, TOTAL (AS CR)		4380
COPPER, TOTAL (AS CU)		6570
CYANIDE, TOTAL (AS CN)		6935
DICHLOROMETHANE		9855
ETHYLENE GLYCOL		474500
MANGANESE, TOTAL (AS MN)		113150
N,N-DIMETHYLANILINE		9855
NICKEL, TOTAL (AS NI)		6205
NITROGEN, AMMONIA, TOTAL (AS NH3)		1460000
NITROGEN, KJELDAHL TOTAL (AS N)		1131500
PHENOLS		4745
PHENOLS, CHLORINATED		985.50
SILVER, TOTAL (AS AG)		12775
TETRAHYDROFURAN		36865
TIN, TOTAL (AS SN)		40150
VANADIUM, TOTAL (AS V)		3504
ZINC, TOTAL (AS ZN)		36500
	<b>Total Non-IJC</b>	<b>3597330.50</b>
	<b>Total</b>	<b>3597330.50</b>

## **2.3 EIGHTEEN MILE CREEK AOC, NIAGARA COUNTY, NY**

The Eighteen Mile Creek AOC is located in the town of Newfane, Niagara County, NY. The creek flows from south to north. It discharges into Lake Ontario through Olcott Harbor, approximately 18 miles east of the mouth of the Niagara River. The AOC includes Olcott Harbor and extends almost two miles upstream, to just below the Burt Dam, which is the farthest point at which backwater conditions exist during Lake Ontario's highest monthly average lake level.

### **2.3.1 Hazardous Waste Sites Relevant to the Eighteen Mile Creek AOC**

Two AOCs are located in Niagara County: The Niagara River AOC (located in Niagara and Erie Counties, NY) and the Eighteen Mile Creek AOC. The Niagara River AOC is a binational (U.S.-Canada) AOC not included in this document.

ATSDR has performed health assessments for seven hazardous waste sites in Niagara County. Six of these are located on or very close to the Niagara River, mostly in the city of Niagara Falls, and are relevant to the Niagara River AOC. These six are the Forest Glen Mobile Home Subdivision, Hooker (102<sup>nd</sup> Street), Hooker (Hyde Park), Hooker (S Area), Love Canal, and Niagara County Refuse sites. Five have been classified as *Indeterminate Public Health Hazards* (Category 3) at some point in their assessment, and one, Love Canal, was classified as an Urgent Public Health Hazard in 1985. All six sites relevant to the Niagara River AOC have been remediated according to ATSDR documentation and the 2003 EPA NPL sites. Because they do not appear to be relevant to the Eighteen Mile Creek AOC, they will not be discussed further here.

### **2.3.2 TRI Data for the Eighteen Mile Creek AOC**

The TRI onsite chemical releases for Niagara County are summarized in Table 2.3-A. Because they are for the entire county, and because industrial activity is concentrated in or near the Niagara River AOC, these data are more relevant to the binational Niagara River AOC than to the Eighteen Mile Creek AOC. Total onsite releases in 2001 were 3,174,559 pounds, the majority of which were released to air, followed by releases to soil, and then surface water.

Of the total onsite releases, 63,282 pounds were IJC critical pollutants. The IJC critical pollutants released were PCBs (to air), PCDDs and PCDFs (primarily to air), lead compounds and mercury compounds (primarily to land), and hexachlorobenzene (to surface water). The facilities that released these pollutants are listed in Table 2.3-B. Most of these facilities are located in the city of Niagara Falls, and thus are relevant to the binational Niagara River AOC rather than to the Eighteen Mile Creek AOC.

Releases of IJC critical pollutants relevant to the Eighteen Mile Creek AOC are of PCDDs and PCDFs from a facility in Barker, of lead compounds from a facility in Barker and one in Lockport, and of mercury compounds from a facility in Barker.

The major releases ( $\geq 500,000$  pounds) of non-IJC chemicals were of manganese compounds and barium compounds (primarily to land).

