

## 2. LAKE ONTARIO

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

The Oswego River Area of Concern 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 (see AOC map in the appendix).

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

ATSDR has evaluated the data for four hazardous waste sites in Oswego County, and reached conclusions regarding the public health threat posed by these sites. These conclusions, along with information regarding the type and location of the site, and the date and type of assessment document, are summarized in Table 2-1.

**Table 2-1. Hazardous Waste Sites in Oswego County, NY**

<b>Site Name</b>	<b>Public Health Hazard Category</b>	<b>EPA NPL Status</b>	<b>Site ID</b>	<b>City</b>
Clothier Disposal	5 (1989 HA)	Deleted Post SARA	NYD000511576	Town of Granby
Fulton Terminals	3 (1988 HA)	Final	NYD980593099	Fulton
Pollution Abatement Services	3 (1988 HA) 4 (1997 HA)	Final	NYD000511659	Oswego
Volney Municipal Landfill	3 (1987 HA)	Final	NYD980509376	Town of Volney

3 = Indeterminate Public Health Hazard, 4 = No Apparent Public Health Hazard, 5 = No Public Health Hazard; HA = Public Health Assessment

For hazardous waste sites in Oswego County that *at any time* had Public Health Hazard Categories of 1-3, the number of contaminant records in HazDat that exceeded health based-screening values was 294, as shown in Table 2-2. Most of the records were for the soil media group and the water media group.

The IJC Great Lakes critical pollutants accounted for 31 (10.5%) of these records, with the majority for the soil media group. The IJC critical pollutants that have been found at Oswego County hazardous waste sites at concentrations exceeding health-based screening values are: PCBs, B(A)P, dieldrin, lead, and mercury. Details are provided in Table 2-3.

ATSDR provides further evaluation of these data in the Public Health Assessments and other health-related documents listed in Table 2-1. The evaluations for the three sites with public health hazard categories of 1-3 are discussed in the following subsections.

##### 2.1.1.1 Fulton Terminals

The Fulton Terminals Site is located in an urban area near the northern edge of Fulton, Oswego County, NY, within 50 feet of the Oswego River, and upstream from the AOC. This site manufactured roofing

materials from 1936 to 1960, and stored oil and asphalt in tanks on-site. From 1972, the site was used as a storage area for materials scheduled for incineration at the Pollution Abatement Services site. The site was partially remediated in 1981-1986 by removal of all storage tanks, and in 1986-1987 by removal of contaminated soil and tar-like waste, and by secure fencing. Information regarding this site is taken from the 1988 ATSDR health assessment and the 2003 EPA NPL fact sheet.

**Category of Public Health Hazard:** In 1988, ATSDR concluded that the site was an *Indeterminate Public Health Hazard* (category 3), because of the potential threat to human health in the event of unauthorized entry to the site, ingestion of contaminated groundwater (should it migrate offsite), and use of the Oswego River adjacent to the site for recreation (including fishing). Although there was no evidence that human exposure to site-related contaminants was currently occurring or had occurred in the past, some critical information was missing, including adequate monitoring data for the adjacent Oswego River, monitoring data for edible fish tissues, and monitoring data for ambient air.

**Contaminants of Concern in Completed Exposure Pathways:** None identified. IJC critical pollutants that exceeded health-based screening values were lead and PCBs in soil and lead in groundwater, but levels of contamination were not exceptionally high. Groundwater and soil also were contaminated with VOCs, including vinyl chloride and benzene. Groundwater flows into the Oswego River. The site was fenced and groundwater was not used for drinking water, so completed exposure pathways did not exist. Monitoring data for air, surface water, sediment, and fish were inadequate.

**Demographics:** Demographic profile, from the 2000 U.S. Census, for vulnerable populations living within 1 mile of this site:

Children 6 years and younger	728
Females aged 15-44	1,421
Adults 65 and older	980

**Public Health Outcome Data:** Although no health outcome data were specifically discussed in this 1988 health assessment, ATSDR stated that it was not aware of any specific health complaints directly attributable to this waste site.

**Conclusions:** The Fulton Terminals Site may have contributed to the environmental burden of the IJC critical pollutants lead and PCBs in the past, as well as other pollutants, including VOCs and metals. Critical information to characterize exposures was, however, missing. Since the time of the health assessment, soil cleanup has been completed, groundwater has been remediated, and long term groundwater monitoring is underway. The primary concern for the cleanup was the VOC contamination.

