

Petitioned Health Consultation

ONONDAGA LAKE

SYRACUSE, ONONDAGA COUNTY, NEW YORK

CERCLIS NO. NYD986913580

AUGUST 7, 1998

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES

Public Health Service

Agency for Toxic Substances and Disease Registry

Division of Health Assessment and Consultation

Atlanta, Georgia 30333

Health Consultation: A Note of Explanation

An ATSDR health consultation is a verbal or written response from ATSDR to a specific request for information about health risks related to a specific site, a chemical release, or the presence of hazardous material. In order to prevent or mitigate exposures, a consultation may lead to specific actions, such as restricting use of or replacing water supplies; intensifying environmental sampling; restricting site access; or removing the contaminated material.

In addition, consultations may recommend additional public health actions, such as conducting health surveillance activities to evaluate exposure or trends in adverse health outcomes; conducting biological indicators of exposure studies to assess exposure; and providing health education for health care providers and community members.

This document has previously been released for a 30 day public comment period. Subsequent to the public comment period, ATSDR addressed all public comments and revised or appended the document as appropriate. The health consultation has now been reissued. This concludes the health consultation process for this site, unless additional information is obtained by ATSDR which, in the Agency's opinion, indicates a need to revise or append the conclusions previously issued.

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PETITIONED HEALTH CONSULTATION

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Prepared by:

**Petition Response Section
Exposure Investigation and Consultation Branch
Division of Health Assessment and Consultation
Agency for Toxic Substances and Disease Registry**

BACKGROUND AND STATEMENT OF ISSUES

The Agency for Toxic Substances and Disease Registry (ATSDR) prepared this *health consultation* for the Onondaga Lake *Superfund* site to: 1) update issues related to the 1990 *petition* of ATSDR following the release of a 1995 ATSDR *public health assessment* (PHA) for the site, and 2) provide follow-up to the *public health action plan* (PHAP) included in the 1995 PHA (an explanation of terms appearing in *italics* may be found in Appendix B).

Onondaga Lake is located in Onondaga County, New York (Appendix A - Figure 1). The lake is approximately 4½ square miles and its drainage basin covers approximately 233 square miles. Water enters the lake through seven major tributaries and the effluent from the Metropolitan Syracuse Sewage Treatment Plant. The lake discharges into the Seneca River. Syracuse lies at the southern boundary of the lake and the towns of Salina, Geddes, Clay, and Camillus surround the Lake to the northeast, west, northeast, and west, respectively. An industrial area is situated on the southwestern shore and an industrial/commercial area is located on the southern and southeastern shores of the lake. The remaining shoreline is either undeveloped or parkland areas.

Industries and municipalities have used the Onondaga Lake, its tributaries and upland areas over the past 100 years as an easily accessible disposal area for their waste [1]. The environmental impact of these pollution practices ended many recreational and economic uses of the lake. Block ice and tourist industries closed in the early 1900's. New York banned swimming and fishing in the lake in 1960 and 1970, respectively [1].

Prior to 1970, when the New York State Department of Health (NYS DOH) banned fishing in the Lake, people who ate fish from Onondaga Lake were most likely exposed to *mercury* and *polychlorinated biphenyls (PCB's)*. In 1986, New York again allowed fishing but issued a fish consumption advisory for people not to eat fish from Onondaga Lake (Appendix C for a copy of the advisory) [2]. The NYS DOH issues a fish consumption advisory after evaluating the data from fish samples collected and analyzed by New York State Department of Environmental Conservation (NYS DEC). The NYS DEC collects fish samples from Onondaga Lake on an annual basis. Although ingestion of contaminated fish may still be occurring, the NYS DOH has observed that the fish advisory has reduced fish consumption from the lake.

In 1994, the United States Environmental Protection Agency (EPA) placed the Onondaga Lake site on the *National Priorities List (NPL)*. The Onondaga Lake *Superfund* site is described as Onondaga Lake and any source that may be contributing hazardous substances to it (e.g., hazardous waste sites discharging contaminants directly or indirectly via surface or groundwater into Onondaga Lake). The NYS DEC entered into a cooperative agreement with the EPA to provide technical oversight for the investigation and cleanup of the Onondaga Lake Superfund site.

On July 24, 1995, ATSDR released a final (PHA) for the Onondaga Lake Superfund site under a cooperative agreement with New York. The PHA classified the Onondaga Lake Superfund site as a *public health hazard* because evidence exists that human exposure to substances that can cause adverse health effects may have occurred in the past [3]. The 1995 PHA concluded that mercury and polychlorinated biphenyl (PCBs) levels in fish exceeded ATSDR *comparison values* and may cause adverse health effects if people eat fish from Onondaga Lake.

The PHA also addressed a Washington State physician's 1990 *petition* of ATSDR to determine if there was a link between *contaminants* in the Lake and a rare form of cancer in one of his patients who lived in the Lakeland Community as a child (from birth to 18 years-old) [4]. The Lakeland Community is located on the western shore of Onondaga Lake.

ATSDR's evaluation contained within this document considered children as a susceptible subpopulation [5].

ATSDR released the Onondaga Lake Health Consultation for public review and comment for a 30-day period beginning May 29, 1998, and ending June 28, 1998. The purpose of the public comment period was to give the public and/or interested parties an opportunity to voice additional concerns about the site or to make comments pertaining to the Onondaga Lake Superfund site. ATSDR received comments during this period and has incorporated the comments and ATSDR's response into Appendix G.

DISCUSSION

A. Update of issues related to the 1990 petition of ATSDR

In 1990, a Washington State physician petitioned ATSDR on behalf of a patient in his care who had developed a rare form of breast cancer. The petitioner's letter indicated that the patient was concerned that her cancer, her family members' cancers, and cancers among Lakeland Community members, where she spent her youth, may be connected to contaminants in Onondaga Lake [4].

The 1995 PHA reports that the NYS DOH conducted several cancer incidence studies for Onondaga Lake communities. In 1985, the NYS DOH evaluated cancer incidence in Clay, New York and concluded that for all cancer sites (combined) there was not a significantly different number of cancer cases for males or females than would be expected in other upstate New York communities [3]. Only the number of kidney cancers showed a statistically significant excess in males. However, the investigators concluded that the different cell types had different epidemiologic characteristics and that it was unlikely that they were associated with a common environmental cause [3].

In 1990, the NYS DOH evaluated the incidence of cancer in the towns of VanBuren and Camillus in response to community health concerns about possible health effects related to a nearby dumpsite. For all cancer sites combined, the total incidence of cancer was not statistically different from expected rates based on comparable communities [3].

Following the release of the 1995 PHA, the NYS DOH released a cancer incidence study in October 1996 for the town of Geddes. The town of Geddes lies along the south-western border of Onondaga lake and includes the Lakeland Community, the community of concern to the petitioner and his patient. The study evaluated cancer incidence from 1982-1991 and concluded that a statistically significant excess exists compared to the expected number of cancers for all anatomical sites among males [6]. When specific cancer sites were examined separately, a significant excess in the number of cancer cases was found for cancer of the prostate among males [6]. The excess in the number of prostate cancer accounted for most of the excess in total cancers observed in males [6]. However, the report states that the excess of prostate cancer cases may be related, in part, to the use of a rate standard that did not reflect a wide-scale increase in the disease since 1987, and to early detection of the disease in the study area [6]. While the causes of prostate cancer are unclear, it is believed to be associated with a dietary fat intake [6]. The numbers of cancer cases for all anatomical sites among females were not statistically significantly different from what was expected [6]. ATSDR reviewed and concurs with the methods that the NYS DOH implemented in this study [7].

The NYS DOH is conducting another cancer incidence study for North Syracuse Village, parts of the town of Clay, and the town of Cicero [3]. These areas are approximately 1½ miles from Onondaga Lake.

The NYS DOH contacted the petitioner and his patient on several occasions while preparing the PHA and after its release. The NYS DOH forwarded copies of the PHA to the petitioner and his patient for review and comment and also forwarded copies of the cancer incidence studies to them. The results of these studies satisfied the petitioner's concerns by demonstrating that his patient's cancer, the cancer of the patient's family members, and those cancers seen in the Lakeland community could not be not linked to the Onondaga Lake site.

B. Follow-up information for the July 24, 1995 Onondaga Lake Public Health Assessment, Public Health Action Plan

As part of the 1995 Onondaga Lake Public Health Assessment, the NYS DOH defined several activities in a *public health action plan*. The public health action plan (PHAP) contains a description of actions to be taken by the NYS DOH and/or ATSDR at and near the site, following the completion of the 1995 public health assessment. The items contained in the public health action plan from the 1995 public health assessment are listed in Table 1 (Appendix F) [3]. The Recommendation Section of the 1995 PHA is included in Appendix F as Table 2.

This section will meet the second goal of this health consultation by updating the public health action plan from the 1995 public health assessment (Table 1).

Onondaga Lake Superfund Site and Subsite Activities

The NYS DEC manages the remedial program for the Onondaga Lake Superfund site under a cooperative agreement with the EPA. The Onondaga Lake Superfund site covers a vast extent of geographic area and is comprised largely of separate industrial disposal areas, each of which is contributing to the pollution problems of the lake system. Beginning in 1995, the NYS DEC began investigating these areas to determine if they should be classified as *subsites*. To date, the NYS DEC has identified eight formal Onondaga Lake Superfund subsites (Table 3, please refer to Appendix A, Figure 1 for locations) and is evaluating several other areas of concern. Please refer to Appendix D for NYS DEC-prepared fact sheets for the subsites¹ listed in Table 3. The NYS DEC has not prepared fact sheets for the sites marked by a *. Appendix E contains fact sheets for other areas of concern.

Once subsites are identified, remedial programs for the subsites will proceed as separate projects [1]. The NYS DEC seeks voluntary participation on the part of the parties responsible (see *potentially responsible parties*) for the subsite contamination through the use of *administrative consent orders*.

Table 3 Onondaga Lake Superfund Site Subsites
Onondaga Lake Bottom
Ley Creek PCB Dredgings
LCP Chemicals - New York
Semet Residue Ponds
Maestri No. 2* (formerly Val's Dodge)
Willis Avenue Site
General Motors Corporation Inland Fisher Guide
Town of Salina Landfill*

The following are the major Onondaga Lake Superfund site's remedial program milestones:

- 1999:** substantially complete identification of Onondaga Lake Superfund subsites
- 1995-2000:** commence subsite *remedial investigations*
- 1996-2004:** select subsite remedies
- 1997-2006:** commence subsite *remedial designs*
- 1998-2008:** commence subsite *remedial actions*

The NYS DEC is finalizing a fact sheet for the Willis Avenue subsite. An important new development for this subsite is that the NYS DEC and Allied Signal identified *chlorinated dioxins and furans* in soil samples collected from the Willis Avenue facility and in a sediment sample collected from the East Flume. The NYS DEC is currently reviewing the analytical data for these samples.

There are several factors that will influence the project’s schedule: 1) the number and complexity of the subsites, 2) the ability and willingness of responsible parties to conduct the required remedial work for their respective subsites, and 3) the availability of public funds to be used for needed remedial work where there is no viable and/or willing responsible party [1]. At present, the major studies completed for the subsites are included in Table 4.

Table 4 Onondaga Lake Superfund Site Major Subsite Studies Completed or Underway	
Subsite	Major Study Completed
Onondaga Lake Bottom	<i>Remedial Investigation</i> underway
Ley Creek PCB Dredgings	Remedial Investigation/ <i>Feasibility Study</i>
LCP Chemicals - New York	Remedial Investigation underway
Semet Residue Ponds	Remedial Investigation completed/ <i>Feasibility Study</i> underway
Maestri No. 2 (formerly Val’s Dodge)	<i>Phase II Study</i>
Willis Avenue Site	Remedial Investigation underway
General Motors Corporation, Inland Fishers Guide	Remedial Investigation underway
Town of Salina Landfill	Remedial Investigation underway

The NYS DEC technical oversight activities are addressing recommendations of the 1995 PHA to fully characterize the contamination sources of the Onondaga Lake Superfund site.

Fish Contamination at Onondaga Lake

The Recommendations section (Appendix F, Table 2, items 1, 2, 5, 9, and 10) of the public health assessment (PHA) and the Public Health Action Plan (PHAP, Appendix F, Table 1, items 2 and 5) specifically addressed fish issues at the site. The NYS DEC collects and analyzes fish samples from Onondaga Lake on an annual basis. The NYS DOH also evaluates the fish data and issues the appropriate fish consumption advisory. At present a New York State fish advisory recommends that the public not eat fish from Onondaga Lake because of mercury contamination (and to a lesser extent, PCB contamination) [2].

Item 5 (Appendix F, Table 1) of the PHAP states that ATSDR will initiate a literature search of available toxicological data for 1-phenyl-1-(4methylphenyl)-ethane and 1-phenyl-1-(2,4-dimethylphenyl)-ethane. The NYS DOH determined that the levels of these compounds present were at very low part per billion (ppb) levels, and considers that these compounds at the detected

concentrations are not of public health concern.

Onondaga Lake Bike Path

In 1996, the NYS DOH collected and analyzed soil samples from 5 locations along a bike path on the northwestern shore of Onondaga Lake (Figure 2, Appendix 1). The NYS DOH analyzed the soil samples to determine if mercury was present at levels of public health concern. The highest level of mercury detected was 0.15 milligrams per kilogram (mg/kg) at location 5 [8]. This level of mercury in soil is at background levels and is not of public health concern.

Health Education Activities

The NYS DEC and the NYS DOH provide professional and community health education for the Onondaga Lake Superfund site. The NYS DEC provides information to community members and other interested parties through the use of fact sheets (Appendices D and E). The NYS DEC and NYS DOH have held several public meetings for the Onondaga Lake Superfund site, the subsites, and potential subsite areas.

The NYS DOH has provided a train-the-trainer environmental course for New York State public health professionals that includes a tour of Onondaga Lake and the subsites. This course is required as part of New York's certification of environmental health professionals.

CONCLUSIONS

The Onondaga Lake Superfund site remains classified as a public health hazard as in the July 24, 1995 public health assessment. The majority of human exposure to lake contaminants is believed to have occurred prior to the New York State ban on fishing 1970. Mercury and polychlorinated biphenyls are present in fish. The current level of human exposure to Onondaga Lake contaminants is considered to be low because citizens living near the lake are well informed about the Lake's's fish consumption advisory (in effect since 1986) and about environmental issues at the site.

2. Based on the conclusions of the 1995 PHA, the various NYS DOH cancer incidence studies and NYS DOH's follow-up with the petitioner and his patient, ATSDR concludes that there is no evident environmental link between the Onondaga Lake Superfund site and cancer occurrences in the area. The results of these studies satisfied the petitioner's concerns by demonstrating that his patient's cancer, the cancer of the patient's family members, and those cancers seen in the Lakeland community could not be not linked to the Onondaga Lake site.

RECOMMENDATIONS

ATSDR recommends that citizens using Onondaga Lake for fishing purposes follow the NYS DOH fish consumption advisory and not eat any fish from the Lake.