### 2.3.3 NPDES Data for the Eighteen Mile Creek AOC

The NPDES permitted discharges for Niagara County, NY are summarized in Table 2.3-C. The total average annual permitted discharges in 2004 were 211,184 pounds. The only chemical accounting for  $>100,000$  pounds was fluoride, at 136,875 pounds.

The IJC critical pollutants DDT and metabolites, mirex, lead, and mercury accounted for a total of 867 pounds (primarily lead). The facilities permitted to discharge these pollutants are listed in Table 2.3-D. All are located in the city of Niagara Falls, and are therefore not relevant to the Eighteen Mile Creek AOC, but rather to the Binational Niagara River AOC. As explained in Chapter 1 of this document, the binational AOCs are not included in this document.

### 2.3.4 County Demographics and Health Status Data for the Eighteen Mile Creek AOC

The demographic profile, from the 2000 U.S. Census, for vulnerable populations living in Niagara County, NY, is as follows:

Children 6 years and younger	18,996
Females aged 15-44	46,034
Adults 65 and older	33,884

These demographics, and also the community health status indicators summarized below, are likely to be heavily weighted by the City of Niagara Falls, and thus not particularly relevant to the Eighteen Mile Creek AOC, located in a relative rural region.

According to the 2000 HRSA community health status reports, health status indicators that compared unfavorably with those of the U.S. and also with the median of the peer counties for Niagara County were as follows:

Infant mortality (per 1,000 births)

- black infant mortality

Birth measures (as percent)

- unmarried mothers
- no care in first trimester

Death measures (per 100,000 population)

- breast cancer (female)
- coronary heart disease
- lung cancer
- stroke

## **2.3.5 Summary and Conclusions for the Eighteen Mile Creek AOC**

### **2.3.5.1 Hazardous Waste Sites**

Most of the waste sites in Niagara County that have been evaluated by ATSDR are located on the Niagara River and are relevant to the binational Niagara River AOC (not included in this document), rather than to the Eighteen Mile Creek AOC.

### **2.3.5.2 TRI Data**

Many of the reported releases in Niagara County may not be relevant to the Eighteen Mile Creek AOC because of the heavy concentration of industry in the vicinity of the Niagara River, which is a separate AOC. Releases of IJC critical pollutants that are more relevant to the Eighteen Mile Creek AOC are of PCDDs and PCDFs from a facility in Barker, of lead compounds from a facility in Barker and one in Lockport, and of mercury compounds from a facility in Barker.

### **2.3.5.3 NPDES Data**

The NPDES permitted discharges for Niagara County, NY are summarized in Table 2.3-C. The total average annual permitted discharges in 2004 were 211,184 pounds. The only chemical accounting for >100,000 pounds was fluoride, at 136,875 pounds.

The IJC critical pollutants DDT and metabolites, mirex, lead, and mercury accounted for a total of 867 pounds (primarily lead). The facilities permitted to discharge these pollutants are listed in Table 2.3-D. All are located in the city of Niagara Falls, and are therefore not relevant to the Eighteen Mile Creek AOC, but rather to the Binational Niagara River AOC. As explained in Chapter 1 of this document, the binational AOCs are not included in this document.

### **2.3.5.4 County Demographics and Health Status Indicators**

Vulnerable populations in Niagara County totaled 403,870. These demographics, and the health status indicators for Niagara County, are probably heavily influenced by Niagara Falls, and therefore are not particularly relevant to the Eighteen Mile Creek AOC, located in a relatively rural area of the county.

### **2.3.5.5 Beneficial Use Impairments (BUIs)**

Of the three health-related BUIs, restrictions on fish and wildlife consumption was the only BUI listed as impaired at this AOC site. Further information is available at the EPA web site (<http://www.epa.gov/glnpo/aoc/>).