### 2.1.1.2 Pollution Abatement Services

The Pollution Abatement Services site occupies 15.6 acres on the northeastern edge of the City of Oswego, Oswego County, NY. Pollution Abatement Services operated a high temperature liquid chemical waste incinerator from 1970 to 1977. Liquid wastes were collected and stored on-site in drums, open lagoons, and above-ground storage tanks. Lagoon overflows and releases of liquid waste into the nearby creeks that drained into Lake Ontario close to the AOC were common between 1973 and 1976. Extensive remediation of the site has occurred since that time. Information regarding this site is taken from the 1997 ATSDR public health assessment and the 2003 EPA NPL fact sheet for this site.

**Category of Public Health Hazard:** In 1988, ATSDR concluded that the site was an *Indeterminate Public Health Hazard* (category 3). In 1997, ATSDR concluded that currently the site poses *No Apparent Public Health Hazard* (category 4). Although the site posed a public health hazard prior to 1977 when the EPA initiated site cleanup, remedial actions have eliminated the potential for current and future exposures to site contaminants.

**Contaminants of Concern in Completed Exposure Pathways:** In 1988, data were not adequate to determine if completed exposure pathways existed. Contaminated media were surface water, groundwater, and soil, as well as fish tissue from off-site streams. Contaminants of concern included the IJC critical pollutants PCBs, dieldrin, and lead. Other contaminants of concern were VOCs, cyanide, and metals. As of 1997, ATSDR concluded that there are no completed exposure pathways.

**Demographic data:** Demographic profile, from the 2000 U.S. Census, for vulnerable populations living within 1 mile of this site:

Children 6 years and younger	398
Females aged 15-44	942
Adults 65 and older	1,157

**Public Health Outcome Data:** In response to community concern regarding cancer in young male employees at the nearby Eastside Sewage Treatment Plant who might have been exposed to industrial wastes during plant processing or contaminants at the Pollution Abatement Services site, the NYS DOH completed a cancer incidence investigation in 1986. The NYS DOH did not detect a statistically significant increase in cancer incidence among workers at the Eastside Sewage Treatment Plant in comparison with either the Westside Sewage Treatment Plant workers or the general population. Two of the cancer types observed are known to be common among men of the age group examined, and the remaining two types of cancer had no known risk factors in common. In addition, the four cancers arose at relatively short intervals from the start of employment at the Eastside Sewage Treatment Plant (<10 years), which is inconsistent with the usual long latency period for most adult cancers (10-20 years).

**Conclusions:** The Pollution Abatement Services site, prior to remediation, may have released contaminants into the environment, including the IJC critical pollutants dieldrin, PCBs, and lead, as well as other contaminants including VOCs, other metals, and cyanide. Releases into streams draining into Lake Ontario occurred. The Pollution Abatement Services site is no longer contributing to the human exposure or the environmental burden of IJC critical pollutants or other contaminants.

### 2.1.1.3 Volney Municipal Landfill, Volney, Oswego County, NY

This unlined landfill, located approximately 2 miles from the Oswego River and upstream from the AOC, operated as a municipal waste disposal facility for residential, commercial, and light industrial operations from 1969 to 1983. Expansion of the landfill in the mid 1970s included the installation of a leachate collection and drainage system in some sections. In 1974-1975, up to 8,000 barrels containing residues of chemical sludge from a hazardous waste treatment facility were accepted, and between 50 and 200 of these contained liquid wastes that were incorporated into the daily fill. Closure of the landfill included installation of some controls including an impermeable cap over the landfill, and two-foot soil cap on the uppermost side slopes, surface water controls, a venting system for gases, and planting of vegetative cover. Information regarding this site is taken from the 1987 ATSDR public health assessment and the 2003 EPA NPL fact sheet.

**Category of Public Health Hazard:** This site was classified as posing an *Indeterminate Public Health Hazard* (category 3) because of the outward radial spread of a contaminated groundwater plume which poses a potential threat to the health and safety of nearby residents that rely on private wells for potable water and the lack of adequate monitoring data for these wells. An additional concern was that corrosion of the buried waste drums may lead to releases of additional contaminants in the future.

**Contaminants of Concern in Completed Exposure Pathways:** None determined, but data were not adequate. Contaminants of concern did not include IJC critical pollutants. Contaminants that exceeded health-based screening values in on-site groundwater were vinyl chloride, arsenic, and selenium. Residential well-water monitoring data were not adequate to determine if completed exposure pathways existed and to allow an assessment of the potential public health impact of well water use. Sediments from streams adjacent to the site contained contaminants as well, but were not compared with screening values. Whether these streams flow into the Oswego River was not discussed.

