

Chapter 2. Lake Ontario

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Chapter 2. Lake Ontario

2.1. Oswego River AOC, Oswego County, NY

The Oswego River Area of Concern (AOC) is in Oswego County, NY, on the southeastern shore of Lake Ontario. The AOC includes the harbor areas and lower segment of the Oswego River from the harbor to the Varick power dam and is centered in the City of Oswego. On June 19, 2006, the U.S. EPA delisted Oswego River AOC as an AOC. See the AOC map at end of this chapter and in Appendix 2.

2.1.1. Hazardous Waste Sites Relevant to the Oswego River AOC

ATSDR identified three hazardous waste sites in Oswego County that it determined posed either an urgent public health hazard, a public health hazard, or an indeterminate public health hazard. Information on these three sites is summarized in Table 2.1-A, together with information regarding the date and type of assessment and the type and location of the site:

Table 2.1-A. Hazardous Waste Sites in Oswego County, NY

<i>Site Name, City, and CERLIS ID</i>	<i>ATSDR Document Type</i>	<i>Document Year</i>	<i>ATSDR Hazard Category</i>	<i>Site Type</i>	<i>Remedial Status</i>
Fulton Terminals, Fulton NYD980593099	PHA	1988	3	NPL	Completed
Pollution Abatement Services, Oswego NYD000511659	PHA PHA	1988 1997	2 4	NPL	Completed
Volney Landfill, Volney NYD980509376	PHA SRU	1987 1993	3 3	NPL	Ongoing

2 = Public Health Hazard, 3=Indeterminate Public Health Hazard, 4=No Apparent Public Health Hazard

PHA=Public Health Assessment, SRU=Site Review and Update

ATSDR conducted further evaluation of the data for these sites, summarized in the following section.

2.1.1.1 Fulton Terminals Site

This site covers less than 1 acre and is near the northern corporate limits of Fulton (Oswego County) NY. From 1936 to 1960, the primary site activity was the manufacture of roofing materials. Asphalt was stored in aboveground tanks and fuel oil was stored in underground tanks. From 1972 to 1977, the site was used for the staging and storage of materials scheduled for incineration at the Pollution Abatement Services Site in Oswego, NY. Information on this site is from the ATSDR's 1988 public health assessment and the 2004 U.S. EPA 5-year site review.

ATSDR Conclusions: Because of possible exposures to site-related arsenic, benzene, lead, and PCBs, and because of xylene in soil, in sediments, and in groundwater, ATSDR's 1988 public health assessment classified this site as an *Indeterminate Public Health Hazard* (Category 3). At that time no completed exposure pathways had been identified; the site was nonetheless fenced and the municipal water system extended drinking water to nearby residences. Still, through direct contact with contaminated soils, groundwater, and sediments, potential future pathways for exposure remained. Other identified potential

exposures included the inhalation of site-related VOCs and ingestion of plants, game animals, and fish, all of which were capable of site-contaminant bioaccumulation.

U.S. EPA Update: In 1997, U.S. EPA reported that through the joint efforts of local, county, and state government, this site had been successfully remediated. In September of 2004, U.S. EPA completed a 5-year review of the Fulton Terminals site. U.S. EPA concluded that

- site soils have been cleaned to protective levels;
- human health, ecological, and environmental risks estimated for the site are within or below acceptable levels;
- the fence around the site is intact and in good condition;
- the two groundwater monitoring wells are functional;
- there is no evidence of trespassing, vandalism or damage (to the monitoring wells or the fence); and
- there are no drinking water wells within the plume of contamination and none are expected to be drilled because of existing local and state requirements.

Available at: <http://www.epa.gov/superfund/sites/fiveyear/f04-02022.pdf>. 2004 Sep [cited 2008 Jul 10].

IJC-critical Pollutants Identified within ATSDR Documents: During ATSDR's assessment of exposure-related issues, the IJC-critical pollutants B[a]P, B[b]F, lead, and PCBs were identified at this site. For a more complete listing of hazardous substances found at this site, please refer to www.epa.gov/superfund/sites/npl/npl.htm.

2.1.1.2 Pollution Abatement Services

This 15.6-acre site is in an industrial and commercial area near the northeastern edge of Oswego, (Oswego County) NY. During the late 1950s, demolition debris was disposed of at the site. Later, from 1970 to 1977, a chemical waste incineration facility operated there. Onsite drums, three waste lagoons containing over a million gallons of wastes, and aboveground tanks all held liquid wastes awaiting incineration. From 1973 to 1976, the lagoons overflowed and liquid wastes released into White and Wine Creeks. Because of onsite wastes and contamination of groundwater, surface water, soil, sediment, and air, the site posed a public health threat. Several clean-up actions ensued.

Multiple remedial activities addressed waste materials stored onsite and contaminated groundwater, surface water, soil, and sediment offsite. Contaminants in groundwater, soil, and sediments included arsenic, benzene, cyanide, 1, 2-dichloroethane, ethylbenzene, lead, methylene chloride, nickel, phenol, selenium, toluene, trichloroethylene, xylene, and PCBs. Information on this site is from ATSDR's 1988 and 1997 public health assessments.

Public Health Outcome Data: When compared with either Westside Sewage Treatment Plant Workers or with the general population, the New York State Department of Health (NYSDOH) 1986 cancer incidence investigation did not detect a statistically significant excess in cancer incidence among workers at the Eastside Sewage Treatment Plant. Four different types of cancer were observed, two of which are quite common among men in the age group examined. The remaining two cancer types have no known risk factors in common. Furthermore, the occurrence of all four cancers arose in relatively short intervals—all fewer than 10 years from the beginning of employment at the Eastside Sewage Treatment Plant to the time of cancer diagnosis. Given the long (10–20 year) latency period for most adult cancers,

this interval is shorter than would be expected, assuming that these occupational exposures had in fact contributed to the development of cancer.