Table 2.3-A TRI Releases (in pounds, 2001) for the Eighteen Mile Creek AOC

Chemical	IJC Tracking Number	Total Air Emissions	Surface Water Discharges	Under-ground Injection	Releases to Land	Total Onsite Releases	Total Offsite Releases	Total On and Offsite Releases
POLYCHLORINATED BIPHENYLS	1	226	0	0	0	226	0.82632	226.82632
DIOXIN AND DIOXIN-LIKE COMPOUNDS (PCDDs and PCDFs)	2	0.007063938	0.00024255	0	0	0.007306488	9.50796E-04	0.008257284
LEAD	8	26	190	0	7366	7582	8276.681	15858.681
LEAD COMPOUNDS	8	1547.9	0.8	0	53356	54904.7	13332.3	68237
MERCURY COMPOUNDS	9	77.1	0.04	0	492	569.14	61.8	630.94
HEXACHLOROBENZENE	11	0	0.3	0	0	0.3	0.1	0.4
	<b>Total IJC</b>	<b>1877.007064</b>	<b>191.1402426</b>	<b>0</b>	<b>61214</b>	<b>63282.14731</b>	<b>21671.70827</b>	<b>84953.85558</b>
4,4'-ISOPROPYLIDENE-DIPHENOL		500	No data	0	0	500	0	500
ALLYL CHLORIDE		35	No data	0	0	35	0	35
ALUMINUM OXIDE (FIBROUS FORMS)		0	No data	0	0	0	250	250
AMMONIA		3289	878	0	533	4700	0	4700
ANILINE		5388	No data	0	0	5388	0	5388
ARSENIC COMPOUNDS		23	10	0	37921	37954	0	37954
BARIUM COMPOUNDS		4720	1768	0	619346	625834	271022	896856
BENZO(G,H,I)PERYLENE		114	No data	0	0	114	0.1	114.1
BENZOIC TRICHLORIDE		541	0	0	0	541	371	912
BENZOYL CHLORIDE		4520	0	0	0	4520	0	4520
BENZOYL PEROXIDE		1453	0	0	0	1453	0	1453
BIFENTHRIN		500	No data	0	0	500	0	500
CARBOFURAN		500	No data	0	0	500	0	500
CERTAIN GLYCOL ETHERS		44952	2600	0	0	47552	3800	51352
CHLORINE		16044	0	0	0	16044	0	16044
CHLOROACETIC ACID		1500	No data	0	0	1500	0	1500
CHLOROBENZENE		631	No data	0	0	631	0	631
CHROMIUM		1	No data	0	0	1	1058	1059
CHROMIUM COMPOUNDS (EXCEPT CHROMITE ORE MINED IN THE TRANSVAAL REGION)		217	110	0	50553	50880	11155	62035
COPPER		1010	35	0	0	1045	60	1105
COPPER COMPOUNDS		69	10	0	50367	50446	333	50779
CRESOL (MIXED ISOMERS)		405	No data	0	0	405	0	405
DIPHENYLAMINE		1434	No data	0	0	1434	0	1434
ETHYLBENZENE		46	No data	0	0	46	0	46
FORMALDEHYDE		3911	2	0	0	3913	0	3913
HEXACHLOROCYCLO-PENTADIENE		584	0	0	0	584	29	613
HYDROCHLORIC ACID (1995 AND AFTER 'ACID AEROSOLS' ONLY)		154675	No data	0	0	154675	0	154675
HYDROGEN FLUORIDE		20795	0	0	0	20795	0	20795
HYDROQUINONE		75	No data	0	0	75	0	75
LITHIUM CARBONATE		0	No data	0	0	0	250	250
MANGANESE		5	70	0	0	75	400	475
MANGANESE COMPOUNDS		6953	1169	0	1000441	1008563	44376	1052939
METHANOL		18797	No data	0	0	18797	0	18797
METHYL ETHYL KETONE		22735	0	0	0	22735	0	22735
METHYL ISOBUTYL KETONE		500	No data	0	0	500	0	500