**Demographic Data:** Twenty-five households relying on private wells for potable water are located within 1,000 feet of landfill boundaries.

Demographic profile, from the 2000 U.S. Census, for vulnerable populations living within 1 mile of this site:

Children 6 years and younger	75
Females aged 15-44	146
Adults 65 and older	70

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

**Conclusions:** Based on the 1987 ATSDR health assessment, this site may have contributed to environmental burdens of contaminants other than the IJC critical pollutants, and was a concern for future releases as corrosion of the buried drums would be expected to release more pollutants. At the time the health assessment was completed, critical data were missing.

Subsequent site remediation activities include capping, leachate collection and treatment, and groundwater extraction and treatment. The use of groundwater intermittently contaminated with VOCs is now prevented by institutional controls. Surface water and sediment in the vicinity of the site is not contaminated at levels that pose an ecological or human health threat.

### 2.1.2 TRI Data for the Oswego River AOC

The TRI on-site chemical releases for Oswego County, NY are summarized in Table 2-3. Total on-site 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 on-site 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 2-4.

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 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, OH, 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 (none were above the upper limit of the peer county range):

- Infant mortality (per 1,000 births)
  - white infant mortality
- Birth measures (as percent)
  - unmarried mothers
- Death measures (per 100,000 population)
  - colon cancer

### 2.1.4 Summary and Conclusions for the Oswego River AOC

#### 2.1.4.1 Hazardous Waste Sites

Three hazardous waste sites in Oswego County have ever been characterized in public health hazard categories 1-3. Based on the documents for these sites, there is no clear evidence of site-related contaminants in completed exposure pathways at concentrations that exceed health-based screening concentrations. Although critical information to characterize past exposure and releases was missing for the sites at the time of the ATSDR public health assessments in the late 1980s, all three sites have been remediated since that time. Chemicals of concern at these sites included the IJC critical pollutants PCBs (soil) and lead (soil and groundwater) at the Fulton Terminals and Pollution Abatement Services sites.

Public health outcome data, available for the Pollution Abatement Services Site, did not indicate any association of cancer in nearby workers with site-related exposure.

#### 2.1.4.2 TRI Data

The TRI on-site chemical releases for Oswego County, NY in 2001 totaled 204,417 pounds, primarily to air.

Only 171.3 pounds (0.08%) of the total on-site 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 2-4.

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

### **2.1.4.3 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. None exceeded the upper end of the peer county range.