ATSDR Conclusions: In 1988, because of onsite wastes and contamination of groundwater, surface water, soil, sediment, and air with arsenic, benzene, cyanide, 1,2-dichloroethane, ethylbenzene, lead, methylene chloride, nickel, phenol, selenium, toluene, trichloroethylene, xylene, and PCBs, ATSDR concluded that this site posed a *Public Health Hazard* (Category 2). A subsequent evaluation of the site in 1997 determined that the site posed *No Apparent Public Health Hazard* (Category 4); remedial activities completed in that same year eliminated the potential for current and future exposures to site contaminants in onsite soils, soil-gas, air, surface water, and groundwater. Moreover, past exposures to residents near the site may have occurred, but the data to assess these exposures were insufficient. In 1997, U.S. EPA reported that through the joint efforts of local, county, and state government, this site had been successfully remediated.

U.S. EPA Update: U.S. EPA completed its latest 5-year plan for Pollution Abatement Services in December of 2003. At that time, U.S. EPA concluded that

- The leachate monitoring/collection system is operating properly;
- The cap and vegetative cover are intact and in good condition;
- The fence around the site is intact and in good repair;
- The groundwater long-term monitoring wells are functional;
- There is no evidence of trespassing, vandalism or damage (to the cap and vegetative cover, long-term monitoring wells, or fence);
- VOC concentrations in the long-term monitoring wells located north of Mitchell Street (M-25 and M-26) (see Figure 1) are below MCLs;
- VOC concentrations in long-term monitoring wells located south of Mitchell Street (M-21 and LR-8) have attenuated over the past five years, but remain above MCLs;
- VOC concentrations in long-term monitoring well LR-6, also located south of -12-Mitchell Street, are below MCLs;
- PCB levels in creek and wetland sediments and biota are steadily declining, and are typically undetectable in the sediments at many sampling locations;
- There are no drinking water wells within the plume of contamination and none are expected to be drilled because of existing local requirements; and
- Wetlands and surface waters are not degraded by site contaminants and site remedies are expected to be in place so as to prevent contaminants from reaching and contaminating wetlands and surface waters.
- The next 5-year review is scheduled for completion sometime after December 2008.

Available at: <http://www.epa.gov/superfund/sites/fiveyear/f04-02005.pdf>. 2003 Dec [cited 2008 Jul 10].

IJC-critical Pollutants Identified within ATSDR Documents: During ATSDR's assessment of exposure-related issues, the IJC-critical pollutants lead, dieldrin, B[a]A, B[b]F, B[k]F, B[a]P, and chrysene were identified at this site. For a more complete listing of hazardous substances found at this site, please refer to www.epa.gov/superfund/sites/npl/npl.htm.

2.1.1.3 Volney Municipal Landfill

This site covers about 85 acres, including a former sand and gravel pit in a rural section of Volney (Oswego County) NY. From 1969 to 1983, the unlined landfill operated primarily as a municipal waste disposal facility for residential, commercial, and light industrial operations. In the mid- to late 1970s the landfill accepted wastes from several companies, some of which were designated as hazardous. About this same time, the landfill was expanded in size and included the installation of a leachate collection and drainage system in its central and northern portions. In the fall of 1985, the landfill closed and systems were put in place to control surface water drainage, landfill gas, and leachate.

ATSDR Conclusions: In 1987, ATSDR concluded that because of the undetermined nature and extent of buried waste in the landfill and because of the lack of sufficient environmental monitoring data to rule out exposures to contaminated groundwater, surface water, and creek sediments, this site presented an *Indeterminate Public Health Hazard* (Category 3). A 1993 reevaluation of site issues supported ATSDR's earlier conclusions that onsite groundwater contamination of arsenic, selenium, and vinyl chloride could affect nearby drinking water wells, thus posing an *Indeterminate Public Health Hazard* (Category 3). In 2001, U.S. EPA reported that through the joint efforts of local, county, and state governments, this site had been successfully remediated.

U.S. EPA Update: The U.S. EPA 5-year plan for the Volney Municipal Landfill site states that as of August of 2005:

- The cap and vegetative cover are intact and in good condition;
- The landfill gas system is operating properly;
- The monitoring wells are securely locked and functional;
- The extraction well is functional;
- There is no evidence of trespassing or vandalism;
- The remedy has prevented residents from drinking contaminated groundwater; and
- No additional measures are needed to protect public health.

U.S. EPA will conduct the next 5-year review on or about August 2010.

Available at: <http://www.epa.gov/superfund/sites/fiveyear/f05-02028.pdf>. 2005 Aug [cited 2008 Jul 10].

IJC-critical Pollutants Identified within ATSDR Documents: The IJC-critical pollutant lead was identified at this site during ATSDR's assessment of exposure-related issues. For a more complete listing of hazardous substances that were found at this site, please refer to www.epa.gov/superfund/sites/npl/npl.htm.

2.1.2. Summary and Conclusions for the Oswego River AOC

2.1.2.1 Hazardous Waste Sites

ATSDR categorized three sites in Oswego County, NY, as either an urgent public health hazard, a public health hazard, or an indeterminate public health hazard at some time in their assessment history. A review of the documents for these sites shows no clear evidence of current human exposure to waste site-related IJC-critical pollutants. Remediation has been completed at two of the sites, and is ongoing at the Volney Landfill site.

2.1.2.2 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-B.