REFERENCES

1. New York State Department of Environmental Conservation. Onondaga Lake Superfund National Priorities List (NPL) site fact sheet. 1997.
2. New York State Department of Health. Health Advisories, Chemicals in Sportfish and Game. 1998-1999 edition.
3. Agency for Toxic Substances and Disease Registry. Final public health assessment for the Onondaga Lake site. Onondaga County, Syracuse, New York. Atlanta: ATSDR, July 24, 1995.
4. Petitioner. Petition Letter to the Center of Disease Control. Re: Patient, Allied Chemical Plant, Onondaga Lake. August 31, 1990.
5. Agency for Toxic Substances and Disease Registry. Guidance on including child health issues in Division of Health Assessment and Consultation documents. ATSDR: July 2, 1998.
6. New York State Department of Health. Investigation of cancer incidence in the town of Geddes (Census Tract 128.00), Onondaga County, New York, 1982-1991. October 15, 1996.

Agency for Toxic Substances and Disease Registry. ATSDR e-mail correspondence between William Going and Adele Childress regarding the 1996 New York State Department of Health investigation of cancer incidence in the town of Geddes (Census Tract 128.00), Onondaga County, New York, 1982-1991. March 13, 1998.
8. State of New York Department of Health. Letter to William Daigle from Robert Montione concerning Onondaga Lake: Bike Path Soil Samples collected on September 19, 1996. October 24, 1996.

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APPENDIX A

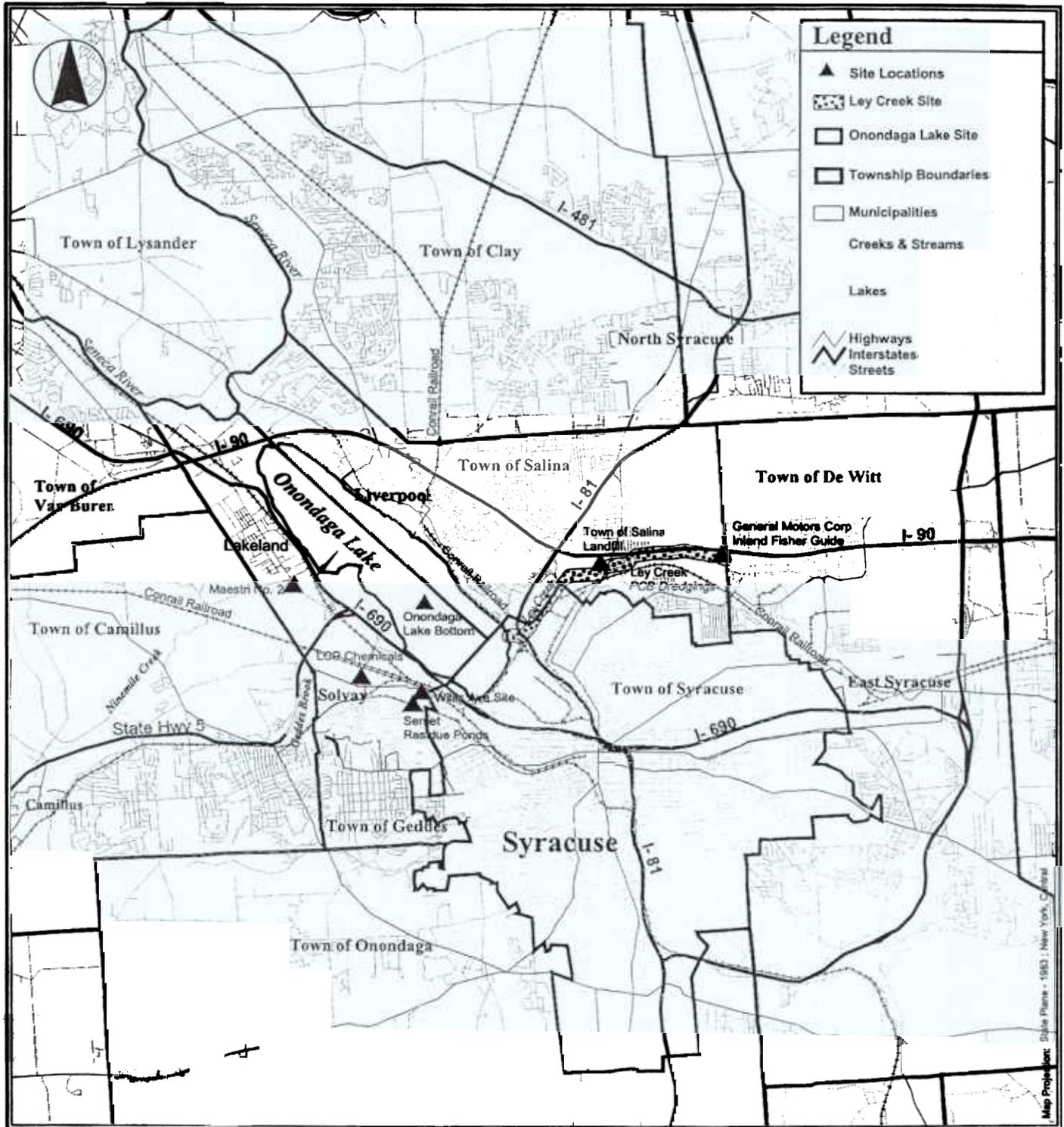


Figure 1
Onondaga Lake and
Subsite Locations
 Syracuse, NY

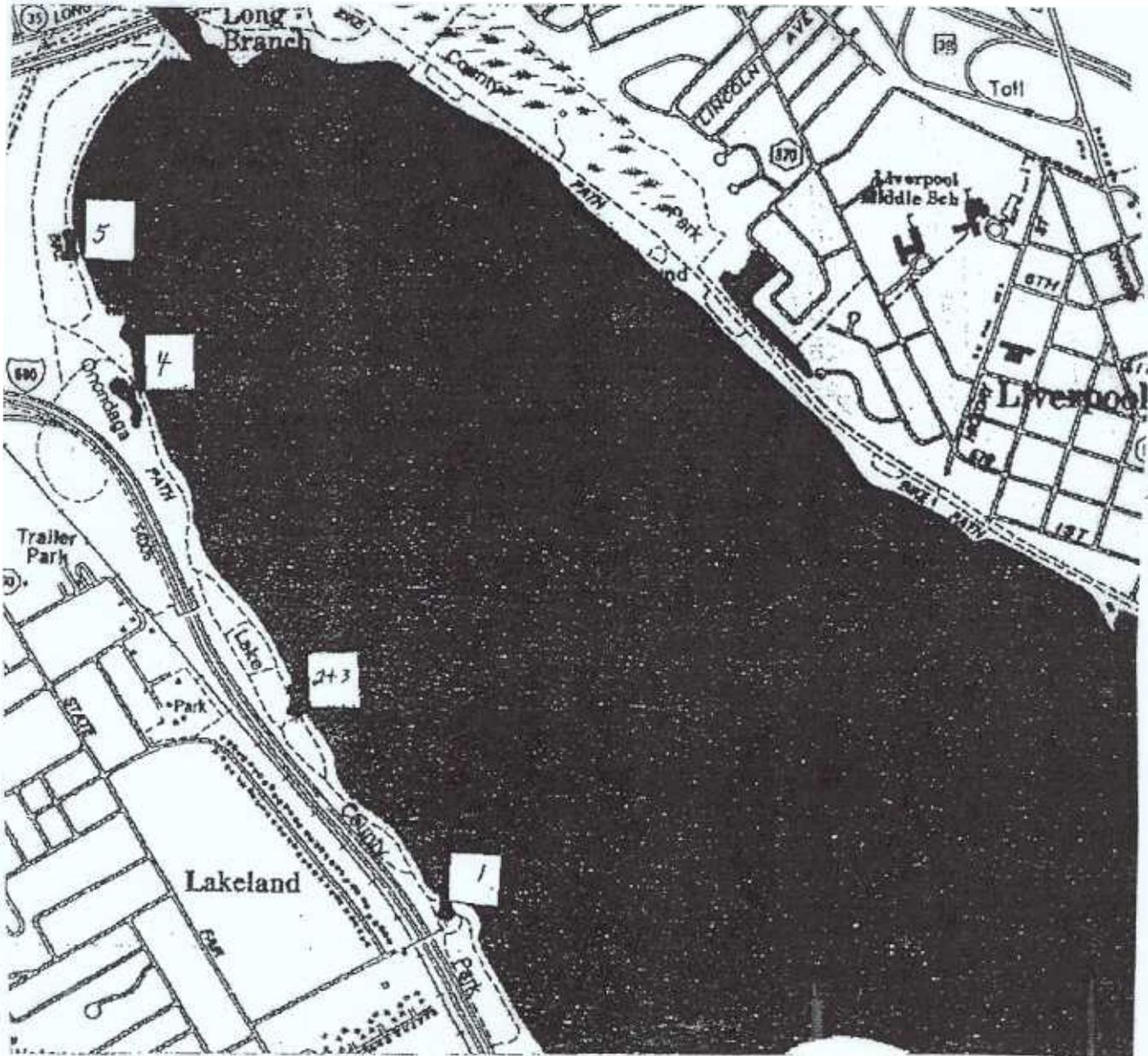
VICINITY MAP



FIGURE 2

**ONONDAGA LAKE BIKE PATH
SOIL SAMPLING LOCATIONS
SEPTEMBER 19, 1996**

N.



APPENDIX B

Glossary and Acronym/Abbreviation List

Glossary

<i>administrative consent order</i>	A legal agreement signed by EPA and an individual, business, or other entity through which the violator agrees to pay for correction of violations, take the required corrective or cleanup actions, or refrain from an activity. It describes the actions to be taken, may be subject to a comment period, applies to civil actions, and can be enforced in court.
<i>cancer incidence</i>	The likelihood that healthy people will develop cancer during a defined period of time. In other words, the number of new cancer cases in a population over a period of time.
<i>chlorinated dioxins and furans</i>	<p>Chlorinated dibenzo-<i>p</i>-dioxins (CDDs) are a family of 75 different compounds commonly referred to as chlorinated dioxins. The CDD family is divided into eight groups of chemicals based on the number of chlorine atoms in the compound. The group with one chlorine atom is called the mono-chlorinated dioxin(s). The groups with two through eight chlorine atoms are called di-, tri-, tetra-, penta-, hexa-, hepta-, and octa-chlorinated dioxin(s). In the pure form, CDDs are colorless solids or crystals. CDDs enter the environment as mixtures containing a variety of individual components and impurities. In the environment, they tend to be associated with ash, soil, or any surface with a high organic content, such as plant leaves.</p> <p>Chlorinated dibenzofurans (CDFs) are a family of chemicals known as chlorinated furans. These chemicals contain one to eight chlorine atoms attached to the carbon atoms of the parent chemical, dibenzofuran. The CDF family contains 135 individual compounds (known as congeners) with varying harmful health and environmental effects. Of these 135 compounds, those that contain chlorine atoms at the 2,3,7,8-positions of the parent dibenzofuran molecule are especially harmful. Other than for laboratory use of small amounts of CDFs for research and development purposes, these chemicals are not deliberately produced by industry.</p>

<i>comparison values</i>	ATSDR uses comparison values to assist in selecting chemicals detected in environmental media for further evaluation. Comparison values are estimated contaminant concentrations that are not likely to cause adverse human health effects following exposure, given a standard intake rate and standard body weight. The comparison values are calculated from the scientific literature available on exposure and health effects. Because comparison values do not represent thresholds of toxicity, chemical concentrations exceeding comparison values do not necessarily pose health hazards.
<i>concentration</i>	The amount of one substance dissolved or contained in a given amount of another. For example, seawater contains a higher concentration of salt than fresh water.
<i>contaminant</i>	Any substance or material that enters a system (the environment, human body, food, etc.) where it is not normally found.
<i>environmental contamination</i>	The presence of hazardous substances in the environment. From the public health perspective, environmental contamination is addressed when it potentially affects the health and quality of life of people living and working near the contamination.
<i>exposure</i>	Contact with a chemical by swallowing, by breathing, or by direct contact (such as through the skin or eyes). Exposure may be short term (acute) or long term (chronic).
<i>feasibility study</i>	1. Analysis of the practicability of a proposal; e.g., a description and analysis of potential cleanup alternatives for a site such as one on the National Priorities List. The feasibility study usually recommends selection of a cost-effective alternative. It usually starts as soon as the remedial investigation is underway; together, they are commonly referred to as the "RI/FS". 2. A small-scale investigation of a problem to ascertain whether a proposed research approach is likely to provide useful data.

<i>health consultation</i>	A response to a specific question or request for information pertaining to a hazardous substance or facility (which includes waste sites). It often contains a time-critical element that necessitates a rapid response; therefore, it is a more limited response than an assessment.
<i>health professional education</i>	Any activity or activities directed toward public health professionals and the local medical community. The purpose of this activity is to improve the knowledge, skill, and behavior of health professionals concerning medical surveillance, screening, and methods of diagnosing, treating, and preventing injury or disease related to exposure to hazardous substances. These activities may include immediately disseminating written materials or making database information available, presenting workshops and short courses, or, where appropriate, long-term follow-up activities.
<i>mercury</i>	A heavy metal that can accumulate in the environment and is highly toxic if breathed or swallowed at appropriate levels.
<i>National Priorities List (NPL)</i>	The Environmental Protection Agency's (EPA) listing of sites that have undergone preliminary assessment and site inspection to determine which locations pose immediate threat to persons living or working near the release. These sites are most in need of cleanup.
<i>petition</i>	Citizens and public officials may petition ATSDR to conduct a health assessment of hazardous waste site or a release of hazardous substances into the environment. Petitions for health assessments are submitted in writing to the ATSDR Assistant Administrator. After ATSDR receive the petition, evaluates the petition to determine what type of action best meets the community's needs or if no action is needed. For more information about the petition process, please call the ATSDR toll-free information line at (800) 447-1544.
<i>phase I investigation</i>	The State of New York uses Phase I investigations to identify the site location and the history of the site.

<i>phase II investigation</i>	The State of New York uses Phase II investigations to determine the location of hazardous waste at a site.
<i>polychlorinated biphenyls (PCBs)</i>	PCBs are a group of synthetic organic chemicals that contain 209 individual compounds (known as congeners) with varying harmful effects. There are no known natural sources of PCBs in the environment. PCBs are either oily liquids or solids and are colorless to light yellow in color. They have no known smell or taste. PCBs enter the environment as mixtures containing a variety of individual components and impurities.
<i>potentially responsible party (PRP)</i>	Any individual or company-including owners, operators, transporters or generators-potentially responsible for, or contributing to a spill or other contamination at a Superfund site. Whenever possible, through administrative and legal actions, GPA requires PRPs to clean up hazardous sites they have contaminated.
<i>preliminary assessment</i>	The process of collecting and reviewing available information about a known or suspected waste site or release.
<i>public health action plan</i>	Designed to prevent exposures and/or to mitigate or prevent adverse health effects in populations living near hazardous waste sites or releases. Public health actions can be identified from information developed in public health advisories, public health assessments, and health consultations. These actions include recommending the dissociation (separation) of individuals from exposures (for example, by providing an alternative water supply), conducting biologic indicators of exposure studies to assess exposure, and providing health education for health care providers and community members.