**Table 2-2. Waste Site Contaminants that Exceeded Health-Based Screening Values  
Oswego River AOC**

CAS No.	Chemical Name	IJC Tracking Number	Number of Records							
			Air	Biota	Human Material	Other Media	Soil	Water	Total	
053469-21-9	AROCLOR 1242	1				2			2	
012672-29-6	AROCLOR 1248	1				2		4	6	
011097-69-1	AROCLOR 1254	1				1		3	4	
011096-82-5	AROCLOR 1260	1				2			2	
000050-32-8	BENZO(A)PYRENE	4						2	2	
000060-57-1	DIELDRIN	6						1	1	
007439-92-1	LEAD	8				1		1	1	
007439-97-6	MERCURY	9						4	4	
	<b>Total IJC</b>		0	0	0	8		17	10	31
000075-34-3	1,1-DICHLOROETHANE							1	1	2
000107-06-2	1,2-DICHLOROETHANE							1	1	2
000156-60-5	1,2-DICHLOROETHENE, TRANS-							1	1	2
000120-83-2	2,4-DICHLOROPHENOL							1	1	2
000105-67-9	2,4-DIMETHYLPHENOL							2	2	4
000078-93-3	2-BUTANONE							2	2	4
000091-57-6	2-METHYLNAPHTHALENE							2	2	4
000083-32-9	ACENAPHTHENE							2	2	4
000067-64-1	ACETONE					1				1
000107-13-1	ACRYLONITRILE					1				1
007429-90-5	ALUMINUM			1				4	4	9
000120-12-7	ANTHRACENE							4	4	8
007440-36-0	ANTIMONY							2	2	4
007440-38-2	ARSENIC			1				4	4	11
007440-39-3	BARIUM					2		3	3	6
000071-43-2	BENZENE					1		1	1	3
000056-55-3	BENZO(A)ANTHRACENE							2	2	4
000203-33-8	BENZO(A)FLUORANTHENE							1	1	2
000205-99-2	BENZO(B)FLUORANTHENE							2	2	4
000207-08-9	BENZO(K)FLUORANTHENE							3	3	6
007440-41-7	BERYLLIUM							4	4	8
000085-68-7	BUTYL BENZYL PHTHALATE							1	1	2
007440-43-9	CADMIUM					2		3		5
007440-70-2	CALCIUM			1				4		5
000108-90-7	CHLOROETHANE					1		1	1	3
000075-00-3	CHLOROETHANE							1	1	2
007440-47-3	CHROMIUM					1		4		5
018540-29-9	CHROMIUM, HEXAVALENT							3		3
000218-01-9	CHRYSENE							2	2	4
007440-48-4	COBALT							2		2
007440-50-8	COPPER			1				3		4
000106-44-5	CRESOL, PARA-							2	2	4
000057-12-5	CYANIDE					1		1	1	3
000117-81-7	DI(2-ETHYLHEXYL)PHTHALATE							4	4	8
000084-74-2	DI-N-BUTYL PHTHALATE							1	1	2
000117-84-0	DI-N-OCTYL PHTHALATE							1	1	2
000072-20-8	ENDRIN			1						1
000100-41-4	ETHYLBENZENE							2	1	4
000206-44-0	FLUORANTHENE							2	2	4
000086-73-7	FLUORENE							3	3	6
001024-57-3	HEPTACHLOR EPOXIDE			1				2	2	5
000319-84-6	HEXACHLOROCYCLOHEXANE, ALPHA-							2		2
000319-85-7	HEXACHLOROCYCLOHEXANE, BETA-							2		2
007439-89-6	IRON							2	2	4
000078-59-1	ISOPHORONE							1	1	2
000067-63-0	ISOPROPANOL					1				1
007439-95-4	MAGNESIUM							4	4	8
007439-96-5	MANGANESE							4	4	8
000108-10-1	METHYL ISOBUTYL KETONE					2		1	1	4

**Table 2-2. Waste Site Contaminants that Exceeded Health-Based Screening Values  
Oswego River AOC**

CAS No.	Chemical Name	IJC Tracking Number	Number of Records						
			Air	Biota	Human Material	Other Media	Soil	Water	Total
000075-09-2	METHYLENE CHLORIDE					2	3	3	8
000091-20-3	NAPHTHALENE						3	3	6
007440-02-0	NICKEL			1		1	4	4	10
000098-95-3	NITROBENZENE						1	1	2
000086-30-6	N-NITROSODIPHENYLAMINE						1	1	2
000085-01-8	PHENANTHRENE						3	3	6
000108-95-2	PHENOL						1	1	2
064743-03-9	PHENOLICS						1		1
007723-14-0	PHOSPHORUS, WHITE			1					1
007440-09-7	POTASSIUM						2	2	4
000129-00-0	PYRENE						1	1	2
007440-23-5	SODIUM			1			1	1	3
018496-25-8	SULFIDE					1			1
000127-18-4	TETRACHLOROETHYLENE						1	1	2
000108-88-3	TOLUENE					1	1	1	3
000079-01-6	TRICHLOROETHYLENE						1	1	2
007440-62-2	VANADIUM						4		4
001330-20-7	XYLENES, TOTAL					1			1
007440-66-6	ZINC			1			2		3
000132-64-9	DIBENZOFURAN						2	2	4
MEDEXP-00-0							2		2
<b>Total Non-IJC</b>			<b>0</b>	<b>10</b>	<b>0</b>	<b>25</b>	<b>129</b>	<b>101</b>	<b>263</b>
<b>Total</b>			<b>0</b>	<b>10</b>	<b>0</b>	<b>33</b>	<b>146</b>	<b>111</b>	<b>294</b>



Table 2-3. 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 On-site Releases	Total Off-site Releases	Total On- and Off-site Releases
DIOXIN AND DIOXIN-LIKE COMPOUNDS (PCDDs and PCDFs)	2	0.00624015	4.41E-06	0	0	0.00624456	1.30095E-04	0.006374655
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 2-4. TRI Facilities Releasing IJC Critical Pollutants On-site 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>3</b>			
Oswego County, NY	3	ALCAN ALUMINUM CORP.	13126LCNRLLAKE	OSWEGO
		FELIX SCHOELLER TECHNICAL PAPERS INC.	13142SCHLLCENTE	PULASKI
		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

## 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 2-5, along with information regarding the date and type of assessment, and the type and location of the site:

**Table 2-5. Hazardous Waste Sites in Monroe County, NY**

Site Name	Public Health Hazard Category	EPA NPL Status	Site ID	City
Rochester City of – APCO Site 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 2-6. 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 1 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. ATSDR recommended its remediation.