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-C. No releases occurred of non-IJC chemicals \geq 100,000 pounds.

2.1.2.3 NPDES Data

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

2.1.2.4 Beneficial Use Impairments (BUIs)

Delisting of this site resolved the AOC-specific BUIs. Improved water quality addressed a fish consumption advisory within the AOC, and Lake Ontario-wide fish advisories addressed that lake's fish consumption restrictions. Further information is available at the U.S. EPA Web site (<http://www.epa.gov/glnpo/aoc/>).

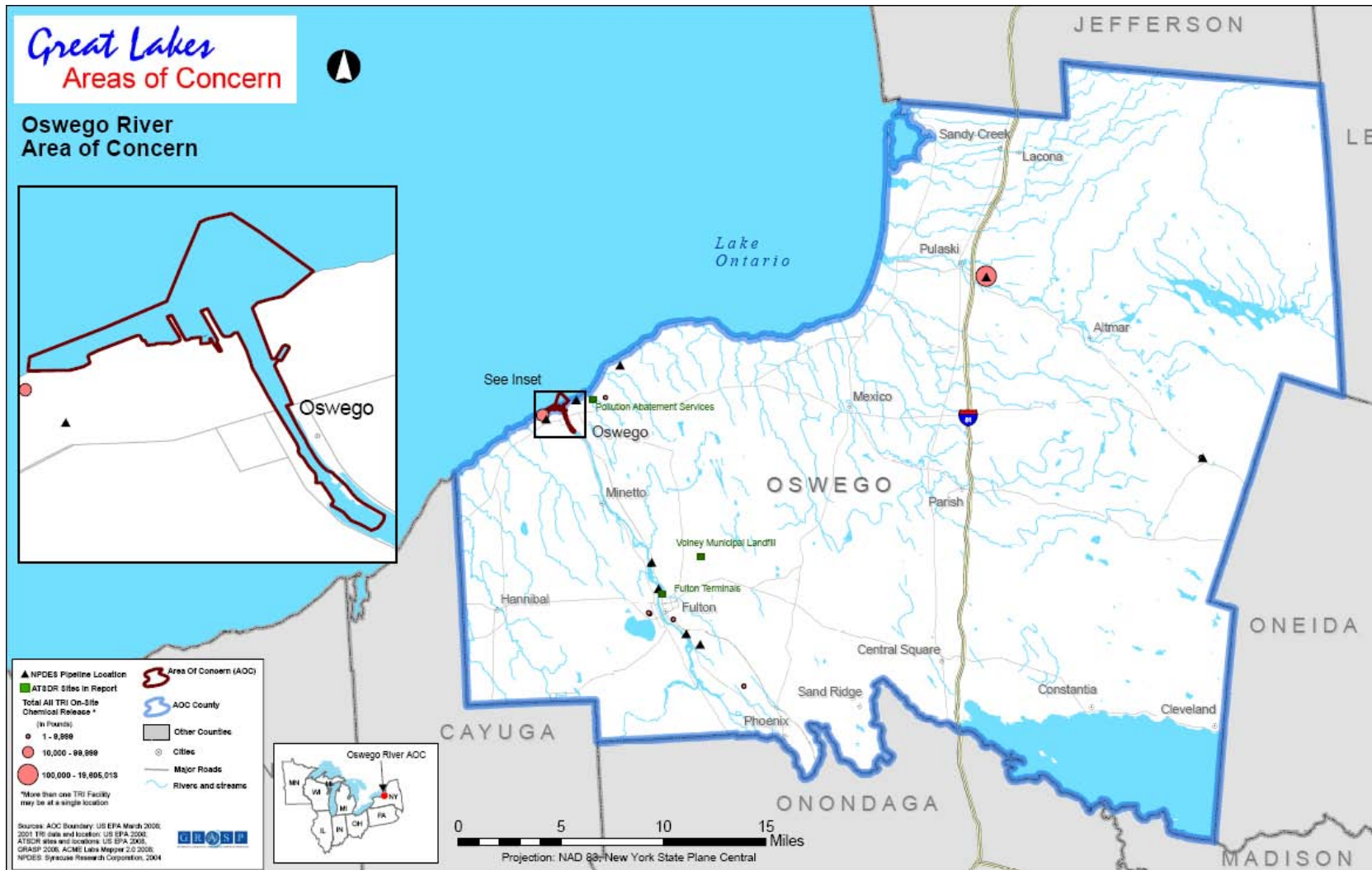


Table 2.1-B. TRI Releases (in pounds, 2001) for the Oswego River AOC

<i>Chemical</i>	<i>IJC Tracking number</i>	<i>Total Air Emissions</i>	<i>Surface Water Discharges</i>	<i>Under-ground Injection</i>	<i>Releases to Land</i>	<i>Total Onsite Releases</i>	<i>Total Offsite Releases</i>	<i>Total On and Offsite Releases</i>
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
	Total IJC	146.3062402	4.41E-06	0	25	171.3062446	6094.10013	6265.406375
ALUMINUM (FUME OR DUST)		1654	No data	0	0	1654	41805	43459
AMMONIA		8898	No data	0	0	8898	0	8898
BARIUM COMPOUNDS			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	10	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

<i>Chemical</i>	<i>IJC Tracking number</i>	<i>Total Air Emissions</i>	<i>Surface Water Discharges</i>	<i>Under-ground Injection</i>	<i>Releases to Land</i>	<i>Total Onsite Releases</i>	<i>Total Offsite Releases</i>	<i>Total On and Offsite Releases</i>
N-BUTYL ALCOHOL			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	42288	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			460	0	0	460	2440	2900
	Total Non-IJC	201175.73	3070	0	0	204245.73	128807	333052.73
	Total	201322.0362	3070.000004	0	25	204417.0362	134901.1001	339318.1364
	0							