<i>public health assessment</i>	The evaluation of data and information on the release of hazardous substances into the environment in order to assess any current or future impact on public health, develop health advisories or other recommendations, and identify studies or actions needed to evaluate and mitigate or prevent human health effects; also, the document resulting from that evaluation.
<i>public health hazard</i>	Sites that pose a public health hazard as the result of long-term exposures to hazardous substances.
<i>remedial action</i>	The actual construction or implementation phase of a Superfund site cleanup that follows remedial design.
<i>remedial design</i>	A phase of remedial action that follows the remedial investigation/feasibility study and includes development of engineering drawings and specifications for a site cleanup.
<i>remedial investigation</i>	An in-depth study designed to gather the data necessary to determine the nature and extent of contamination at a Superfund site; establish criteria for cleaning up the site; identify preliminary alternatives for remedial actions; and support the technical and cost analyses of the alternatives. The remedial investigation is usually done with the feasibility study.
<i>subsites</i>	The New York Department of Environmental Conservation (NYS DHEC) is responsible for the remedial program for the Onondaga Lake Superfund site. The NYS DEC will determine the geographic extent of the site by locating all sources that have released, are releasing or threaten to release a hazardous substance into the Onondaga Lake system. The NYS DEC is investigating these potential sources to determine whether to designate them as Subsites of the Onondaga Lake Superfund site.
<i>Superfund</i>	Another name for the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), which created ATSDR.

Acronyms and Abbreviations

<i>ATSDR</i>	The Agency for Toxic Substances and Disease Registry. The United States Environmental Protection Agency. National Priorities List
<i>NYS DEC</i>	The New York State Department of Environmental Conservation
<i>NYS DOH</i>	The New York State Department of Health
	polychlorinated biphenyl
	public health assessment
<i>PHAP</i>	public health action plan
	parts per billion

APPENDIX C

HEALTH DEPARTMENT ISSUES 1998/99 FISH CONSUMPTION ADVISORIES FOR RECREATIONAL ANGLERS

ALBANY, EMBARGOED FOR RELEASE April 20, ---The Health Department's 1998-99 fish consumption advisories for recreational fishing include changes in current advisories for Lake Ontario and the St. Lawrence River, Sauquoit Creek (*Oneida County*), the Upper Hudson River, Smith Pond at Rockville Center and Freeport Reservoir (*Nassau County*) and Lake Erie. New data has led to changes in these advisories. The advisories are for sportfish that people catch recreationally and are not for commercial fish sold in markets.

Lake Ontario and the St. Lawrence River

Advisories for rainbow trout, lake trout and coho salmon have been changed (because of lower concentrations of PCB and mirex in these fish). The revised advisory for rainbow trout (all sizes) is to EAT NO MORE THAN ONE MEAL PER MONTH. While an EAT NONE advisory remains in effect for lake trout over 25 inches long, the advisory for shorter lake trout has been changed to EAT NO MORE THAN ONE MEAL PER MONTH. The advisory for coho salmon has been changed to EAT NO MORE THAN ONE MEAL PER MONTH for coho salmon over 25 inches long. Advisories for other species of Lake Ontario and St. Lawrence River fish remain in effect and women of childbearing age and children under the age of 15 should EAT NO fish from these waters.

Sauquoit Creek (*Oneida County*)

Due to PCB contamination the new advisory is EAT NONE for brown trout from Sauquoit Creek from the dam at Clayville downstream to the Mohawk River. Women of childbearing age and children under the age of 15 should EAT NO fish from this portion of Sauquoit Creek.

-more-

Upper Hudson River

A previous advisory to EAT NO MORE THAN ONE MEAL PER MONTH of any sportfish from the Hudson River between the Niagara Mohawk boat launch (above the Sherman Island Dam) downstream to the Sherman Island dam has been removed, so general advice to eat no more than one meal per week of all fish species now applies to this portion of the Hudson River. Data indicate reduced PCB levels in fish from this stretch of the river and a landfill which was a potential source of the PCB has been remediated. Advisories for the Hudson River near Glens Falls and downstream of Hudson Falls remain in effect.

Smith Pond at Rockville Center and Freeport Reservoir (*Nassau County*)

White perch from Smith Pond at Rockville Center and carp from Freeport Reservoir have elevated chlordane levels. Advisories are EAT NO MORE THAN ONE MEAL PER MONTH for white perch from Smith Pond at Rockville Center and carp from Freeport Reservoir. Women of childbearing age and children under the age of 15 are advised to EAT NO fish from these waters.

Lake Erie

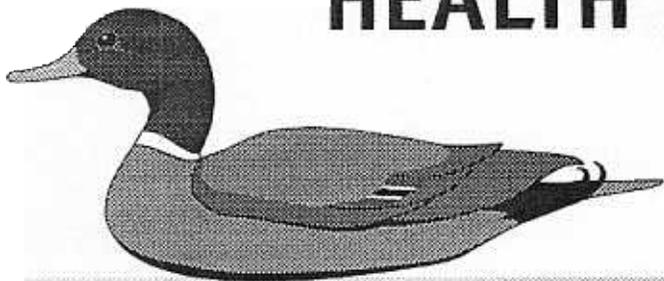
Due to PCB contamination, the advice has been modified for women of childbearing age and children under the age of 15. For chinook salmon less than 19 inches, burbot, freshwater drum, lake whitefish, rock bass and yellow perch the advice is EAT NO MORE THAN ONE MEAL PER WEEK. For women of childbearing age and children under the age of 15 the advice is to EAT NO MORE THAN ONE MEAL PER MONTH of all other fish from Lake Erie. Other people should eat no more than one meal per week of any Lake Erie fish species.

The Health Department's general advisory to recreational anglers for sportfish taken from any fresh waters in the State, the Hudson River, East River and New York Harbor north of the Verrazano Narrows Bridge is to eat no more than one meal (1/2 pound) per week and has not changed. Women of childbearing age and children under the age of 15 are advised not to consume any sportfish from any of the waters where EAT NONE or EAT NO MORE THAN ONE MEAL PER MONTH advisories are in effect except for the new advice regarding Lake Erie.

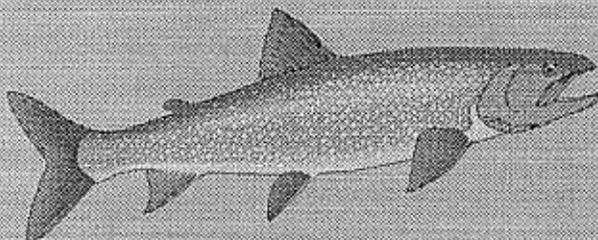
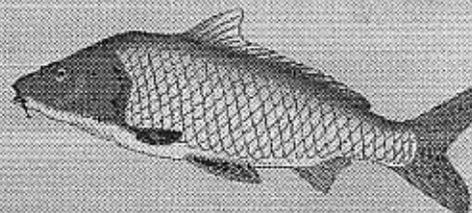
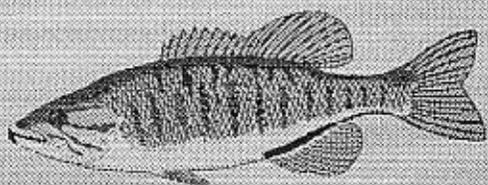
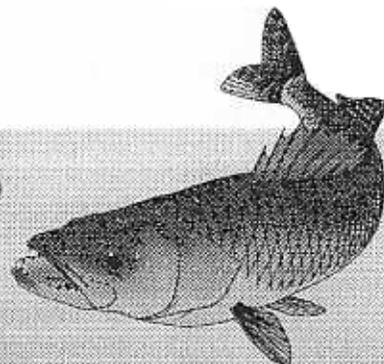
The annual advisories, published each spring by the Department of Health and included each fall in the State Department of Environmental Conservation's Fishing Regulations and Hunting and Trapping Regulations Guides, are developed primarily from data obtained by Environmental Conservation's ongoing monitoring programs. A copy of the complete fish and wildlife consumption advisories may be obtained by calling the Department of Health at 1-800-458-1158 extension 6409.

New York State Department of Health

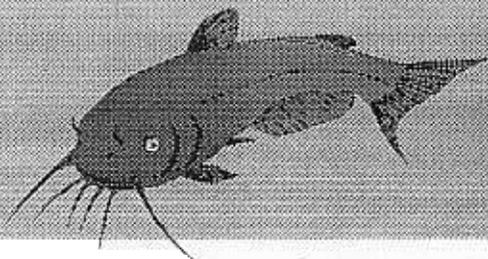
HEALTH ADVISORIES



CHEMICALS in SPORTFISH and GAME



1998-1999



These advisories are also available from the New York State Department of Health Web site on the Internet: <http://www.health.state.ny.us>

In an effort to reduce the costs of printing, please notify us if you wish your name to be deleted from our mailing list or if your address has changed. Comments regarding the format or content of this booklet are welcome. Use the telephone number for Environmental Health Information listed on page 18 or e-mail: BTSA@health.state.ny.us

1998-1999 Health Advisories: Chemicals in Sportfish and Game

Summary

The New York State Department of Health (DOH) issues advisories on eating sportfish and game because some of these foods contain chemicals at levels that may be harmful to your health. These advisories are for sportfish and game that people take and are not for fish and game sold in markets. The health advisories are: (1) general advice on sportfish taken from waters in New York State; (2) advice on sportfish from specific waterbodies; and (3) advice on eating game. The advisory tells you how to minimize your exposure to contaminants in sportfish and game and reduce whatever health risks are associated with them. The advisories are updated yearly.

Background

Fish and game are nutritious and good to eat. But some fish may take in contaminants from the water they live in and the food they eat. Game, too, may take in contaminants from their food and water. Some of these contaminants build up in fish and game--and in people--over time. These contaminants could harm people, so it is important to keep your exposure to these contaminants as low as possible.

The federal government sets standards for chemicals in food that is sold commercially, including fish. The decision to eat sportfish or game that you take is not regulated by government. Instead, state governments issue advisories. In New York State, the Department of Environmental Conservation (DEC) routinely monitors contaminant levels in fish and game and DOH issues advisories when sportfish have contaminant levels greater than federal standards.

These advisories are not intended to discourage you from eating fish or game, but should be used as a guide to minimize your exposure to contaminants.

Health Benefits

When properly prepared, fish provide a diet high in protein and low in saturated fats. Almost any kind of fish may have real health benefits if it replaces a high-fat source of protein in the diet. You can get the health benefits of fish and reduce unwanted contaminants by following the guidelines in these advisories.

Contaminants in Fish and Game

Long-lasting contaminants, such as PCBs, DDT and cadmium, build up in your body over time. It may take months or years of regularly eating contaminated fish or game to build up amounts that are a health concern. Health problems that may result from the contaminants found in fish or game range from small changes in health that are hard to detect to birth defects and cancer. Mothers who eat highly contaminated fish and game before becoming pregnant may have children who are slower to develop and learn. The meal advice in this advisory is also intended to protect children from these potential developmental problems. Women beyond their childbearing years and men face fewer health risks from contaminants than children do. People in this group should follow the advisory to reduce their total exposure to contaminants.

Some contaminants cause cancer in animals. We cannot predict with certainty your risks of cancer from eating contaminated fish or game. Cancer currently affects about one in every three people, primarily due to smoking, diet and hereditary risk factors. Exposure to contaminants in the fish and game you eat may not increase your cancer risk at all. If you follow this advisory over your lifetime, you will minimize your exposure and reduce whatever cancer risk is associated with these contaminants.

More information about the chemicals that have led to advisories in New York State sportfish and game and potential health effects can be found on page 15. When the federal

government sets standards for fish, it generally assumes that people eat about a half-pound of fish each month. The contaminant levels are measured in a skin-on fillet which has not been trimmed; this sample is used in determining whether or not the fish exceeds standards. Fish cannot be legally sold if they contain a contaminant at a level greater than its standard. When sportfish from a waterbody contain contaminants at levels greater than the federal standards, DOH issues a specific advisory.

General Advisory for Eating Sportfish

The general health advisory for sportfish is that you eat no more than one meal (one-half pound) per week of fish taken from the state's freshwaters and some marine waters at the mouth of the Hudson River. These include the New York waters of the Hudson River, Upper Bay of New York Harbor (north of Verrazano Narrows Bridge), Arthur Kill, Kill Van Kull, Harlem River and the East River to the Throgs Neck Bridge (see map on page 13). This general advisory is to protect against eating large amounts of fish that have not been tested or may contain unidentified contaminants. The general advisory does not apply to most marine waters.

Specific Advisories for Freshwater, the Hudson River and the Upper Bay of New York Harbor

Fish from more than 60 waterbodies in New York have contaminant levels that are greater than federal standards. For these waters, DOH recommends either limiting or not eating a specific kind of fish (see pages 5 to 11). In some cases, enough information is available to issue advisories based on the length of the fish. Older (larger) fish are often more contaminated than younger (smaller) fish.

The contaminants that led to the advisory (mercury, cadmium, PCBs, chlordane, dioxin, DDT and mirex) are listed next to each advisory. If you eat fish from more than one water body with these advisories, you should limit consumption from all of the waters you fish. For example, if you eat a meal of Saw Mill River carp, you should not eat American eel from Kinderhook Lake for the rest of that month since both of these fish species have EAT NO MORE THAN ONE MEAL PER

MONTH advisories and both are based on PCB contamination.

Advisory for Women, Infants and Children

Health advice is also given for infants, children under the age of 15 and women of childbearing age. DOH recommends that these groups not eat any fish from the specific waterbodies listed in the advisory. The reason for this specific advice is that chemicals may have a greater effect on developing organs in young children or in the fetus. They also build up in women's bodies and are often passed on in mother's milk. Waters that have specific advisories have at least one species of fish with an elevated contaminant level, which means that a contamination source is or was in or near the water.

When eating fish from waters where cadmium or mercury are listed as primary contaminants, it is important to space out fish meals according to the specific advisory for that waterbody. For example, if you eat a meal of yellow perch from Moshier Reservoir, you should not eat any more fish with the same mercury advisory for the rest of that month. However, for other contaminants, the total number of meals that you eat during the year is important and many of those meals can be eaten during a few months of the year. If most of the fish you eat are from the ONE MEAL PER WEEK category, you should not exceed 52 meals per year. Likewise, if most of the fish you eat are in the ONE MEAL PER MONTH category, you should not exceed 12 meals per year. Remember, eating one meal of fish from the ONE MEAL PER MONTH group is the same as eating four meals from the ONE MEAL PER WEEK group.

Advisories for Other Marine Waters

DOH also issues specific advisories for Long Island Sound, Block Island Sound, Peconic/Gardiners Bays, the Lower Bay of New York Harbor, Jamaica Bay and other Long Island south shore waters (see maps on pages 13 and 14). These apply to striped bass, bluefish and American eels and are the only fish advisories that apply to these waters. Ocean fish, although tested less often, are generally less contaminated than freshwater fish. However, striped bass, bluefish and eels have

specific habits or characteristics that make them more likely to have contaminants than other marine species (see page 14).

Advisories for Chemical Contaminants in Shellfish

DOH has a special advisory to eat no more than six Hudson River blue crabs per week and to avoid consuming crab cooking liquid due to cadmium and PCB contamination. DOH also recommends that you not eat the soft green substance (mustard, tomalley, liver or hepatopancreas) found in the body section of crabs and lobsters from any waters, because cadmium, PCBs and other contaminants concentrate there.

Advisories for Eating Game

DOH also issues advisories about eating some game. These are on page 14 of this booklet and include advisories for eating snapping turtles and waterfowl statewide because they contain PCBs and other contaminants. Because these contaminants concentrate in fat, you can minimize your exposure by not eating fat from these game and by following the cooking and eating advice on page 14.