Chemical	IJC Tracking Number	Total Air Emissions	Surface Water Discharges	Under-ground Injection	Releases to Land	Total Onsite Releases	Total Offsite Releases	Total On and Offsite Releases
N,N-DIMETHYLFORMAMIDE		1198	No data	0	0	1198	0	1198
N-BUTYL ALCOHOL		478	No data	0	0	478	0	478
N-HEXANE		14199	No data	0	0	14199	0	14199
NICKEL		255	3	0	0	258	721	979
NICKEL COMPOUNDS		227	10	0	90480	90717	78	90795
NITRATE COMPOUNDS		0	163100	0	315710	478810	135	478945
NITRIC ACID		54765	0	0	0	54765	4813	59578
O-CRESOL		500	No data	0	0	500	0	500
O-TOLUIDINE		2987	No data	0	0	2987	0	2987
O-XYLENE		38134	No data	0	0	38134	0	38134
PHENOL		7501	9	0	0	7510	45158	52668
PHOSGENE		78	No data	0	0	78	0	78
PHOSPHORUS (YELLOW OR WHITE)		46	No data	0	0	46	0	46
POLYCYCLIC AROMATIC COMPOUNDS		1003.809325	No data	0	0	1003.809325	900.52	1904.329325
PROPARGYL ALCOHOL		79	No data	0	0	79	0	79
SEC-BUTYL ALCOHOL		56100	3100	0	0	59200	5200	64400
SILVER		5	No data	0	0	5	0	5
STYRENE		12680	No data	0	0	12680	0	12680
SULFURIC ACID (1994 AND AFTER 'ACID AEROSOLS' ONLY)		76429	No data	0	0	76429	0	76429
TETRACHLORO-ETHYLENE		11200	180	0	0	11380	649	12029
TOLUENE		3778	No data	0	0	3778	0	3778
TRIETHYLAMINE		10	No data	0	0	10	0	10
VANADIUM COMPOUNDS		4263	No data	0	84318	88581	45010	133591
XYLENE (MIXED ISOMERS)		5117	No data	0	0	5117	0	5117
ZINC (FUME OR DUST)		250	No data	0	0	250	No data	250
ZINC COMPOUNDS		1405	1015	0	77929	80349	29906	110255
	<b>Total Non-IJC</b>	<b>609609.8093</b>	<b>174069</b>	<b>0</b>	<b>2327598</b>	<b>3111276.809</b>	<b>465674.62</b>	<b>3576951.429</b>
	<b>Total</b>	<b>611486.8164</b>	<b>174260.1402</b>	<b>0</b>	<b>2388812</b>	<b>3174558.957</b>	<b>487346.3283</b>	<b>3661905.285</b>