Table 2.1-C. TRI Facilities Releasing IJC-critical Pollutants Onsite for the Oswego River AOC

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

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

<i>Chemical</i>	<i>IJC Tracking Number</i>	<i>Discharge</i>
	Total IJC	0
ALUMINUM, TOTAL (AS AL)	Total Non-IJC	13310.33
CHROMIUM, TOTAL (AS CR)		192.36
CYANIDE, TOTAL (AS CN)		19.71
NITROGEN, AMMONIA, TOTAL (AS NH3)		131400.00
PHENOLS		268.28
ZINC, TOTAL (AS ZN)		2186.35
		147377.03
	Total	147377.03

2.2. Rochester Embayment AOC, Monroe County, NY

The Rochester Embayment AOC encompasses the Rochester Embayment; this is an area of Lake Ontario formed by the indentation of the Monroe County, NY shoreline. The AOC also includes approximately 6 miles of the Genesee River influenced by lake levels; that is, from the river's mouth to the Lower Falls. The drainage area consists of the entire Genesee River Basin and parts of two other drainage basins (see AOC map at end of chapter and in Appendix 2).

2.2.1. Hazardous Waste Sites Relevant to the Rochester Embayment AOC

ATSDR has identified one hazardous waste site in Monroe County that posed a public health hazard. Information on this site, including the public health threat posed by this site at the time of ATSDR activities, is summarized in Table 2.2-A, together 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

<i>Site Name, City, and CERCLIS ID</i>	<i>ATSDR Document Type</i>	<i>Document Year</i>	<i>ATSDR Hazard Category</i>	<i>Site Type</i>	<i>Remedial Status</i>
Rochester City of APCO, Rochester NYXCRZ#NY00	HC	2000	2	Non-NPL	Completed

2 = Public Health Hazard, HC = Health Consultation

ATSDR conducted a further evaluation of the data for this site, summarized in the following section.

2.2.1.1 Rochester City of APCO Site (Former APCO Property Brownfields Site)

This site covers about 5 acres in the City of Rochester (Monroe County) NY. General contracting firms used it since at least the 1930s until 1996 when the city foreclosed on the property. The site includes a construction and demolition debris disposal area and underground storage tank areas with VOC-contaminated soil and groundwater. The tanks were used for gasoline and diesel fuel, and some of them leaked. Stained surface soils with elevated PAHs were thought to be associated with dumping/spillage of used motor oil. Site information is from the 2000 ATSDR health consultation and the State of New York 2008 site update.

Demographic Data: NYSDOH's estimate from the 1990 U.S. Census data was that 24,060 persons lived within 1 mile of this site. Subpopulations considered sensitive included

Children 6 years and younger	2,334
Females aged 15–44	6,229
Adults 65 and older	not reported

ATSDR Conclusions: Because of potential for future exposures to site-related PAHs, lead, mercury, and VOCs in soil and groundwater, in 2000 ATSDR concluded that this site presented a *Public Health Hazard* (Category 2). At that time no completed exposure pathways were known, the site was fenced, and groundwater was not used for water supply wells. Still, if the

site were developed, potential future pathways for exposure through direct contact with contaminated soils remained a possibility. Migration of soil gas vapors from contaminated groundwater or contaminated groundwater itself could migrate into the basements of adjacent residences, causing inhalation exposure. That said, through the joint efforts of local, county, and state governments, in 2004 U.S. EPA reported the successful remediation of the APCO site.

U.S. EPA Update: The Rochester City of APCO site is a state Environmental Restoration Project (ERP) site and is not included in the CERCLIS database.

New York State Department of Health Update: Rochester City/APCO site remediation was completed in 2004, and the site is now a residential housing subdivision (Mark S. Sergott, New York State Department of Health, 2008 Aug 20 email). See also: RGBN field trip visits brownfields redevelopment site. Available at:

http://www.ceinfo.org/resources/NL04_Summer.pdf [cited 2008 Oct 8].

IJC-critical Pollutants Identified within ATSDR Documents: During ATSDR's assessment of exposure-related issues, the IJC-critical pollutants B[a]P, lead, and mercury were identified at this site.

2.2.2. Summary and Conclusions for the Rochester Embayment AOC

2.2.2.1 Hazardous Waste Sites

In 2000, ATSDR concluded that due to the potential for future exposures to site-related PAHs, lead, mercury, and VOCs in soil and groundwater, the Rochester City APCO site posed a *Public Health Hazard* (Category 2). Remediation at this site was, however, completed in 2004, and this site was no longer expected to contribute to human or environmental exposure.

2.2.2.2 TRI Data

The TRI onsite chemical releases for Niagara County are summarized in Table 2.2-B. 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. That said, 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 to 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 3.3-C. Most of these facilities are located in the City of Niagara Falls, and, as stated, 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 PCDDs and PCDFs from a facility in Barker, lead compounds from a facility in Barker and one in Lockport, and mercury compounds from a facility in Barker.

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

2.2.2.3 NPDES Data

The NPDES permitted discharges for Monroe County, NY are summarized in Table 2.2-D. The average annual permitted discharges in 2004 totaled 3,597,331 pounds, primarily 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 (i.e., quantity average limit) discharge amounts.

2.2.2.4 Beneficial Use Impairments (BUIs)

U.S. EPA lists as AOC impairments restrictions on fish and wildlife consumption, restrictions on drinking water consumption, or drinking water taste and odor concerns.