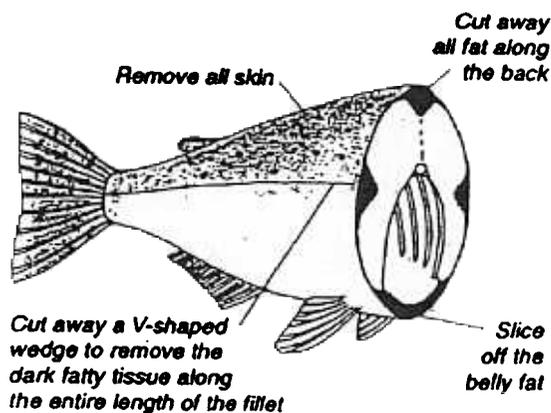
Deformed or Abnormal Fish

The health implications of eating deformed or abnormal fish are unknown. Any obviously diseased fish (marked by tumors, lesions or other abnormal condition of the fish skin, meat or internal organs) should be discarded.

Cleaning and Cooking Your Fish

Many contaminants are found at higher levels in the fat of fish. You can reduce the amount of these contaminants in a fish meal by properly trimming, skinning and cooking your catch. Remove the skin and trim all the fat from the belly flap, the line along the sides, the fat along the back and under the skin (see the diagram at the top of the next column).

Cooking or soaking fish cannot eliminate the contaminants, but heat from cooking melts some of the fat in fish and allows



some of the contaminated fat to drip away. Broil, grill or bake the trimmed, skinned fish on a rack so that the fat drips away. Do not use drippings to prepare sauces or gravies.

These precautions will not reduce the amount of mercury or other metals. Mercury is distributed throughout a fish's muscle tissue (the part you eat), rather than in the fat and skin. Therefore, the only way to reduce mercury intake is to reduce the amount of contaminated fish you eat.

Good sanitary practices should be followed when preparing any fish. Fish should be kept iced or refrigerated until cleaned and filleted and then refrigerated until cooked. Hands, utensils and work surfaces should be washed before and after handling any raw food, including fish. Seafood should be cooked to an internal temperature of 140°F.

Advice on Eating Raw or Partially Cooked Fish, Shellfish and Other Meats

Foods of animal origin, such as pork, poultry, beef, dairy products, fish and shellfish, can be contaminated with bacteria, viruses or parasites that can cause illness. Persons at high risk (for example, those who are immunocompromised, suffer from liver disease or other chronic diseases) can be more susceptible to and more severely affected by these infectious diseases. This is why the Department of Health recommends that all of these foods be thoroughly cooked before eating. Government agencies, universities and the food industry have active programs that strive to minimize contamination of raw animal foods and assure safe food products.

Information on rules and regulations, including areas in which shellfish collection is

permitted, can be obtained from DEC by calling (516) 444-0475. DEC routinely tests shellfish beds for bacteria. Based on these tests, an area may be closed to shellfish harvesting. Call DEC at (516) 444-0480 for a list of emergency closures.

Fish From Waters Affected by Beach Wash-ups

There is no indication that the wash-up of medical-type waste and garbage on New York and Long Island beaches has affected the sanitary condition of marine fish, lobster and crabs. Fish do not carry the AIDS virus. Consumers need not worry about eating these foods because of these problems. Good sanitary practices should be followed when preparing fish or any other food.

Reducing Exposure To Chemical Contaminants From Fish

Fish are an important source of protein and are low in saturated fat. Naturally occurring fish oils lower plasma cholesterol and triglycerides, thereby decreasing the risk of coronary heart disease. Increasing fish consumption is useful in reducing dietary fat and controlling weight. By eating a diet that includes food from a variety of protein sources, an individual is more likely to have a diet that is adequate in all nutrients.

Although eating fish has some health benefits, fish with high contaminant levels should be avoided. When deciding whether or not to eat fish that may be contaminated, the benefits of eating those fish can be weighed against the risks.

For young women, eating contaminated fish is a health concern not only for themselves but also for any unborn or nursing child, since the chemicals may reach the unborn babies and can be passed on in mother's milk. For an older person with heart disease, the risks,

especially of long-term health effects, may not be as great a concern when compared to the benefits of reducing the risks of heart disease.

Everyone can benefit from eating the fish they catch and can minimize their contaminant intake by following these general recommendations:

1. Choose fish from waterbodies that are not listed in the DOH advisories. Follow the advice in this booklet.
2. Use a method of filleting the fish that will reduce the skin, fatty material and dark meat. These parts of the fish contain many of the contaminants.
3. Choose smaller fish, consistent with DEC regulations, within a species since they may have lower contaminant levels. Older (larger) fish within a species may be more contaminated because they have had more time to accumulate contaminants in their bodies.
4. For shellfish, such as crab and lobster, do not eat the soft green substance (mustard, tomalley, liver or hepatopancreas) found in the body section. This part of the shellfish has been found to contain high levels of chemical contaminants, including PCBs and heavy metals.
5. Cooking methods such as broiling, poaching, boiling and baking, which allow contaminants from the fatty portions of fish to drain out, are preferable. Pan frying is not recommended. The cooking liquids of fish from contaminated waters should be discarded since these liquids may retain contaminants.
6. Anglers who want to enjoy the fun of fishing but who wish to eliminate the potential risks associated with eating contaminated sportfish may want to consider "catch and release" fishing. Refer to the DEC *New York State Fishing Regulations Guide* for suggestions on catch and release fishing techniques.

1998-1999 Health Advisories

The following recommendations are based on contaminant levels in fish and game. To minimize potential adverse health impacts, the DOH recommends:

Eat no more than one meal (one-half pound) per week of fish from the state's freshwaters, the Hudson River estuary, Upper Bay of New York Harbor (north of the Verrazano Narrows Bridge), Arthur Kill, Kill Van Kull, East River to the Throgs Neck Bridge and Harlem River, except as recommended below.

Women of childbearing age, infants and children under the age of 15 should not eat any fish species from waters listed below.

Follow trimming and cooking advice.

Observe the following restrictions on eating fish from these waters and their tributaries to the first barrier impassable by fish.

Advice for other marine waters is on page 14.

Water (County)	Species	Recommendations	Chemical(s) of Concern
Arthur Kill [49] (Richmond)	See Hudson River (south of Catskill)		PCBs
Barge Canal [5] Tonawanda Creek Lockport to Niagara River (Erie & Niagara)	Carp	Eat no more than one meal per month	PCBs
Belmont Lake [61] (Suffolk)	Carp	Eat no more than one meal per month	Chlordane, PCBs
Big Moose Lake [29] (Herkimer)	Yellow perch	Eat no more than one meal per month	Mercury
Buffalo River/Harbor [7] (Erie)	Carp	Eat none	PCBs
Canadice Lake [10] (Ontario)	Lake or brown trout over 21"	Eat none	PCBs
Canandaigua Lake [11] (Ontario & Yates)	Lake trout over 24"	Eat no more than one meal per month	PCBs
Carry Falls Reservoir [32] (St. Lawrence)	Walleye	Eat no more than one meal per month	Mercury
Cayuga Creek [3] (Niagara)	All species	Eat none	Dioxin
Cranberry Lake [31] (St. Lawrence)	Smallmouth bass	Eat no more than one meal per month	Mercury

Waters with changes from 1997-98 Health Advisories are underlined.
Numbers in brackets refer to map on page 12.

Water (County)	Species	Recommendations	Chemical(s) of Concern
Delaware Park Lake [6] (Erie)	Carp	Eat no more than one meal per month	PCBs
East River [48] (NYC)	American eel	Eat none	PCBs
	Atlantic needlefish, bluefish, striped bass and white perch	Eat no more than one meal per month	PCBs
Eighteen Mile Creek [4] (Niagara)	All species	Eat none	
Ferris Lake [21] (Hamilton)	Yellow perch over 12"	Eat none	Mercury
	Smaller yellow perch	Eat no more than one meal per month	Mercury
Fourth Lake [22] (Herkimer & Hamilton)	Lake trout	Eat none	
Francis Lake [24] (Lewis)	Yellow perch	Eat no more than one meal per month	Mercury
<u>Freeport Reservoir [59]</u> (Nassau)	Carp	Eat no more than one meal per month	Chlordane
Gill Creek [2] Mouth to Hyde Park Lake Dam (Niagara)	All species	Eat none	PCBs, Dioxin
Grant Park Pond [54] (Nassau)	Carp	Eat no more than one meal per month	PCBs
Grasse River [35] Mouth to Massena Power Canal (St. Lawrence)	All species	Eat none	PCBs
Halfmoon Lake [23] (Lewis)	Yellow perch	Eat no more than one meal per month	Mercury
Hall's Pond [55] (Nassau)	Carp and goldfish	Eat none	Chlordane

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Numbers in brackets refer to map on page 12.

Please note the special advice for **women of childbearing age, infants and children under the age of 15** on page 5.

Water (County)	Species	Recommendations	Chemical(s) of Concern
Harlem River [47] (NYC)	American eel	Eat none	PCBs
	Atlantic needlefish, bluefish, striped bass and white perch	Eat no more than one meal per month	PCBs
Hoosic River [40] (Rensselaer)	Brown and rainbow trout	Eat no more than one meal per month	PCBs
<u>Hudson River [44]</u> Sherman Island Dam downstream to Feeder Dam at South Glens Falls	Carp	Eat no more than one meal per month	PCBs
Hudson Falls to Troy Dam	All species	Eat none	PCBs
Troy Dam south to bridge at Catskill	All species except American shad	Eat none	PCBs
Bridge at Catskill south to and including the Upper Bay of New York Harbor (north of Verrazano Narrows Bridge), Arthur Kill and Kill Van Kull	American eel, Atlantic needlefish, bluefish, carp, goldfish, largemouth bass, smallmouth bass, rainbow smelt, striped bass, walleye, white catfish and white perch	Eat no more than one meal per month	PCBs
	Blue crab	Eat no more than six crabs per week	Cadmium, PCBs
	--hepatopancreas (mustard, tomalley, or liver)	Eat none	Cadmium, PCBs
	--cooking liquid	Discard	Cadmium, PCBs
Indian Lake [30] (Lewis)	All species	Eat no more than one meal per month	Mercury
Irondequoit Bay [9] (Monroe)	Carp	Eat none	PCBs, Mirex
Keuka Lake [12] (Yates & Steuben)	Lake trout over 25"	Eat no more than one meal per month	DDT

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Water (County)	Species	Recommendations	Chemical(s) of Concern
Kill Van Kull [50] (Richmond)	See Hudson River (south of Catskill)		PCBs
Kinderhook Lake [43] (Columbia)	American eel	Eat no more than one meal per month	PCBs
Koppers Pond [13] (Chemung)	Carp	Eat no more than one meal per month	PCBs
Lake Capri [62] (Suffolk)	Carp	Eat no more than one meal per month	Cadmium
Lake Champlain [37] Whole Lake	Lake trout over 25" and walleye over 19"	Eat no more than one meal per month	PCBs, Mercury
Bay within Cumberland Head to Crab Island	American eel, brown bullhead and yellow perch	Eat no more than one meal per month	PCBs
<u>Lake Ontario [8]</u> Including Niagara River below Niagara Falls (see Niagara River for additional advice)	American eel, channel catfish, carp, lake trout over 25", brown trout over 20" and chinook salmon	Eat none	PCBs, Mirex, Dioxin
	White sucker, rainbow trout, smaller lake trout, smaller brown trout and coho salmon over 25"	Eat no more than one meal per month	PCBs, Mirex, Dioxin
West of Point Breeze	White perch	Eat none	PCBs, Mirex, Dioxin
East of Point Breeze	White perch	Eat no more than one meal per month	PCBs, Mirex, Dioxin
Loft's Pond [57] (Nassau)	Carp and goldfish	Eat no more than one meal per month	Chlordane
Long Pond-Croghan [28] (Lewis)	Splake over 12"	Eat none	Mercury
Upper Massapequa Reservoir [60] (Nassau)	White perch	Eat no more than one meal per month	Chlordane

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Please note the special advice for **women of childbearing age, infants and children under the age of 15** on page 5.

Water (County)	Species	Recommendations	Chemical(s) of Concern
Massena Power Canal [34] (St. Lawrence)	Smallmouth bass	Eat no more than one meal per month	
Meacham Lake [36] (Franklin)	Yellow perch over 12"	Eat none	Mercury
	Smaller yellow perch	Eat no more than one meal per month	Mercury
Mohawk River [19] Between Oriskany and West Canada Creeks (Oneida & Herkimer)	Carp	Eat none	
	Largemouth bass and tiger muskellunge	Eat no more than one meal per month	
Moshier Reservoir [27] (Herkimer)	Yellow perch	Eat no more than one meal per month	Mercury
Nassau Lake [42] (Rensselaer)	All species	Eat none	
New York Harbor [51]	See Hudson River (south of Catskill) and marine waters advice on page 14		
Niagara River [1] Above Niagara Falls	Carp	Eat no more than one meal per month	PCBs
	White perch	Eat none	PCBs, Mirex, Dioxin
Below Niagara Falls (also see Lake Ontario)	Smallmouth bass	Eat no more than one meal per month	PCBs, Mirex, Dioxin
Onondaga Lake [15] (Onondaga)	All species	Eat none	Mercury
Oswego River [16] Oswego power dam to upper dam at Fulton (Oswego)	Channel catfish	Eat no more than one meal per month	
Ridders Pond [53] (Nassau)	Goldfish	Eat none	Chlordane
Round Pond [38] Town of Long Lake (Hamilton)	Yellow perch over 12"	Eat no more than one meal per month	Mercury

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Water (County)	Species	Recommendations	Chemical(s) of Concern
St. James Pond [63] (Suffolk)	All species	Eat no more than one meal per month	Chlordane, DDT
<u>St. Lawrence River [33]</u> Whole River	American eel, channel catfish, lake trout over 25", carp, brown trout over 20" and chinook salmon	Eat none	PCBs, Mirex, Dioxin
	White perch, white sucker, rainbow trout, smaller lake trout, smaller brown trout and coho salmon over 25"	Eat no more than one meal per month	PCBs, Mirex, Dioxin
Bay at St. Lawrence/ Franklin Co. line	All species	Eat none	PCBs
Salmon River [17] Mouth to Salmon Reservoir (also see Lake Ontario) (Oswego)	Smallmouth bass	Eat no more than one meal per month	PCBs, Mirex
<u>Sauquoit Creek [20]</u> Between dam at Clayville and Mohawk River (Oneida)	Brown trout	Eat none	PCBs
Saw Mill River [45] (Westchester)	American eel	Eat no more than one meal per month	Chlordane
Schroon Lake [39] (Warren & Essex)	Lake trout over 27"	Eat no more than one meal per month	PCBs
Sheldrake River [46] (Westchester)	American eel	Eat none	Chlordane, PCBs
	Goldfish	Eat no more than one meal per month	Chlordane
Skaneateles Creek [14] From dam at Skaneateles to Seneca River (Onondaga)	Brown trout over 10"	Eat no more than one meal per month	PCBs