## 2.2.2 TRI Data for the Rochester Embayment AOC

The TRI on-site chemical releases for Monroe County, NY are summarized in Table 2-7. Total on-site 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 on-site 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 2-8.

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 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 (no indicators were above the upper limit of the peer county range):

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

## **2.2.4 Summary and Conclusions for the Rochester Embayment AOC**

### **2.2.4.1 Hazardous Waste Sites**

One site, a Brownfields site, in Monroe County, NY has ever been categorized by ATSDR in health hazard categories 1-3. Exposures to site-related contaminants are not currently occurring, but the Rochester City of – APCO site is 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). The site is relatively small, however, compared with waste disposal sites. In January 2000, ATSDR recommended its remediation.

#### **Issues for Follow-Up**

Rochester City of – APCO site: A contaminated Brownfields site that has not been cleaned up.

### **2.2.4.2 TRI Data**

The TRI on-site 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 2017 pounds (0.03%) of the total on-site 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).

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

Vulnerable populations for Monroe County, NY, totaled 323,484. Only three Monroe County health status indicators compared unfavorable 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. None exceeded the upper end of the peer county range.

**Table 2-6. 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 2-7. 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 On-site Releases	Total Off-site Releases	Total On-and Off-site 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 TRANSVAAL 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
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



Table 2-7. 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 On- site Releases	Total Off- site Releases	Total On- and Off-site Releases
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 2-8. TRI Facilities Releasing IJC Critical Pollutants On-site 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> Monroe County, NY	<b>2</b>				
	2	EASTMAN KODAK CO. KODAK PARK RUSSELL STATION	14652STMNK1669L 14612RSSLL1101B	ROCHESTER ROCHESTER	
<b>Lead and lead compounds</b> Monroe County, NY	<b>8</b>				
	8	AMETEK POWER INSTRUMENTS EASTMAN KODAK CO. KODAK PARK FISHER SCIENTIFIC CO. L.L.C. PFEIFFER GLASS CO. HARRIS CORP. RF COMMUNICATIONS DIV. PJC TECHS. INC. METRO CIRCUITS DIV. RUSSELL STATION SABIN METAL CORP. SEN DEC CORP.	14605MTKPW255NU 14652STMNK1669L 14616FSHRS140BE 14609RFCMM570CU 14613PJCTC205LA 14612RSSLL1101B 14546SBNMT1647W 14450SNDCC151PE	ROCHESTER ROCHESTER ROCHESTER ROCHESTER ROCHESTER ROCHESTER SCOTTSVILLE FAIRPORT	
	<b>Mercury and mercury compounds</b> Monroe County, NY	<b>3</b>			
		3	EASTMAN KODAK CO. KODAK PARK FISHER SCIENTIFIC CO. L.L.C. PFEIFFER GLASS CO. RUSSELL STATION	14652STMNK1669L 14616FSHRS140BE 14612RSSLL1101B	ROCHESTER ROCHESTER ROCHESTER

## 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 (see AOC map in the appendix).

### 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.

The remaining site, Barker Chemical, is not located in the Niagara River AOC, but rather is approximately 7.5 miles east of the Eighteen Mile Creek. ATSDR has evaluated the data for this site and reached a conclusion regarding its public health threat. This conclusion, and information regarding the type and location of the site, and the date and type of assessment document, are summarized in Table 2-9.

**Table 2-9. Hazardous Waste Sites in Niagara County, NY, Relevant to Eighteen Mile Creek AOC**

Site Name	Public Health Hazard Category	EPA NPL Status	Site ID	City
Barker Chemical	2 (2000 HC)	Non NPL	NYN000204285	Somerset

2 = Public Health Hazard  
 HC = Health Consultation

For this hazardous waste site, the total number of chemicals present at concentrations exceeding health-based screening concentrations was 15, as summarized in Table 2-10. Most of the records were for the soil media group.

The only IJC critical pollutant was lead, which accounted for 5 records (33% of the total). Lead was found mainly in the soil media group. Further evaluation of this site, provided by ATSDR in the health consultation listed in the table, is provided in the following section.