Consumption restrictions for Lake Ontario fish are reportedly due to chemical contaminants including PCBs, Mirex, and dioxin. This advisory seems to reflect a lake-wide restriction. Wild waterfowl consumption restrictions have also been imposed based on chemical contamination. But left unclear is the restriction's scope: AOC only, or region-wide.

Treated drinking water is under no consumption restrictions. Occasional taste and odor problems with treated drinking water, however, have been reported. Those problems appear to relate to water that is drawn from Lake Ontario (in the embayment) and treated.

Further information is available at the U.S. EPA Web site (<http://www.epa.gov/glnpo/aoc/>).

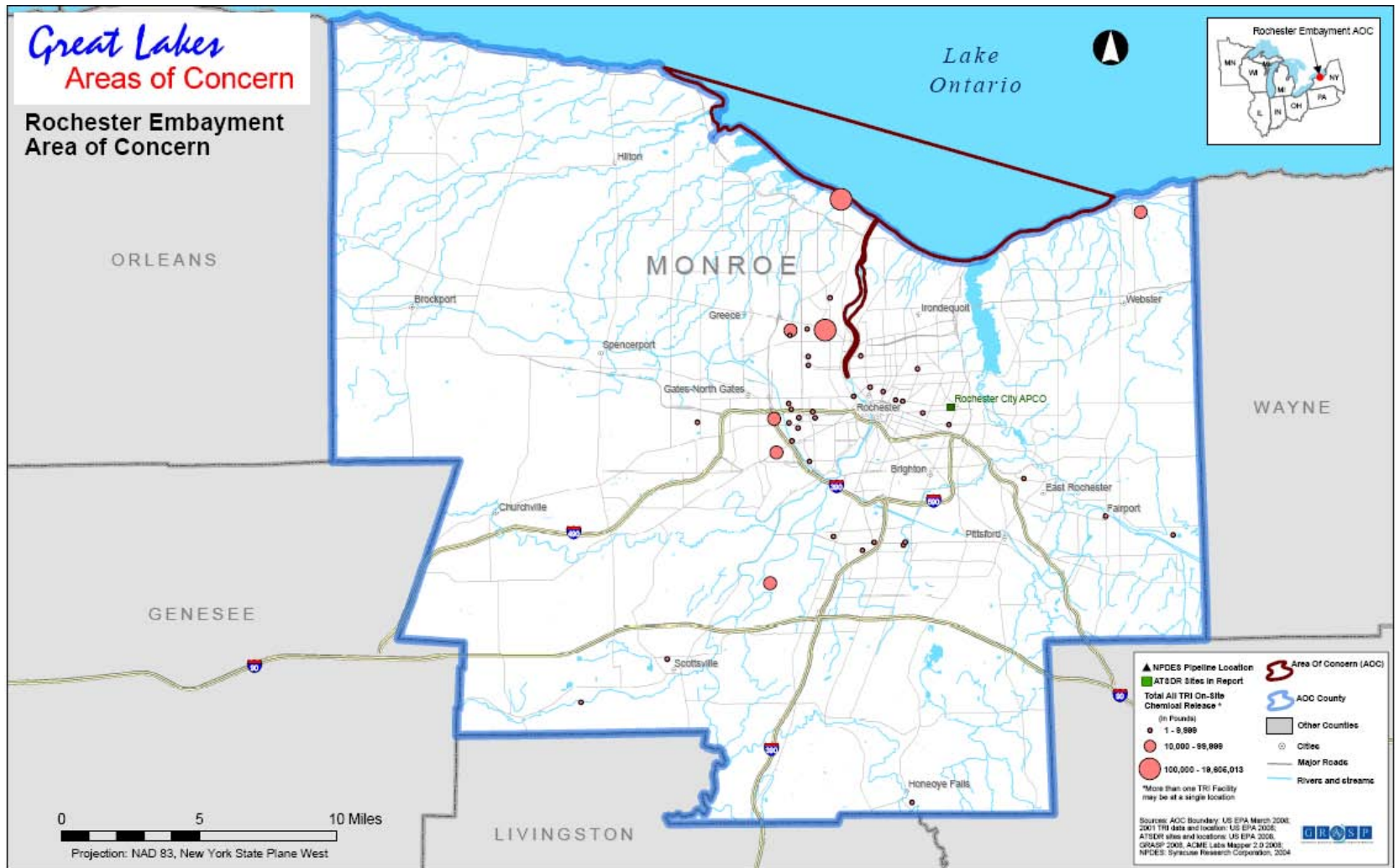


Table 2.2-B. TRI Releases (in pounds, 2001) for the Rochester Embayment AOC

<i>Chemical</i>	<i>IJC Tracking Number</i>	<i>Total Air Emissions</i>	<i>Surface Water Discharges</i>	<i>Under-ground Injection</i>	<i>Releases to Land</i>	<i>Total Onsite Releases</i>	<i>Total Offsite Releases</i>	<i>Total On and Offsite Releases</i>
DIOXIN AND DIOXIN-LIKE COMPOUNDS <i>(PCDDs and PCDFs)</i>	2	0.0078057	0.007056	0	3.31E-06	0.014865008	0.004313004	0.019178012
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 ³	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
Total IJC		737.2878057	1054.007056	0	226.0490033	2017.343865	8874.194313	10891.53818
1,1,1-TRICHLOROETHANE			No data	0	0	0	5	5
1,2,4-TRIMETHYLBENZENE			0	0	0	725	254	979
1,2-DICHLOROPROPANE			82	0	0	16432	0	16432
1,4-DIOXANE	0		1800	0	0	2994	2	2996
2-METHOXYETHANOL	725		0	0	0	969	0	969
4,4'-ISOPROPYLIDENE-DIPHENOL	16350	0	0	0	0	0	1	1
ACETALDEHYDE	1194	9520	0	0	0	9520	2	9522
ACETONITRILE	969	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