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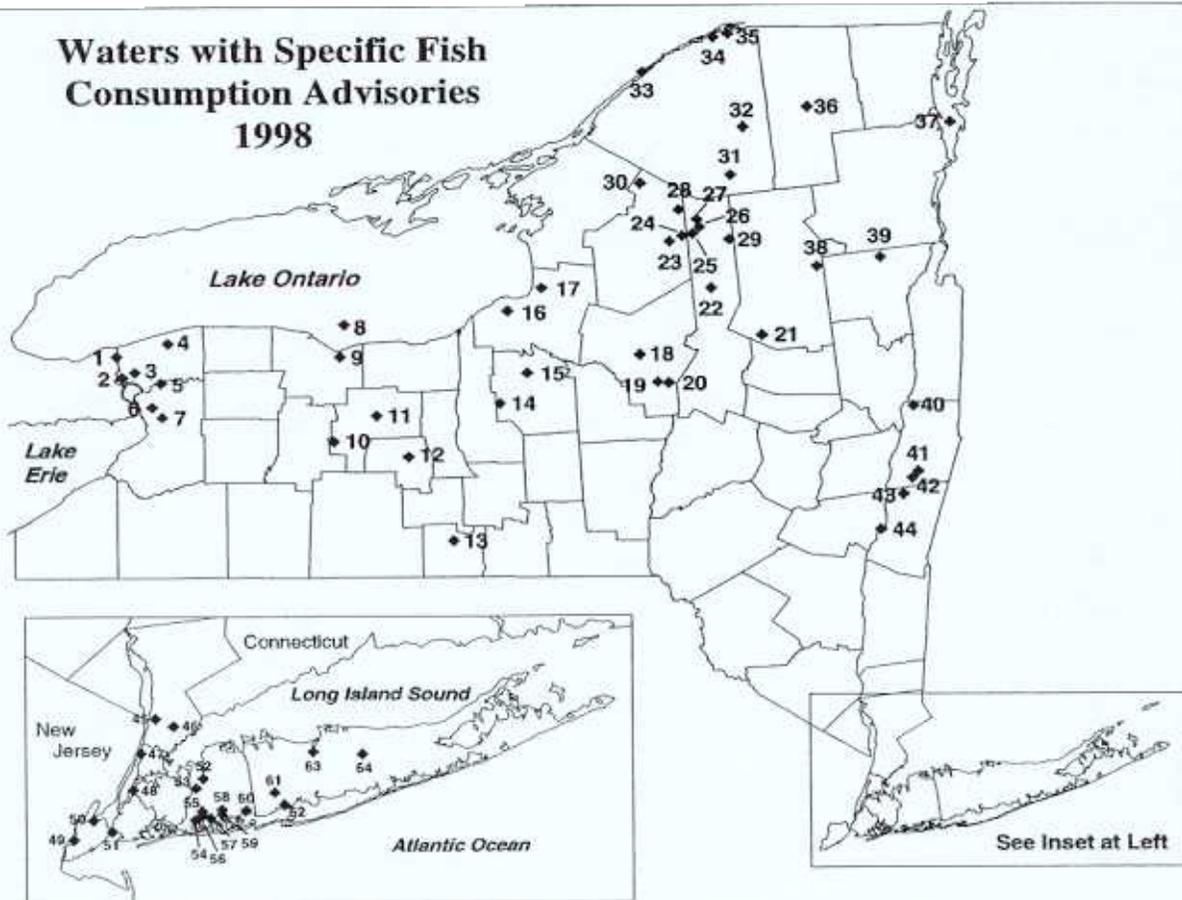
Water (County)	Species	Recommendations	Chemical(s) of Concern
<u>Smith Pond - Rockville Centre</u> [56] (Nassau)	White perch	Eat no more than one meal per month	Chlordane
Smith Pond - Roosevelt Park [58] (Nassau)	American eel	Eat none	Chlordane
	Carp and goldfish	Eat no more than one meal per month	Chlordane
Spring Pond - Middle Island [64] (Suffolk)	Carp and goldfish	Eat none	Chlordane
Stillwater Reservoir [26] (Herkimer)	Yellow perch over 9", smallmouth bass and splake	Eat no more than one meal per month	Mercury
Sunday Lake [25] (Herkimer)	Yellow perch	Eat no more than one meal per month	Mercury
Threemile Creek [18] (Oneida)	White sucker	Eat no more than one meal per month	PCBs
Valatie Kill [41] Between County Rt. 18 and Nassau Lake (Rensselaer)	All species	Eat none	PCBs
Whitney Park Pond [52] (Nassau)	Carp and goldfish	Eat no more than one meal per month	Chlordane

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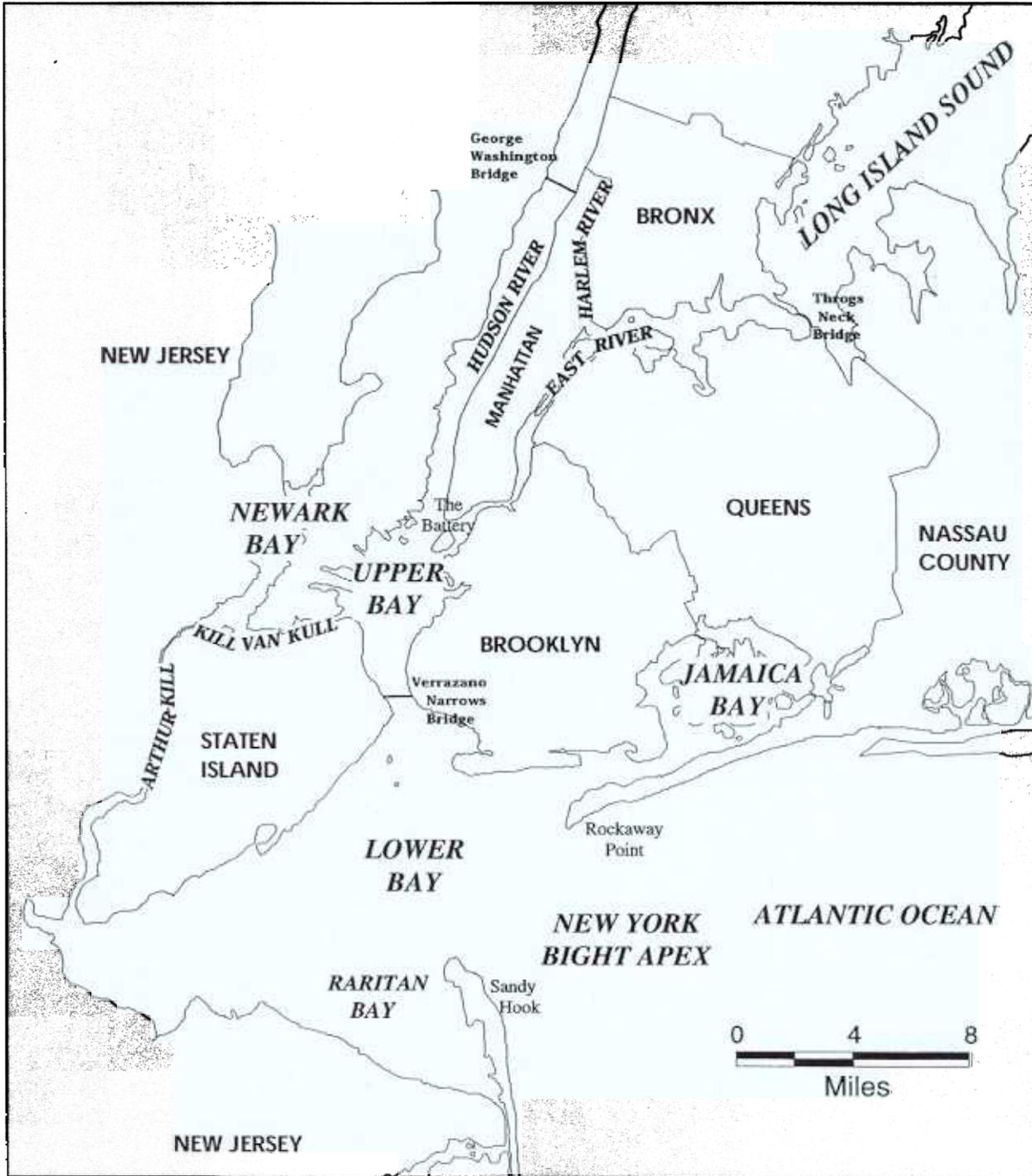
Please note the special advice for **women of childbearing age, infants and children under the age of 15** on page 5.

Waters with Specific Fish Consumption Advisories 1998



- | | | | | | |
|----|--------------------------|----|-----------------------|----|-------------------------------|
| 1 | Niagara River | 22 | Fourth Lake | 43 | Kinderhook Lake |
| 2 | Gill Creek | 23 | Halfmoon Lake | 44 | Hudson River |
| 3 | Cayuga Creek | 24 | Francis Lake | 45 | Saw Mill River |
| 4 | Eighteen Mile Creek | 25 | Sunday Lake | 46 | Sheldrake River |
| 5 | Barge Canal | 26 | Stillwater Reservoir | 47 | Harlem River |
| 6 | Delaware Park Lake | 27 | Moshier Reservoir | 48 | East River |
| 7 | Buffalo River and Harbor | 28 | Long Pond (Croghan) | 49 | Arthur Kill |
| 8 | Lake Ontario | 29 | Big Moose Lake | 50 | Kill Van Kull |
| 9 | Irondequoit Bay | 30 | Indian Lake | 51 | New York Harbor |
| 10 | Canadice Lake | 31 | Cranberry Lake | 52 | Whitney Park Pond |
| 11 | Canandaigua Lake | 32 | Carry Falls Reservoir | 53 | Ridders Pond |
| 12 | Keuka Lake | 33 | St. Lawrence River | 54 | Grant Park Pond |
| 13 | Koppers Pond | 34 | Massena Power Canal | 55 | Hall's Pond |
| 14 | Skaneateles Creek | 35 | Grasse River | 56 | Smith Pond (Rockville Centre) |
| 15 | Onondaga Lake | 36 | Meacham Lake | 57 | Loft's Pond |
| 16 | Oswego River | 37 | Lake Champlain | 58 | Smith Pond (Roosevelt Park) |
| 17 | Salmon River | 38 | Round Pond | 59 | Freeport Reservoir |
| 18 | Threemile Creek | 39 | Schroon Lake | 60 | Upper Massapequa Reservoir |
| 19 | Mohawk River | 40 | Hoosic River | 61 | Belmont Lake |
| 20 | Sauquoit Creek | 41 | Valatie Kill | 62 | Lake Capri |
| 21 | Ferris Lake | 42 | Nassau Lake | 63 | St. James Pond |
| | | | | 64 | Spring Pond (Middle Island) |

Map of New York City Harbor Region



Additional Advice

Advisories for Lake Erie - Due to PCB contamination, women of childbearing age and children under the age of 15 are advised to eat no more than one meal per week of chinook salmon less than 19 inches, burbot, freshwater drum, lake whitefish, rock bass and yellow perch and to EAT NO MORE THAN ONE MEAL PER MONTH of all other fish from Lake Erie. Other people should eat no more than one meal per week of any Lake Erie fish species.

Marine Bluefish and Eels - The general advisory (Eat no more than one meal (one-half pound) per week) applies to bluefish and American eels but not to most other fish (see Marine Striped Bass below) from Long Island Sound, Block Island Sound, Peconic/ Gardiners Bays, the Lower Bay of New York Harbor, Jamaica Bay and other Long Island south shore waters. (Contaminants of concern - PCBs)

Marine Striped Bass - Women of childbearing age and children under the age of 15 should eat no striped bass taken from Upper and Lower Bays of New York Harbor or Long Island Sound west of Wading River. Other people should EAT NO MORE THAN ONE MEAL PER MONTH of striped bass from these waters. Everyone should eat no more than one meal per week of striped bass taken from Jamaica Bay, Eastern Long Island Sound, Block Island Sound, Peconic/Gardiners Bay or Long Island south shore waters. (Contaminants of concern - PCBs)

Crabs and Lobsters - The hepatopancreas (sometimes called mustard, tomalley or liver) of

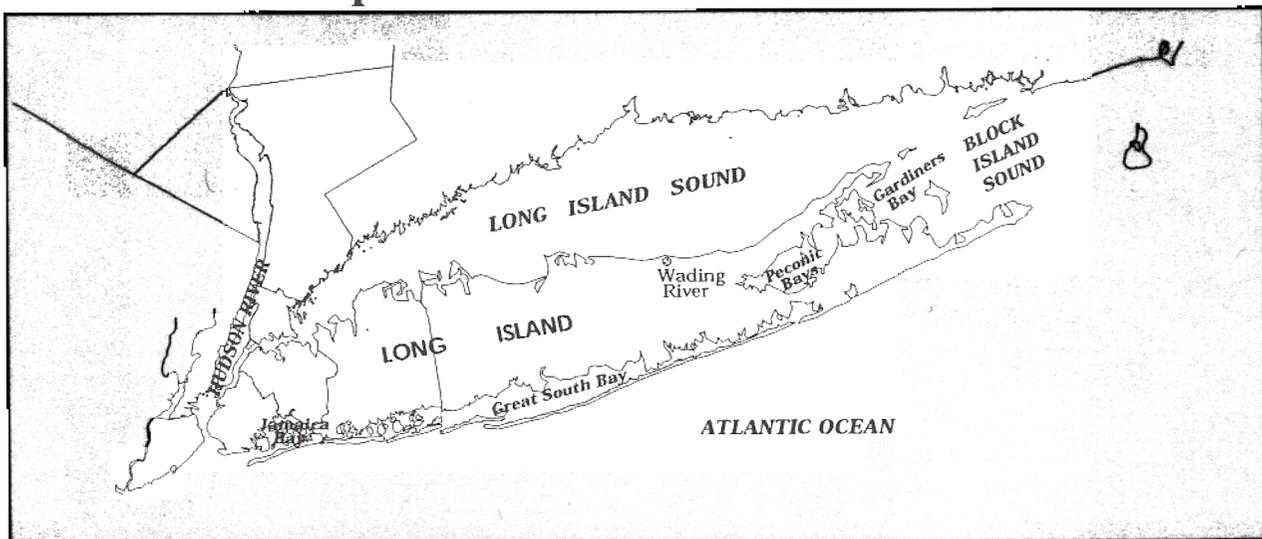
crabs and lobsters should not be eaten because it has high contaminant levels. (Contaminants of concern - PCBs, cadmium, dioxin)

Hudson River Shad - The advisory for women of childbearing age, infants and children under the age of 15 is EAT NONE for all fish from the lower Hudson River because of PCB contamination. However, shad have lower PCB levels than other species. A few meals of Hudson River shad meat and roe, especially using cooking and trimming methods that minimize PCB content, would not pose an unacceptable health risk for women of childbearing age and children, assuming this is their only significant exposure to PCBs.

Snapping Turtles - Snapping turtles retain contaminants in their fat, liver, eggs and, to a lesser extent, muscle. If you choose to consume snapping turtles, you can reduce your exposure by carefully trimming away all fat and discarding the fat, liver and eggs prior to cooking the meat or preparing soup. Women of childbearing age, infants and children under the age of 15 should AVOID EATING snapping turtles or soups made with their meat. (Contaminants of concern - PCBs)

Wild Waterfowl - Mergansers are the most heavily contaminated waterfowl species and should NOT BE EATEN. Other wild waterfowl should be skinned and all fat removed before cooking, stuffing should be discarded after cooking and EAT NO MORE THAN TWO MEALS PER MONTH. Monitoring data indicate that wood ducks and Canada geese are less contaminated than other wild waterfowl species and diving ducks are more contaminated than dabbling ducks. (Contaminants of concern - PCBs, mirex, chlordane, DDT)

Map of New York Marine Waters



Information on Chemicals in Sportfish and Game

The following paragraphs give some basic information on chemicals in sportfish and game in New York State. Most of our knowledge of potential health effects comes from high dose animal studies or worker exposures. Chemicals that cause adverse health effects in humans and laboratory animals after high levels of exposure may increase the risk of adverse effects in humans exposed to lower levels for long periods of time. Following the suggestions in the advisory will minimize your exposure and any health risks from contaminants in fish.