**Table 2.3-B TRI Facilities Releasing IJC Critical Pollutants Onsite for the  
Eighteen Mile Creek AOC**

<b>IJC Critical Pollutant</b>	<b>Number of Facilities</b>	<b>Facility Name</b>	<b>TRIF ID</b>	<b>City</b>
<b>Polychlorinated biphenyls</b>	<b>1</b>			
Niagara County, NY	1	SAINT-GOBAIN ABRASIVES INC.	14304CRBRN6600W	NIAGARA FALLS
<b>Dioxin and dioxin-like compounds (PCDDs and PCDFs)</b>				
Niagara County, NY		AES SOMERSET L.L.C.	14012SSMRS7725L	BARKER
		NIAGARA FALLS GENERATING STATION	14304CHRSR5300F	NIAGARA FALLS
		OCCIDENTAL CHEMICAL CORP. NIAGARA PLANT	14302CCDNT4700B	NIAGARA FALLS
<b>Lead and lead compounds</b>	<b>10</b>			
Niagara County, NY	10	AES SOMERSET L.L.C.	14012SSMRS7725L	BARKER
		DELPHI HARRISON THERMAL SYS. LOCKPORT	14094GNRLM200UP	LOCKPORT
		DU PONT NIAGARA FALLS PLANT	14302DPNTNBUFFA	NIAGARA FALLS
		FERRO ELECTRONIC MATERIAL SYS.	14305TMCRM4511H	NIAGARA FALLS
		NIAGARA FALLS GENERATING STATION	14304CHRSR5300F	NIAGARA FALLS
		NORTH AMERICAN HOGANAS	14304PYRNC5950P	NIAGARA FALLS
		OCCIDENTAL CHEMICAL CORP. NIAGARA PLANT	14302CCDNT4700B	NIAGARA FALLS
		PRECIOUS PLATE INC.	14304PRCSP2124L	NIAGARA FALLS
		TULIP CORP. NIAGARA FALLS PLANT	14305TLPCR3125H	NIAGARA FALLS
		U.S. VANADIUM CORP.	14303SVNDM13747	NIAGARA FALLS
<b>Mercury and mercury compounds</b>	<b>2</b>			
Niagara County, NY	2	AES SOMERSET L.L.C.	14012SSMRS7725L	BARKER
		NIAGARA FALLS GENERATING STATION	14304CHRSR5300F	NIAGARA FALLS
<b>Hexachlorobenzene</b>	<b>1</b>			
Niagara County, NY	1	OCCIDENTAL CHEMICAL CORP. NIAGARA PLANT	14302CCDNT4700B	NIAGARA FALLS

**Table 2.3-C NPDES Permitted Average Annual Discharges (in pounds, 2004) to Surface Water,  
Eighteen Mile Creek AOC**

<b>Chemical</b>	<b>IJC Tracking Number</b>	<b>Discharge</b>
DDT/DDD/DDE, SUM OF P,P' & O,P' ISOMERS	5	7.3
MIREX	7	58.4
LEAD, TOTAL (AS PB)	8	790.83
MERCURY, TOTAL (AS HG)	9	10.95
	<b>Total IJC</b>	<b>867.48</b>
ALUMINUM, TOTAL (AS AL)		1297.58
ARSENIC, TOTAL (AS AS)		1460
BARIUM, TOTAL (AS BA)		18250
BORON, TOTAL (AS B)		1332.25
CARBON TETRACHLORIDE		73
CHLOROFORM		3525.90
CHROMIUM, TOTAL (AS CR)		584
COPPER, TOTAL (AS CU)		1228.83
FLUORIDE, TOTAL (AS F)		136875
METHYLENE CHLORIDE		18.25
NICKEL, TOTAL (AS NI)		912.50
PHENOLICS, TOTAL RECOVERABLE		39675.50
PHENOLS		91.25
SELENIUM, TOTAL (AS SE)		2555
TETRACHLOROETHYLENE		65.70
ZINC, TOTAL (AS ZN)		2372.50
	<b>Total Non-IJC</b>	<b>210317.26</b>
	<b>Total</b>	<b>211184.74</b>

**Table 2.3-D NPDES Facilities Permitted to Discharge IJC Critical Pollutants,  
Eighteen Mile Creek AOC**

<b>IJC Critical Pollutant</b>	<b>Number of Facilities</b>	<b>Facility Name</b>	<b>NPDES</b>	<b>City</b>
<b>DDT and Metabolites</b>	<b>1</b>			
Niagara County, NY	1	NIAGARA FALLS (C) WWTP	NY0026336	NIAGARA FALLS
<b>Mirex</b>	<b>1</b>			
Niagara County, NY	1	NIAGARA FALLS (C) WWTP	NY0026336	NIAGARA FALLS
<b>Lead</b>	<b>1</b>			
Niagara County, NY	1	OCCIDENTAL CHEMICAL CORP	NY0003336	NIAGARA FALLS
<b>Mercury</b>	<b>1</b>			
Niagara County, NY	1	OLIN CORP - NIAGARA FALLS PLT	NY0001635	NIAGARA FALLS