<i>Chemical</i>	<i>IJC Tracking Number</i>	<i>Total Air Emissions</i>	<i>Surface Water Discharges</i>	<i>Under-ground Injection</i>	<i>Releases to Land</i>	<i>Total Onsite Releases</i>	<i>Total Offsite Releases</i>	<i>Total On and Offsite Releases</i>
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

<i>Chemical</i>	<i>IJC Tracking Number</i>	<i>Total Air Emissions</i>	<i>Surface Water Discharges</i>	<i>Under-ground Injection</i>	<i>Releases to Land</i>	<i>Total Onsite Releases</i>	<i>Total Offsite Releases</i>	<i>Total On and Offsite Releases</i>
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

<i>Chemical</i>	<i>IJC Tracking Number</i>	<i>Total Air Emissions</i>	<i>Surface Water Discharges</i>	<i>Under-ground Injection</i>	<i>Releases to Land</i>	<i>Total Onsite Releases</i>	<i>Total Offsite Releases</i>	<i>Total On and Offsite Releases</i>
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

<i>Chemical</i>	<i>IJC Tracking Number</i>	<i>Total Air Emissions</i>	<i>Surface Water Discharges</i>	<i>Under-ground Injection</i>	<i>Releases to Land</i>	<i>Total Onsite Releases</i>	<i>Total Offsite Releases</i>	<i>Total On and Offsite Releases</i>
TERT-BUTYL ALCOHOL			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	1550	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
	Total Non-IJC	5888809.144	1069945	0	6957	6965711.144	521259.81	7486970.954
	Total	5889546.432	1070999.007	0	7183.049003	6967728.488	530134.0043	7497862.492

Table 2.2-C. TRI Facilities Releasing IJC-critical Pollutants Onsite for the Rochester Embayment AOC

<i>IJC-critical Pollutant</i>	<i>Number of Facilities</i>	<i>Facility Name</i>	<i>TRIF ID</i>	<i>City</i>
Dioxin and dioxin-like compounds (PCDDs and PCDFs)	2			
Monroe County, NY	2	EASTMAN KODAK CO. KODAK PARK	14652STMNK1669L	ROCHESTER
		RUSSELL STATION	14612RSSLL1101B	ROCHESTER
Lead and lead compounds	8			
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
Mercury and mercury compounds	3			
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-D. NPDES Permitted Average Annual Discharges (in pounds, 2004) to Surface Water, Rochester Embayment AOC

<i>Chemical</i>	<i>IJC Tracking Number</i>	<i>Discharge</i>
	Total IJC	0
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

<i>Chemical</i>	<i>IJC Tracking Number</i>	<i>Discharge</i>
SILVER, TOTAL (AS AG)		12775
TETRAHYDROFURAN		36865
TIN, TOTAL (AS SN)		40150
VANADIUM, TOTAL (AS V)		3504
ZINC, TOTAL (AS ZN)		36500
	Total Non-IJC	3597330.50
	Total	3597330.50

2.3. Eighteen Mile Creek AOC, Niagara County, NY

The Eighteen Mile Creek AOC is in the town of Newfane (Niagara County) NY. The creek flows from south to north and 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 2 miles upstream, to just below the Burt Dam—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 occupy parts of Niagara County: the Niagara River AOC (in Niagara and Erie Counties, NY) and the Eighteen Mile Creek AOC. The Niagara River AOC is a binational (U.S.-Canada) AOC outside the scope of this report. See the AOC map at end of this section and in Appendix 2.

Over a period of years ATSDR conducted health assessment activities for seven Niagara County hazardous waste sites. Six of these are on or very close to the Niagara River, mostly in the City of Niagara Falls. As such they are relevant to the Niagara River AOC. These six sites are Forest Glen Mobile Home Subdivision, Hooker (102nd Street), Hooker (Hyde Park), Hooker (S Area), Love Canal, and Niagara County Refuse. At some point in their assessment five were classified as Indeterminate Public Health Hazards (Category 3). In 1985 Love Canal was classified as an Urgent Public Health Hazard. The remaining site, Barker Chemical, is relevant to the Eighteen Mile Creek AOC and is discussed below.

Table 2.3-A. Hazardous Waste Site in Niagara County, NY

<i>Site Name, City, and CERCLIS ID</i>	<i>ATSDR Document Type</i>	<i>Document Year</i>	<i>ATSDR Hazard Category</i>	<i>Site Type</i>	<i>Remedial Status</i>
Barker Chemical, Somerset, NYN000204285	HC	2000	2	Non-NPL	Completed

2 = Public Health Hazard, HC = Health Consultation

2.3.1.1 Barker Chemical

Barker Chemical is a former Somerset, NY, agricultural chemical manufacturer that produced fungicides and herbicides from the 1930s through the 1960s. But during the manufacturing process, Barker also produced waste sludges and discharged them into the onsite settling lagoons. Barker Chemical has been inactive since the early 1970s. In 2000, the 10-acre site encompassed several abandoned buildings, three settling lagoons, an aboveground tank, and an area of shallow, standing water near the buildings. Some private homes were as close as 500 feet from the site boundary. The site was only partially fenced; consequently, trespassers in the winter months played ice hockey, skated, and drove ATVs on the frozen lagoons. While the site was under consideration for brownfields remediation, monitoring revealed pH readings as low as 1.71. In the surface soil, lagoon sediments, and waste composites, arsenic and lead levels were

above typical New York State background. In 2000, the Niagara County Health Department notified the Town of Somerset of the health hazards from contact with acidic surface water. The county then asked the NYS Department of Environmental Conservation (DEC) for assistance to provide remedial measures such as fencing, posting hazard signs, and neutralizing of acid conditions. NYS Department of Health requested the NYSDEC to discourage public access to the site. Information on this site is from the 2000 ATSDR health consultation.