Chlordane

Chlordane is a man-made pesticide that was used widely to control agricultural and home/garden pests until most uses were banned in the United States during the mid-1970s. In New York State, chlordane was used for the underground control of termites until that use was banned in 1985. Chlordane generally gets into bodies of water after improper waste disposal or run-off from treated areas. Chlordane builds up in the fatty tissues of fish, birds and mammals and can be found in fish and shellfish caught in chlordane-contaminated waters. Since chlordane is present in the fatty tissues of fish, exposure to chlordane in fish can be reduced by certain cleaning and cooking practices. For more information, see page 3.

People exposed to large amounts of chlordane may have nervous system damage. Exposure to high levels of chlordane damages the nervous system and liver of laboratory animals. Some animals exposed before birth and while nursing developed behavioral effects later. Chlordane causes cancer in laboratory animals exposed to high levels over their lifetimes. Whether chlordane causes cancer in humans is unknown. For general information, see the first paragraph of this section.

DDT

DDT is a man-made pesticide that was used widely to control insects on agricultural crops and biting insects, such as mosquitos and black flies. Its use was banned in New York in

1971 and throughout the United States in 1973. DDT generally gets into bodies of water after improper waste disposal, direct spraying of water bodies or run-off from treated areas. DDT builds up in the fatty tissues of fish, birds and mammals. It can be found in fish and shellfish caught in DDT-contaminated waters. Since DDT is present in the fatty tissues of fish, exposure to DDT in fish can be reduced by certain cleaning and cooking practices. For more information, see page 3.

People who accidentally ingested large amounts of DDT had effects on the nervous system that went away once the exposure stopped. Exposure of laboratory animals to high levels of DDT damages the liver and can cause reproductive, developmental and nervous system effects. DDT causes cancer in laboratory animals exposed to high levels over their lifetimes. Whether DDT causes cancer in humans is unknown. For general information, see the first paragraph of this section.

Mirex

Mirex is a man-made chemical that was used as a pesticide to control fire ants until its use was banned in the United States in the late 1970s. It was also used as a flame retardant in plastics, rubber, paint, paper and electrical goods until the early 1970s. Mirex generally gets into bodies of water after improper waste disposal or run-off from treated areas. Mirex builds up in the fatty tissues of fish, birds and mammals and can be found in fish and shellfish caught in mirex-contaminated waters. Since mirex is present in the fatty tissues of fish, exposure to mirex in fish can be reduced by certain cleaning and cooking practices. For more information, see page 3.

Laboratory animals exposed to mirex had damage to the eyes, nervous system, reproductive system, liver, thyroid and kidneys. Mirex causes cancer in laboratory animals exposed to high levels over their lifetimes. Whether mirex causes cancer in humans is unknown. For general information, see the first paragraph of this section.

PCBs

PCBs are a family of man-made chemicals that were used in many commercial and electrical products until their manufacture was banned in the mid-1970s. Some electrical equipment still in use contains PCBs. In this country, most PCBs were sold as mixtures called Aroclors. PCBs build up in fatty tissues of fish, birds and mammals. Since PCBs are present in the fatty tissues of fish, exposure to PCBs in fish can be reduced by certain cleaning and cooking practices. For more information, see page 3.

Industrial workers exposed to large amounts of PCBs had skin damage. However, these workers were also exposed to other, more toxic chemicals that may have caused the skin effects. Some studies of pregnant women suggest a link between a mother's increased exposure to PCBs from eating contaminated fish or other environmental sources and slight effects on her child's birthweight, short-term memory and learning.

Exposure to high levels of PCBs damages skin, liver and the nervous, immune and reproductive systems of laboratory animals. It also reduces the birthweight and changes the behavior of offspring born to animals exposed before, during and after pregnancy. Certain types of PCBs cause birth defects in offspring born to animals exposed to high levels during pregnancy. Some types of PCBs cause cancer in laboratory animals exposed to high levels over their lifetime. Whether PCBs cause cancer in humans is unknown. For general information, see the first paragraph of this section.

Polychlorinated dibenzo-*p*-dioxins (PCDDs, dioxins)

Polychlorinated dibenzo-*p*-dioxins (also known as PCDDs or dioxins) and chlorinated dibenzofurans (also known as PCDFs or furans) are two closely related families of chemical compounds. Some dioxins and furans are produced as unwanted by products in chemical manufacturing processes, such as in the production of certain herbicides and disinfectants. They are also found in the smoke or ash from motor vehicles, municipal waste incinerators and wood fires. Some dioxins/furans are environmentally and

biologically persistent. They are highly soluble in fats and are stored in the fatty tissue of fish and other animals. Since dioxins and furans are present in fatty tissues of fish, exposure to dioxins and furans in fish can be reduced by certain cleaning and cooking practices. For more information, see page 3.

Dioxins and furans are thought to produce similar health effects. TCDD (2,3,7,8-tetrachlorodibenzo-*p*-dioxin) is the most potent of the dioxins and furans, and much of what we know about the toxicity of dioxins and furans comes from studies of TCDD.

People exposed to high levels of dioxins and furans during industrial accidents have developed a condition called chloracne (a severe acne-like skin condition) and other skin disorders, as well as skin, eye and respiratory tract irritation, dizziness, headaches, nausea, vomiting and possibly disorders of the liver and nervous system. In men exposed to lower levels over longer times, there is some evidence that TCDD can cause small changes in the liver function, levels of sex hormones and may disrupt the metabolism of glucose (sugar). Some studies have found that workers in plants where products contaminated with dioxins and furans (for example, some herbicides) were made developed cancers which may have been caused by TCDD.

In laboratory animals, TCDD has damaged the liver, skin, blood and immune and reproductive systems. It also affects prenatal development in animals whose mothers were exposed to TCDD. TCDD causes cancer in animals exposed to high levels over their lifetime. For general information, see the first paragraph of this section.

Mercury

Mercury is a metal that occurs naturally in the environment in several forms. The most common form, metallic or elemental, is a silvery, odorless liquid that can evaporate at room temperature to form a vapor. Mercury can also combine with other elements to form both inorganic and organic compounds. Mercury and mercury compounds can be found in air, soil and water. Most of the mercury that accumulates in the fleshy part of fish is methylmercury. Fish absorb methylmercury

directly from water and from eating smaller organisms that contain methylmercury. Greater amounts of methylmercury are found in older fish which tend to eat other fish and organisms in water containing methylmercury. Methylmercury is found throughout the part of the fish that is eaten; therefore, cleaning and cooking methods which may reduce exposure to other contaminants are NOT effective for reducing exposure to mercury.

Exposure to high levels of metallic, inorganic or organic mercury can damage the nervous system and kidneys. People who ate fish and grain which contained large amounts of methylmercury had permanent damage to the nervous system, kidneys and fetus. Exposure to methylmercury is more of a concern for children and unborn babies because their nervous systems are still developing and the nervous system is a target organ for mercury. Health effects might include brain damage, behavioral and developmental problems. For general information, see the first paragraph of this section.

Cadmium

Cadmium is a naturally occurring metal found at low levels in soil and water. Cadmium is used in many industrial operations and in consumer products such as paints, plastics and batteries. Food, air and drinking water all contribute to a person's exposure to cadmium. Cadmium can be found in food items and in tobacco. Vegetables, fruits and cereals are the greatest source of cadmium. Cadmium can also be found in fish and shellfish from waters containing cadmium.

Eating food or beverages containing high levels of cadmium can cause nausea, vomiting, stomach upset, cramps and diarrhea. Because cadmium leaves the body slowly, it can accumulate in the body, mainly in the kidneys, with continuing exposure. Some people with long-term exposure had kidney, bone and blood damage. For general information, see the first paragraph of this section.

Contacts for Additional Information

New York State Department of Health

For more information on **health effects** from exposure to chemical contaminants or to provide comments on the format or content of this report contact:

Environmental Health Information: 1-800-458-1158, ext. 6409 (toll-free from New York State telephones). Calls are taken from 8:00AM-4:30PM, Monday through Friday. After hours leave a voice mail message. If calling from out-of-state, please dial (518) 458-6409. The full advisories are also available from the Internet: <http://www.health.state.ny.us> or can be requested by e-mail: BTSA@health.state.ny.us

New York State Department of Environmental Conservation

For more information on **fishing inland waters**, contact:

Region 1

Freshwaters

Loop Rd.
Bldg. 40 SUNY
Stony Brook, NY 11790
(516) 444-0280

Marine waters

205 North Belle Mead Rd.
Suite 1
East Setauket, NY 11733
(516) 444-0435

Region 2

1 Hunter Point Plaza
4740 21st St.
Long Island City, NY 11101-5407
(718) 482-4900

Region 3

21 South Putt Corners Rd.
New Paltz, NY 12561-1696
(914) 256-3161

Region 4

Rt. 10, Jefferson Rd.
Stamford, NY 12167-9503
(607) 652-7366

Region 5

Rt. 86, P.O. Box 296
Raybrook, NY 12977-0296
(518) 897-1333

Region 6

317 Washington St.
Watertown, NY 13601-3787
(315) 785-2266

Region 7

1285 Fisher Ave.
Cortland, NY 13045-1090
(607) 753-3095

Region 8

6274 E. Avon-Lima Rd.
Avon, NY 14414-9519
(716) 226-2466

Region 9

270 Michigan Ave.
Buffalo, NY 14203-2999
(716) 851-7000

For more information on **fishing marine waters**, contact:

Bureau of Finfish and Crustaceans
205 North Belle Mead Road, Suite 1
East Setauket, NY 11733
(516) 444-0435

For information on **contaminant levels**, in fish and shellfish and wildlife contact:

Bureau of Habitat
50 Wolf Road
Albany, NY 12233
(518) 457-6178

Prepared by:
New York State Department of Health
Division of Environmental Health Assessment
April 1998
H:\FISH\ADVISORY\FISH98TX.WPD

NEW YORK STATE FISH CONSUMPTION SURVEY

In order to improve our service, the New York State Department of Health is surveying readers of our booklet, 1998-1999 Health Advisories: Chemicals in Sportfish and Game. Please help us improve this booklet by answering the questions below and mailing this page (postage is already paid). This survey is anonymous - please don't write your name on the page. Thank you!

County where you live _____ Your age: _____ Your sex: Female Male

After you have read the advisory booklet, please answer the questions below. Please mark an X in the appropriate boxes. If you are not sure of your answer, leave the boxes blank.

The wording in the advisory booklet is: Too complicated; Too simple; Just about right.

The advisory booklet contains:

Too much information; Not enough information; The right amount of information.

Chemical contaminants in fish and wildlife can affect people's health: Agree; Disagree.

The consumption advice was clearly explained in the advisory booklet: Agree; Disagree.

I eat sport-caught fish from New York State waters: Yes; No; I intend to.

I mostly follow the advice in the advisory booklet: Yes; No; I intend to.

The general advisory for consumption of sport fish from New York State fresh waters is: Eat no more than one meal per month; Eat no more than one meal per week; Eat no more than six meals per year.

Which groups face the greatest health risks from chemical contaminants in fish? (Check all that apply)

Unborn babies; Young children; Elderly; Young men; Young women.

Which fish cleaning methods can reduce the amounts of some contaminants in fish meals? (Check all that apply)

Remove all skin; Cut off fat along belly and back; Remove dark fatty meat along sides of fish.

True or False: Larger fish generally have higher contaminant levels than smaller fish of the same species from the same water: True; False

How did you find out about this booklet? Newspaper/magazine article; Radio/television program;

From friends or relatives; I don't remember; Other. Please write in _____

Use this space for your comments or suggestions (you can continue on lines on other side of sheet).

After you've answered the questions, please cut this sheet on the dotted line, fold twice (where indicated) so our address is showing, apply tape (PLEASE DO NOT STAPLE) on ends, and drop it in the mail (postage is already paid). Thank you!

(ADDITIONAL COMMENTS) _____

Please Fold First

Bureau of Toxic Substance Assessment
Fish Consumption Survey
2 University Place, Room 240
0625



NO POSTAGE
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IF MAILED
IN THE
UNITED STATES



BUSINESS REPLY MAIL
FIRST CLASS MAIL PERMIT NO. 1554 ALBANY, NY

POSTAGE WILL BE PAID BY ADDRESSEE

NEW YORK STATE DEPARTMENT OF HEALTH
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ALBANY NY 12214-0372



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APPENDIX D



New York State Department of Environmental Conservation

Division of Environmental Remediation

ONONDAGA LAKE SUPERFUND NATIONAL PRIORITIES LIST (NPL) SITE FACT SHEET 1997

Site Location and History

Onondaga Lake is located in Onondaga County, within the Lake Ontario drainage basin. The City of Syracuse lies at the southern end of the Lake. A historically significant industrial area is situated on the western shore, whereas the remainder of the shoreline is undeveloped natural or park land areas. Industries and municipalities have used the Lake, its tributaries and upland areas over the past 100 years as an easily accessible disposal area for their waste. Pollution of the Lake and its surroundings led to numerous, adverse environmental impacts to such an extent that many recreational, aesthetic and economic uses of the Lake were precluded. Examples of this include closure of the block ice and Lake-related tourist industries in the early 1900's, a ban on swimming in 1960 and a ban on fishing in 1970. Although fishing is now permitted, there is a health advisory in effect which recommends that no fish from the Lake be eaten.

The Lake and related contaminated areas were listed on the United States Environmental Protection Agency's (EPA's) Superfund National Priorities List (NPL) in December 1994.

This NPL listing means that the Lake system is among the Nation's most polluted natural resources and must undergo a hazardous substance remedial program consistent with the Federal Superfund Law. The federal remedial program is very similar to New York State's inactive hazardous waste site remedial program. This was a significant factor in EPA's decision to grant the New York State Department of Environmental Conservation (NYSDEC) the technical lead role to implement this program for the site. To facilitate NYSDEC's management of the Onondaga Lake site, EPA has provided NYSDEC with about \$5,000,000 under a cooperative agreement.

Generally, the Lake, its tributaries and hazardous substance disposal and spill sites which are releasing or threatening to release contamination to the Lake and its tributaries are considered part of the NPL site. The exact areal extent of the site will be determined as

areas of concern around the lake are investigated and their impacts on the lake system evaluated.