### 2.3.1.1 Barker Chemical

Barker Chemical is a 10-acre site in Somerset, Niagara County, NY, approximately 7.5 miles east of Eighteen Mile Creek. Barker Chemical was formerly an agricultural chemical manufacturer that produced fungicides and herbicides from the 1930s through the 1960s. The site includes several abandoned buildings, three lagoons, an aboveground tank, and an area of shallow standing water near the buildings. Although partially fenced, the site has been used extensively for recreational activities. The information on this site is taken from the 2000 health consultation performed by ATSDR as part of a Brownfields project, and from HazDat.

**Category of Public Health Hazard:** This site was categorized as a *Public Health Hazard* (category 2) because of the potential health risk for children and adults accessing the site.

**Contaminants of Concern in Completed Exposure Pathways:** The IJC critical pollutant lead, and another metal (arsenic) were detected at levels in surface soil that would pose a health threat to children or adults from long-term incidental ingestion. Monitoring data were limited, and did not include pesticides. The on-site waste lagoons and tributaries contained liquid of a very low pH that could result in severe burns from direct skin contact. Groundwater had not been monitored.

**Demographics:** Not reported, but a residential area is located about 500 yards from the site boundary.

**Public Health Outcome Data:** None reported.

**Conclusions:** This site contains the IJC critical pollutant lead, and also arsenic, at concentrations of health concern in onsite soil. The pH of liquids in on-site lagoons and tributaries was very low. Although the site formerly was engaged in pesticide manufacture, no monitoring for organic pesticides had been performed. No groundwater monitoring data were available.

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

The TRI on-site chemical releases for Niagara County are summarized in Table 2-11. 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 on-site 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 on-site 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 2-12. 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 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 (indicators that were above the upper limit of the peer county range are bolded):

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

### 2.3.4 Summary and Conclusions for the Eighteen Mile Creek AOC

#### 2.3.4.1 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.

The one ATSDR-evaluated site that is located near the Eighteen Mile Creek AOC, Barker Chemical, has the IJC critical pollutant lead in soil at concentrations that would pose a health risk. Other health hazards included arsenic in soil and a very low pH in onsite lagoons. The extent of contamination has not been well characterized, including whether organic contaminants including pesticides may be present, and the site had not been cleaned up or secured from recreational use as of ATSDR's assessment in 2000.

#### Issues for Follow-Up

Barker Chemical: ATSDR recommended that further characterization of the contaminants be performed to characterize on-site contamination and whether contaminants are migrating off-site, and that access to the site be restricted.

#### **2.3.4.2 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.

#### **2.3.4.3 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.

**Table 2-10. Waste Site Contaminants that Exceeded Health-Based Screening Values  
Eighteen Mile Creek AOC**

CAS No.	Chemical Name	IJC tracking number	Number of Records						
			Air	Biota	Human Material	Other Media	Soil	Water	Total
007439-92-1	LEAD	8				1	4		5
		<b>Total IJC</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>4</b>	<b>0</b>	<b>5</b>
007440-38-2	ARSENIC					1	4		5
HZ2100-04-T	PH							1	1
							2	2	4
		<b>Total Non-IJC</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>6</b>	<b>3</b>	<b>10</b>
		<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>10</b>	<b>3</b>	<b>15</b>

Table 2-11. 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 On-site Releases	Total Off-site Releases	Total On- and Off-site 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
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



Table 2-11. TRI Releases (in pounds, 2001) for the Eighteen Mile Creek AOC

<b>Chemical</b>	<b>IJC Tracking Number</b>	<b>Total Air Emissions</b>	<b>Surface Water Discharges</b>	<b>Under- ground Injection</b>	<b>Releases to Land</b>	<b>Total On- site Releases</b>	<b>Total Off- site Releases</b>	<b>Total On- and Off-site Releases</b>
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 2-12. TRI Facilities Releasing IJC Critical Pollutants On-site for the Eighteen Mile Creek AOC

IJC Critical Pollutant	Number of Facilities	Facility Name	TRIF ID	City
<b>Polychlorinated biphenyls</b>	<b>1</b>			
Niagara County, NY	1	SAINT-GOBAIN ABRASIVES INC.	14304CRBRN6600 W	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	14302DPNTNBUFF A	NIAGARA FALLS
		FERRO ELECTRONIC MATERIAL SYS. NIAGARA FALLS GENERATING STATION	14305TMCRM4511H 14304CHRSR5300F	NIAGARA FALLS 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