ATSDR Conclusions: In 2000, ATSDR concluded that because of the low pH levels of water in the waste lagoons and tributaries and the levels of arsenic and lead detected in soil and sediment throughout the site, the site posed a *Public Health Hazard* (Category 2) for children and adults who might access it. In addition, as no record of pesticide analysis was found for the site, other possible hazards might lurk there. In 2001, a U.S. EPA emergency removal action demolished buildings, disposed of offsite contaminated soil from selected areas, stabilized lagoon sludges *in-situ*, and restored sites. Since completion of the remediation, DEC conducted follow-up investigations and determined that low-pH conditions had returned to areas of previous remediation, with potential offsite consequences. U.S. EPA reported in 2006 that the site had been fully remediated.

U.S. EPA Update: Barker Chemical is a now a non-NPL site for which no further remedial action is planned. Available at: http://oaspub.epa.gov/enviro/cerclis_web.report?pgm_sys_id=NYD981484447 [cited 2008 Oct 29].

2.3.2. IJC-critical Pollutants Identified within ATSDR Documents

The IJC-critical pollutant lead was identified at this site during ATSDR's assessment of exposure-related issues.

2.3.3. Summary and Conclusions for the Niagara Eighteen Mile Creek AOC

2.3.3.1 Hazardous Waste Sites

The Environmental Protection Agency (U.S. EPA) Region II requested that ATSDR determine whether Barker Chemical, a former agricultural chemical manufacturing facility, represented a public health threat, and whether remedial activities were necessary. The NYSDEC provided to ATSDR preliminary onsite environmental sampling results. After assessing the samples, ATSDR concluded that because of the low pH levels in the waste lagoons and possible site-wide exposure to arsenic and lead, the site represented a potential public health risk for children and adults who accessed it.

U.S. EPA's 2001 emergency site remediation included building demolition, offsite disposal of contaminated soil from selected areas, *in-situ* stabilization of lagoon sludges, and site restoration. A follow-up investigation by state authorities determined that low-pH conditions had returned to areas of previous remediation, with potential offsite consequences. As of 2006, however, the site was deemed fully remediated.

2.3.3.2 TRI Data for the Eighteen Mile Creek AOC.

The TRI onsite chemical releases for Niagara County are summarized in Table 3.3-B. 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 3.3-C. Most of these facilities are in the City of Niagara Falls and are therefore more relevant to the binational Niagara River AOC than to the Eighteen Mile Creek AOC.

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

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

2.3.3.3 NPDES Data for the Eighteen Mile Creek AOC

The NPDES permitted discharges for Niagara County, NY are summarized in Table 3.3-D. The average annual permitted discharges in 2004 totaled 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 3.3-E. 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.

2.3.3.4 Beneficial Use Impairments (BUIs)

Some Do-Not-Eat restrictions on fish and wildlife are in effect for this AOC.

Fish consumption restrictions specific to Eighteen Mile Creek are due to PCB contamination. No human consumption of any fish species or American eel of any size is recommended. No consumption of snapping turtle meat is recommended for women of childbearing age and children younger than 15 years of age.

Restrictions on consumption are also in effect for Lake Ontario fish. But no consumption advisories extend to American eel, channel catfish, carp, or lake trout over 25 inches long. For more information go to: (<http://www.epa.gov/glncpo/aoc/>).