Hazardous Substance Concerns at the Site

The hazardous substances and related concerns are as follows:

- ▶ mercury, and other heavy metals, and organic contamination of the Lake and tributary sediments
- ▶ fish flesh contaminated with mercury and PCBs which render fish from the Lake unsafe for consumption
- ▶ active and potential sources of hazardous substance pollution of the Lake via surface and groundwater pathways

Overview of the Site's Remedial Program

NYSDEC has developed a remedial process for the Lake site that reflects compliance with both federal and State remedial programs. The process consists of seven major phases:

preliminary information gathering pursuant to CERCLA §104(e) in order to determine areas of concern

site investigation to determine the nature and extent of contamination (the Remedial Investigation)

an engineering analysis of remedial alternatives in order to assist in remedy selection (the Feasibility Study)

proposal and selection of a remedy (the Proposed Remedial Action Plan followed by a Record of Decision)

engineering design of the remedy (Remedial Design)

construction of the remedy (Remedial Construction)

operation and maintenance of the remedy

The Onondaga Lake NPL site's remedial process is basically the same as that for other hazardous waste sites; however, its vast geographic extent creates the need for an innovative management approach. Specifically, the site is comprised largely of separate industrial disposal areas, each of which is contributing to the hazardous waste pollution problems of the Lake and its tributaries. Many of these individual areas are separately listed inactive hazardous waste sites for which remedial programs were already underway when the Lake was listed to the NPL. NYSDEC is moving forward with this ongoing work while proceeding to determine if there are other sites which are contributing hazardous substances to the Lake system. Each individual site that is found to be releasing or threatening to release hazardous substances to the Lake system will be termed a "subsite". The investigations, remedy selections and remediations of the subsites will proceed as separate projects. The intention is to obtain voluntary participation of parties responsible for subsite contamination through the use of administrative consent orders that obligate a responsible party to conduct all or part of the appropriate remedial program. If a responsible party fails to voluntarily participate, NYSDEC will consider other options for conducting the remedial program, such as completing the program under the auspices of the Federal Superfund.

The goal is that by remediating each subsite, the entire site will be remediated. As the respective subsites' remedial programs unfold, NYSDEC will evaluate the appropriateness of Interim Remedial Measures (IRMs) in order to address active sources of pollution as early as possible. (IRMs are actions taken before the process of selecting the final remedy is completed.)

Project Schedule

Following are the major Onondaga Lake NPL site's remedial program milestones:

1995-1996: substantially complete identification of the subsites to the NPL site

1995-1997: commence subsite remedial investigations

1996-2001: select subsite remedies

1997-2003: commence subsite remedial designs

1998-2005: commence subsite remedial constructions

There are three key variables at this time which may significantly influence the project schedule:

the number and complexity of subsites

the ability and willingness of responsible parties to conduct requisite remedial work for their respective subsites

the availability of public funds to be used for needed remedial work where there is no viable responsible party

For More Information

Additional information regarding this site may be found at the following local repositories:

Onondaga County Public Library
Syracuse Branch at the Galleries
447 South Salina Street
Syracuse, NY 13204

Atlantic States Legal Foundation
658 West Onondaga Street
Syracuse, NY 13204

NYSDEC Region 7 Office
615 Erie Boulevard, West
Syracuse, NY 13204

Contacts

William Daigle
NYSDEC
50 Wolf Rd.
Albany, NY 12233
1-800-342-9296 or
518-457-1641

Susan Miller
NYSDEC, Region 7
615 Erie Blvd., West
Syracuse, NY 13204
315-426-7400

Robert Montione
NYSDOH
2 University Place
Albany, NY 12203
1-800-458-1158 x306

Herbert King
USEPA
290 Broadway
New York, NY 10007
212-637-4268



FACT SHEET
General Motors Inland Fisher Guide Site
NYSDEC, Region 7, Onondaga County
February 1998

Remedial Investigation to be Performed at General Motors Site

In September 1997, General Motors Corporation (GM) agreed to conduct a Remedial Investigation and Feasibility Study (RI/FS) at the General Motors: Inland Fisher Guide Inactive Hazardous Waste Disposal Site and Ley Creek Deferred Media (the "Site"). The New York State Department of Environmental Conservation (NYSDEC) will oversee the work performed by GM and its consultants. The Site is located on Townline Road, in Salina, Onondaga County and includes a manufacturing facility and a stretch of Ley Creek from Townline Road to the Route 11 bridge. The manufacturing facility operated from 1952-1993 initially for plating and later for molding of automotive parts. Contamination of the soil and groundwater with polychlorinated biphenyls (PCBs), solvents and heavy metals has been documented. NYSDEC placed the facility on the Registry of Inactive Hazardous Waste Disposal Sites as a Class 2 site. A Class 2 site is a site at which hazardous waste is present at levels which constitute a significant threat to public health or the environment and action must be taken to mitigate the threat. In June 1997, the facility was named as part (a subsite) of the Onondaga Lake Superfund Site on the National Priorities List. This determination was based on the historic and continuing release and threat of release of PCBs and other contaminants into Ley Creek, which is a tributary of Onondaga Lake.

The Site Investigation: The purpose of the Remedial Investigation/Feasibility Study (RI/FS) is to determine the nature and extent of the contamination at the Site, to obtain sufficient information to assess the risk posed by the Site, and to evaluate cleanup alternatives. As an initial phase, GM has submitted a report summarizing the results of sampling that already has been performed at the Site, which may satisfy the RI/FS requirements. However, additional investigation may be needed. Based on the RI/FS, NYSDEC will propose a means for cleaning up the Site in a Proposed Remedial Action Plan (PRAP) and will release the PRAP for public review. Following consideration of public comments on the PRAP, the NYSDEC will select a cleanup remedy and document its decision in a Record of Decision (ROD). The ROD will include a response to all public comments received during the comment period.

Your Opportunities to Be Informed and Involved: The Citizen Participation Plan for the Onondaga Lake NPL Site describes activities to keep you informed and involved during the investigation and cleanup of the Site such as the following:

- ▶ **During the RI:**
Fact Sheets and informational updates to describe the site investigation and related field activities.

- At the End of FS/Completion of PRAP:**
Mailing describing the Proposed Remedial Action Plan and notice announcing a 30-Day public comment period.
- Within 30-day PRAP Comment Period:**
Public meeting to discuss the PRAP.
- After Remedy is Selected and Finalized:**
Mailing describing selected remedy and response to comments on the PRAP.

The Citizen Participation Plan is available at the first two repositories listed below. Your comments and suggestions about the Citizen Participation program for the Site are always welcome. For example, if you believe that an informational meeting regarding the RI/FS activities would be desirable, please contact the project manager indicated below. NYSDEC encourages your participation in the project. Your understanding and involvement can assist in developing a cleanup program that effectively protects public health and the environment.

Remedial Investigation and Feasibility Study

In September 1997, the NYSDEC and GM entered into an Administrative Order on Consent to conduct a Remedial Investigation and Feasibility Study (RI/FS) at the General Motors: Inland Fisher Guide Inactive Hazardous Waste Disposal Site (the "Site"). By signing the Order on Consent, GM has agreed to conduct the RI/FS at the Site. The purpose of the RI/FS is to:

- determine the nature and extent of contamination;
- determine any risks to human health and the environment created by the Site; and
- evaluate actions that may be necessary to effectively clean up the Site.

Remedial Investigation activities may include:

- Surveying and Site Mapping
- Soil Sampling
- Groundwater Sampling
- Surface Water Sampling
- Sediment Sampling
- Biota Sampling
- Human Health and Ecological Risk Assessments

Site History

The Site is located off Townline Road in Salina, Onondaga County. From 1952 to the early 1970's, the facility was used for the plating, buffing, forming and finishing of metal automotive parts. From the early 1970's, until the facility ceased operation in December 1993, the facility was used to manufacture plastic body trim components.

In the early 1980's, an investigation performed by GM revealed that PCB contaminated oil in an underground oil reclamation system beneath the manufacturing building was infiltrating the storm sewer system and subsequently releasing into Ley Creek, a tributary to Onondaga Lake, and to the surface and subsurface soils at the facility. Elevated levels of PCBs have been detected in soil, sediment, fish and groundwater at the Site.

In 1985, excavation near an abandoned oil sump showed oily soil and liquid oil. A subsequent hydrogeologic study determined that groundwater at the Site was contaminated with solvents, nickel, chromium and PCBs.

In March 1985, excavation near underground paint thinner lines revealed the presence of paint thinner in the soil. A groundwater investigation indicated that the groundwater was contaminated with solvents associated with paint thinners. Subsequently, a groundwater collection trench and pump were installed. The contaminated groundwater collected in the trench is currently

treated to remove contaminants and discharged through Outfall 003 to Ley Creek under a SPDES permit.

In 1988, sampling of two surface impoundments at the facility indicated the presence of PCB in sludge deposits and in oil at concentrations greater than 50 parts per million (ppm). During their period of use, the surface impoundments occasionally released PCB-contaminated water and oil to Ley Creek. In 1989, under DEC oversight, GM completed the construction required for closure of the two impoundments, which included removal of sludges, backfilling and capping.

In 1993, the manufacturing facility ceased operations and was listed on the New York State Registry of Inactive Hazardous Waste Disposal Sites as a Class 2 site.

In June 1997, the GM facility was named a subsite of the Onondaga Lake Site in the U.S. EPA's National Priorities List of Superfund sites.

In September 1997, GM entered into an Administrative Consent Order with the NYSDEC whereby GM agreed to perform a RI/FS of the Site.

Under the 1997 Order and in accordance with the corresponding SPDES permit, GM is allowed to discharge treated water to Ley Creek.

Document Repositories. Four locations provide access to information about the site as it becomes available

NYSDEC, Reg. 7
615 Erie Blvd., West
Syracuse, NY 13204-2400
(315) 426-7400
Hours: M-F 8:30 a.m. - 4:45 p.m.
Please call for an appointment

*Onondaga County Public Library
Syracuse Branch at the Galleries*
447 South Salina Street
Syracuse, NY
Phone: 315-435-1800
Hours: Tu, Wed, 9:00 am - 8:30 pm
M, Th, Fri, Sat, 9:00 am - 5:00 pm

Atlantic States Legal Foundation
658 West Onondaga Street
Syracuse, NY 13204
(315) 475-1170
Please call for hours of availability:

East Syracuse Free Library
4990 James Street
East Syracuse, NY 13051
Hours: M-Th 1:00 am - 8:00 pm
Fri 10:00 am - 6:00 pm,
Sat 10:00 am - 2:00 pm (Labor Day - mid June only)

For More Information About:

The Site Investigation:
Susan Benjamin, Project Manager
NYSDEC
Div. of Environmental Remediation
50 Wolf Road, Room 228
Albany, NY 12233-7010
(518)457-1641

Health-Related Information:
Nina Knapp
NYSDOH
2 University Place
Albany, NY 12203-3399
1-800-458-1158 ext. 402/306

Health-Related Information:
Ronald Heerkens, Toxics Coordinator
NYSDOH
Syracuse Field Office
217 So. Salina St., 3rd Floor
Syracuse, NY 13202
(315)426-7625

Community Participation:

Sue Miller, Community Participation Specialist
NYSDEC Region 7
615 Erie Boulevard, W.
Syracuse, NY 13204
315-426-7400

Technical Assistance Grant

As part of the Superfund program, the U.S. EPA provides communities with the opportunity to apply for Technical Assistance Grants of up to \$50,000 per site. These grants are designed to enable community groups to hire a technical assistance advisor or consultant to assist them in interpreting and commenting on the site findings and the planned cleanup. EPA received an application for a TAG from the Atlantic States Legal Foundation (ASLF) and awarded the grant to ASLF in 1996. Additional information regarding the TAG program may be obtained from Carol Hemmington, U.S. EPA Region II, 290 Broadway, New York, NY 10007-1866, tel. (212)637-3420.



New York State Department of Environmental Conservation
Division of Environmental Remediation

**LCP CHEMICALS (LCP BRIDGE STREET)
REGISTRY NUMBER #734049
VILLAGE OF SOLVAY, TOWN OF GEDDES
ONONDAGA COUNTY
FEBRUARY 1997**

Site Location and History

LCP Chemicals, Inc. (LCP) owns a facility located on Matthews Avenue in the village of Solvay and the Town of Geddes, Onondaga County, New York. Between 1919 and the late 1940's, The Atmospheric Nitrogen Company (ANC) operated a facility at the site which produced ammonia. The ANC facility was demolished and used as fill at the site in the early 1950's. AlliedSignal, Inc. (formerly Allied Chemical Corp., Solvay Process Division) owned and operated a chlor-alkali plant at the site from 1953 to 1979. The plant manufactured liquid chlorine and sodium hydroxide (caustic soda) by the electrolysis of sodium chloride brine using the mercury cell and diaphragm cell processes. In 1957 the plant started manufacturing hydrogen peroxide.

In 1979, LCP Chemicals Inc. (formerly Linden Chemicals and Plastics Inc.) purchased the facility from AlliedSignal Inc. In 1980, LCP installed a hydrochloric acid (HCl) production facility. HCl was produced by reacting non-condensable chlorine gas from the chlorine liquification process with hydrogen gas from the cell processes. In 1981, LCP installed a sodium hypochlorite bleach plant. Hypochlorite bleach was produced by reacting non-condensable chlorine gas with sodium hydroxide.

In June of 1988, the chlor-alkali facility discontinued production. A small portion of the facility currently operates as a product transfer distribution station for Holtrachem Inc.

Concerns at the Site

As a result of plant operations, mercury and mercury waste have contaminated groundwater, soil, surface water and sediments at the site. The area is, however, served by public water. Site groundwater discharges to the West Flume and a wetland area, which also discharges to the West Flume. The West Flume discharges into Geddes Brook which runs into Nine Mile Creek. Nine Mile Creek flows into Onondaga Lake. Elemental mercury has been discovered on site in the soil

at various locations and depths of approximately 20 to 50 feet below the ground surface. PCB contaminated electrical equipment leaked on-site causing soil contamination. In March of 1995, AlliedSignal Inc. performed a removal of the PCB contaminated electrical equipment and oil. Approximately 21,000 gallons of oil and 100 tons of electrical equipment were removed from the site and properly disposed of.

Status of Site Investigation

AlliedSignal Inc. is currently performing a Remedial Investigation and Feasibility Study under a Stipulation to the Onondaga Lake Consent Decree. In November of 1995 and 1996, Phase I and Phase II of the Remedial Investigation field work was completed, respectively. Field work included sampling of groundwater monitoring wells, soil, surface water, sediment and biota to aid in determining the nature and extent of contamination caused by previous site activities. A Draft Remedial Investigation Report is scheduled to be submitted to the Department by AlliedSignal in May of 1997.

For More Information

Please contact the following individuals:

**New York State Department of
Environmental Conservation (NYSDEC)
NYSDEC Citizen Participation Specialist
Ms. Sue Miller
615 Erie Blvd., West
Syracuse, New York 13204
315-426-7403**

**NYSDEC Regional Contact
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315-426-7551**

NYSDEC Project Manager - Central Office
Mr. Rick Mustico
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Albany, NY 12233-7010
518-457-1641

Toll-Free Information Phone Number
1-800-342-9296

New York State Department of Health (NYSDOH)

Mr. Robert Montione
NYSDOH
2 University Place, Room 205
Albany, New York 12203
518-458-6305

New York State Department of Law (NYSDOL)

Mr. Norman Spiegel, Esq.
NYSDOL
Environmental Protection Bureau
120 Broadway, 26th Floor
New York, New York 10271
212-416-8454

Mr. John Davis (Technical)
NYSDOL
Environmental Protection Bureau
120 Broadway, 26th Floor
New York, New York 10271
212-416-8482

Document Repository Location

Technical documents can be reviewed at the following locations:

Onondaga County Public Library
Syracuse Branch at the Galleries
447 South Salina Street
Syracuse, New York 13204

Atlantic States Legal Foundation
658 West Onondaga Strret
Syracuse, New York 13204

New York State Departments of Environmental Conservation
and Law, both located at
615 Erie Boulevard, West
Syracuse, New York 13204

New York State Department of Environmental
Conservation
50 Wolf Road, Room 228
Albany, New York 12233-7010
518-457-1641

New York State Department of Law
Environmental Protection Bureau
120 Broadway, 26th Floor
New York, New York 10271
212-416-8482



New York State Department of Environmental Conservation
Division of Hazardous Waste Remediation

ONONDAGA LAKE NATURAL RESOURCE DAMAGES CASE

NOVEMBER 1995

Background

Under the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA, or more commonly referred to as the "Superfund" Law), the Commissioner of DEC has been designated the Trustee for New York's natural resources. CERCLA mandates trustees to act on behalf of the public to recover damages (monies) for injury to natural resources within their trusteeship.