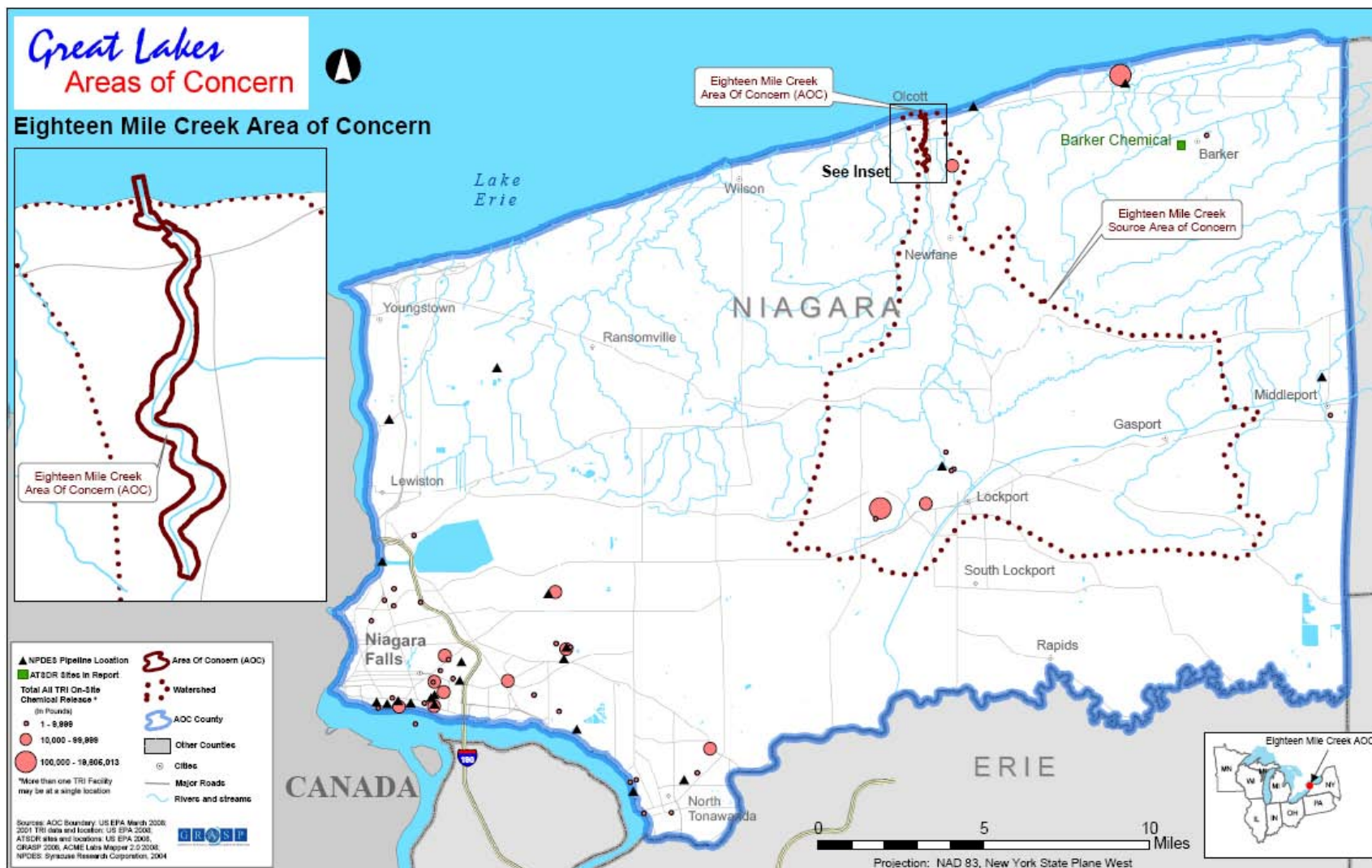


Table 2.3-B. TRI Releases (in pounds, 2001) for the Eighteen Mile Creek AOC

<i>Chemical</i>	<i>IJC Tracking Number</i>	<i>Total Air Emissions</i>	<i>Surface Water Discharges</i>	<i>Under-ground Injection</i>	<i>Releases to Land</i>	<i>Total Onsite Releases</i>	<i>Total Offsite Releases</i>	<i>Total On and Offsite Releases</i>
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
Total IJC		1877.007064	191.1402426	0	61214	63282.14731	21671.70827	84953.85558
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

<i>Chemical</i>	<i>IJC Tracking Number</i>	<i>Total Air Emissions</i>	<i>Surface Water Discharges</i>	<i>Under-ground Injection</i>	<i>Releases to Land</i>	<i>Total Onsite Releases</i>	<i>Total Offsite Releases</i>	<i>Total On and Offsite Releases</i>
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			0	0	0	584	29	613
HYDROCHLORIC ACID (1995 AND AFTER 'ACID AEROSOLS' ONLY)		154675	No data	0	0	154675	0	154675
HYDROGEN FLUORIDE	584	20795	0	0	0	20795	0	20795

<i>Chemical</i>	<i>IJC Tracking Number</i>	<i>Total Air Emissions</i>	<i>Surface Water Discharges</i>	<i>Under-ground Injection</i>	<i>Releases to Land</i>	<i>Total Onsite Releases</i>	<i>Total Offsite Releases</i>	<i>Total On and Offsite Releases</i>
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

<i>Chemical</i>	<i>IJC Tracking Number</i>	<i>Total Air Emissions</i>	<i>Surface Water Discharges</i>	<i>Under-ground Injection</i>	<i>Releases to Land</i>	<i>Total Onsite Releases</i>	<i>Total Offsite Releases</i>	<i>Total On and Offsite Releases</i>
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
	Total Non-IJC	609609.8093	174069	0	2327598	3111276.809	465674.62	3576951.429
	Total	611486.8164	174260.1402	0	2388812	3174558.957	487346.3283	3661905.285

Table 2.3-C. TRI Facilities Releasing IJC-critical Pollutants Onsite for the Eighteen Mile Creek AOC

<i>IJC-critical Pollutant</i>	<i>Number of Facilities</i>	<i>Facility Name</i>	<i>TRIF ID</i>	<i>City</i>
Polychlorinated biphenyls	1			
Niagara County, NY	1	SAINT-GOBAIN ABRASIVES INC.	14304CRBRN6600W	NIAGARA FALLS
Dioxin and dioxin-like compounds (PCDDs and PCDFs)				
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
Lead and lead compounds	10			
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
Mercury and mercury compounds	2			

<i>IJC-critical Pollutant</i>	<i>Number of Facilities</i>	<i>Facility Name</i>	<i>TRIF ID</i>	<i>City</i>
Niagara County, NY	2	AES SOMERSET L.L.C.	14012SSMRS7725L	BARKER
		NIAGARA FALLS GENERATING STATION	14304CHRSR5300F	NIAGARA FALLS
Hexachlorobenzene	1			
Niagara County, NY	1	OCCIDENTAL CHEMICAL CORP. NIAGARA PLANT	14302CCDNT4700B	NIAGARA FALLS

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

<i>Chemical</i>	<i>IJC Tracking Number</i>	<i>Discharge</i>
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
	Total IJC	867.48
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
	Total Non-IJC	210317.26
	Total	211184.74

Table 2.3-E. NPDES Facilities Permitted to Discharge IJC-critical Pollutants, Eighteen Mile Creek AOC

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