Site Location and History

At its chemical production plants in the Onondaga Lake environs, AlliedSignal, Inc. (Allied) has used or produced hazardous and non-hazardous substances since 1917. Discharges to the lake of many of the substances have been well documented. Significant natural resource injury has resulted from these practices. Of particular note are the effects of mercury and ionic wastes such as calcium and calcium salts on the Lake's fishes and peoples' ability to use the fishery. Generally speaking, mercury has contaminated the fish to a point where they are no longer considered to be safe to eat. The input of ionic wastes into the lake has changed the water chemistry significantly enough to affect the number and types of fish and aquatic life that can survive in the lake's waters.

In June of 1989, the State filed a legal action in US District Court against Allied, seeking environmental remediation and natural resource damages (NRDs) arising from the company's pollution of the Onondaga Lake system.

In later 1989, Congress established the Onondaga Lake Management Conference (OLMC) to develop and implement a plan of corrective actions and compliance schedules for cleanup of the lake. Members of the Conference are: the Governor of New York, the New York State Attorney General, the Administrator of EPA, the Assistant Secretary of the Army for Civil Works, the Executive of Onondaga County, and the Mayor of Syracuse.

The State submitted a proposal to the OLMC for litigation

support funds to retain a consultant to develop a NRD Assessment plan for the lake system. In September of 1991, with the support of the OLMC, the EPA Awarded the State a grant of \$350,000 for litigation support.

In May 1992, the State issued a request for proposals for the development of a NRD Assessment plan. The State selected Normandeau Associates, Inc. of Bedford, NH (NAI), as the contractor. In December, 1993, a contract was signed between the State and NAI for \$263,694 to develop a NRD Assessment Plan.

Because the qualification of NRDs is partially dependent upon the amount of contaminants remaining after remedial efforts are complete, NRD cases are usually developed after site remedies are selected, and remedial endpoint are known or can be predicted. However, in the case of Onondaga Lake, the state-lead remedial and NRD efforts are proceeding concurrently.

Concerns at the Site

The principle concerns of the NRD effort are to restore the affected biological resources to the condition they exhibited prior to being contaminated, and the compensate the public for the lost opportunity to use the resources while they are contaminated. Monies received from liable parties will be used to restore or replace affected resources and the public's use and enjoyment of those resources. We are striving for a clean, healthy ecosystem that supports a diverse and productive fish and wildlife resource that allows a wide array of uses. A specific goal of this project is that people will be able to eat the fish they catch from Onondaga Lake.

Status of NRD Effort

DEC has brought together a team of engineers, biologists, economists, and attorneys from the state Departments of Health, Environmental Conservation, and the AG's office to guide NAI in their work. This team reviews the consultant's deliverables, meets or convenes on conference calls frequently, and provides periodic

feedback to the consultant. Dave Nelson of the NRD Unit is currently the project manager for the NRD case.

After much review of data and written reports, NAI has recently completed a second draft of a NRD Assessment Plan. This draft Assessment Plan is currently under review by technical and legal staff. After revision and re-drafting, public review period is anticipated this winter. The current contract with NAI expires in March, 1996.

For More Information

Please contact the following individuals:

New York State Department of Environmental Conservation (NYSDEC)

NYSDEC Citizen Participation Specialist

Ms. Sue Miller
615 Erie Blvd., West
Syracuse, New York 13204
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NYSDEC Regional Contact

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NYSDEC
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Syracuse, New York 13204
315-426-7551

NYSDEC Project Manager

NYSDEC Division of Fish and Wildlife

David H. Nelson
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NYSDEC Division of Environmental Enforcement

Joe Looby
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518-457-4348

New York State Department of Health (NYSDOH)

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Third Floor
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Syracuse, NY 13202

New York State Department of Law

Mr. John Davis
NYS Office of the Attorney General
212-416-8482

Document Repository Location

Technical documents can be reviewed at the following locations:

**Onondaga County Public Library
Syracuse Branch at the Galleries
447 South Salina Street
Syracuse, New York**

**Liverpool Public Library
310 Tulip Street
Liverpool, New York**

**Solvay Public Library
615 Woods Road
Solvay, New York 13209**

**New York State Departments of Environmental Conservation
and Law
615 Erie Boulevard, West
Syracuse, New York 13204**



New York State Department of Environmental Conservation
Division of Environmental Remediation

**ONONDAGA LAKE (CONTAMINATION ASSOCIATED WITH ALLIEDSIGNAL)
REGISTRY NUMBER #734030 (OPERABLE UNIT 1)
ONONDAGA COUNTY
FEBRUARY 1997**

Site Location and History

Onondaga Lake, located in the metropolitan Syracuse area, is a relatively small lake, approximately 4.5 miles long and 1 mile wide, with a mean depth of approximately 38 feet and a maximum depth of approximately 67 feet. Several tributaries flow into the Lake, the main ones are Onondaga, Ninemile and Ley Creeks. The Lake drains northerly to the Seneca River which combines with the Oneida River to form the Oswego River which, in turn, empties into Lake Ontario at the City of Oswego.

Onondaga Lake is bordered on its eastern shore by the suburban village of Liverpool, on its northern and northwestern shores by the Town of Salina, and on its southwestern shore by the Town of Geddes where the AlliedSignal Inc. facility is located.

In the late 1800's and early 1900's, Onondaga Lake supported a thriving resort industry based upon the recreational utilization of the Lake including swimming and recreational fishing. The Lake also had a plentiful cold and warm water fishery which supported a commercial fishing industry. However, from the late 1800's to the present, Onondaga Lake has been a receptacle for both industrial and municipal wastes.

Concerns at the Site

Mercury and various alkali wastes (chlorides, sodium, calcium, etc.) appear to be the most significant AlliedSignal - related industrial pollutants in the Lake. Mercury discharges from AlliedSignal's past operations, as well as other possible industrial sources, has bioaccumulated in Onondaga Lake fish at a level which has resulted in an advisory against eating fish from the lake. Alkali wastes, which have been discharged to the Lake for a number of years, are being investigated to determine how significantly their impacts have been on the Lake's ecosystem (i.e., fish, aquatic plants, etc.).

Although mercury and alkali wastes are the focus of the Remedial Investigation/Feasibility Study, all AlliedSignal related hazardous substances will be addressed.

The following are the objectives of the remedial program at this site:

Determine to what extent AlliedSignal's past industrial practices have impacted public health and the environment of Onondaga Lake and associated tributaries.

Determine what clean-up measures are necessary to protect public health and the environment from AlliedSignal's impacts to Onondaga Lake and associated tributaries.

Implementation of clean-up measures deemed necessary to protect public health and the environment from AlliedSignal's impact to Onondaga lake and associated tributaries.

Status of Site Investigation

The majority of the field sampling associated with the Remedial Investigation has been completed. Analytical data summary reports have been submitted to the Department associated with the following Investigations: Substance Distribution Investigation; Bioaccumulation Investigation; Ecological Effects Investigation; and the Mercury and Calcite Mass Balance Investigation. The Department has begun analyzing the data reports to determine if the nature and extent of AlliedSignal contamination has been determined such that the Ecological and Human Health Risk Assessments can be conducted and Remedial Measures can be evaluated. Simultaneously with this evaluation, the Department is currently working closely with AlliedSignal and their consultants in order to finalize models associated with mercury and calcite. The models may assist the Department in evaluating potential remedial action(s) ability to mitigate the negative impact that mercury and/or calcite have on the Onondaga Lake system.

For More Information

Please contact the following individuals:

New York State Department of Environmental Conservation (NYSDEC)

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Ms. Sue Miller
615 Erie Blvd., West
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NYSDEC Project Manager - Central Office
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Division of Environmental Remediation
50 Wolf Road, Room 228
Albany, New York 12233-7010
518-457-1641

New York State Department of Health (NYSDOH)

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Albany, New York 12203
518-458-6305

New York State Department of Law (NYSDOL)

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Mr. John Davis (Technical)
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Environmental Protection Bureau
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New York, New York 10271
212-416-8482

Document Repository Location

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447 South Salina Street
Syracuse, New York 13204

Atlantic States Legal Foundation
658 West Onondaga Street
Syracuse, NY 13204

New York State Departments of Environmental Conservation
and Law, both located at
615 Erie Boulevard, West
Syracuse, New York 13204

New York State Department of Environmental
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50 Wolf Road, Room 228
Albany, New York 12233-7010
518-457-1641

New York State Department of Law
Environmental Protection Bureau
120 Broadway, 26th Floor
New York, New York 10271
212-416-8482

ONONDAGA LAKE (CONTAMINATION ASSOCIATED WITH ALLIEDSIGNAL)

Registry Number - 734030 (operable unit 1)

Onondaga County

Site Location and History

Onondaga Lake, located in the metropolitan Syracuse area, is a relatively small lake, approximately 4.5 miles long and 1 mile wide, with a mean depth of approximately 38 feet and a maximum depth of approximately 67 feet. Several tributaries flow into the Lake, the main ones are Onondaga, Ninemile and Ley Creeks. The Lake drains northerly to the Seneca River which combines with the Oneida River to form the Oswego River which, in turn, empties into Lake Ontario at the City of Oswego.

Onondaga Lake is bordered on its eastern shore by the suburban village of Liverpool, on its northern and northwestern shores by the Town of Salina, and on its southwestern shore by the Town of Geddes where the Allied-Signal Inc. facility is located.

In the late 1800's and early 1900's, Onondaga Lake supported a thriving resort industry based upon the recreational utilization of the Lake including swimming and recreational fishing. The Lake also had a plentiful cold and warm water fishery which supported a commercial fishing industry. However, from the late 1800's to the present, Onondaga Lake has been a receptacle for both industrial and municipal wastes.

Concerns at the Site

Mercury and various alkali wastes (chlorides, sodium, calcium, etc.) appear to be the most significant AlliedSignal-related industrial pollutants in the Lake. Mercury from AlliedSignal's past operations, as well as other possible industrial sources, has bioaccumulated in Onondaga Lake fish at a level which has resulted in an advisory against eating any fish from the lake. Alkali wastes are being investigated to determine their impacts on the Lakes ecosystem (i.e. fish, aquatic plants, etc.).

The following are the objectives of the remedial program at this site:

Determine to what extent AlliedSignal's past industrial practices have impacted public health and the environment of Onondaga Lake and associated tributaries

Determine what clean-up measures are necessary to protect public health and the environment from AlliedSignal's impacts to Onondaga Lake and associated tributaries

Implementation of clean-up measures deemed necessary to protect public health and the environment from AlliedSignal's impact to Onondaga Lake and associated tributaries

Status of Site Investigation

The Department is currently reviewing a Mercury Mass Balance Model and a Calcite Mass Balance Model for Onondaga Lake. These models will assist the Department in evaluating the impacts of mercury and calcite on the Onondaga Lake system and evaluate the impacts of appropriate clean-up measures for the Lake system.

For More Information

Please contact the following individuals:

New York State Department of Environmental Conservation (NYSDEC)

NYSDEC Citizen Participation Specialist
Ms. Sue Miller
615 Erie Blvd. West
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518-458-6305

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Environmental Protection Bureau
120 Broadway, 26th Floor
New York, New York 10271
212-416-8454

Mr. John Davis (Technical)
NYS DOL
Environmental Protection Bureau
120 Broadway, 26th Floor
New York, New York 10271
212-416-8482

Document Repository Location

Technical documents can be reviewed at the following locations:

Onondaga County Public Library
Syracuse Branch at the Galleries
447 South Salina Street
Syracuse, New York

Liverpool Public Library
310 Tulip Street
Liverpool, New York

Solvay Public Library
615 Woods Road
Solvay, N.Y. 13209

New York State Departments of Environmental
Conservation and Law, both located at
615 Erie Boulevard, West
Syracuse, New York 13204

New York State Department of Environmental
Conservation
50 Wolf Road, Room 228
Albany, New York 12233-7010
518-457-7924

New York State Department of Law
Environmental Protection Bureau
120 Broadway, 26th Floor
New York, New York 10271
212-416-8482

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New York State Department of Environmental Conservation
Division of Hazardous Waste Remediation

**SEMET RESIDUE PONDS: ALLIEDSIGNAL
REGISTRY NUMBER #734008
TOWN OF GEDDES, ONONDAGA COUNTY
DECEMBER 1995**

Site Location and History

This site is located on the southwestern side of Onondaga Lake just west of Route 690 and within close proximity to the Lake. The 22-acre site was used by Allied from 1917 to 1970 for the disposal of highly acidic tar-like residues from its former benzene production plant which operated from 1915 to 1970. The organic-based material was generated by the acid washing of coke light-oil. The residue is composed of over 100 organic compounds, primarily aromatic hydrocarbons, substituted aromatic hydrocarbons, alkanes, substituted alkanes, polyaromatic hydrocarbons, and ketones. Five (5) ponds comprising of 11 acres have an average depth of 20 feet and contain an estimated 80 million gallons of residue. The ponds were excavated in former Solvay waste materials with earthen berms constructed around them from a variety of fill materials. The site appears as a mounded area when traveling along Route 690.

Concerns at the Site

Onondaga Lake, the major surface water body in Syracuse is located just 400 feet north of the ponds. A stream identified as Tributary 5A flows from the south side of the residue ponds around the west side of the site and ultimately drains into Onondaga Lake. Groundwater from the site is reported to discharge to Tributary 5A and the Lake. Sediment and surface water analyses of both Onondaga Lake and Tributary 5A show the presence of benzene. To a lesser extent, other organic compounds were also detected in the surface water and sediment. These compounds were primarily toluene, xylene isomers, phenols, cresols, carbon disulfide, and naphthalene.

Fifteen (15) site-related organic compounds were detected in groundwater monitoring wells downgradient of the site, benzene being the dominant compound. These 15 compounds can be traced to the material deposited in the ponds or their biological or chemical breakdown products.

Status of Site Investigation

A Consent Order for this site was signed between Allied and NYSDEC. Pursuant to this Order work on a Remedial Investigation (RI) began in 1990. A work plan was approved by NYSDEC in later 1990 and the final Remedial Investigation (RI) Report was submitted in 1991. In addition to the contaminants described, there also has been strong off-site odors. NYSDEC and NYSDOH have been working jointly with Allied on measures to abate these emissions. In the summer of 1995 a Posi-shell cover was approved as a temporary measure and installed and was reasonably effective in reducing odors. The RI Report was recently approved and the Feasibility Study is expected to be submitted in January 1996. Design of a remediation system should be completed by the middle of 1997.

For More Information

Please contact the following individuals:

**New York State Department of Environmental
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**NYSDEC Citizen Participation Specialist
Ms. Sue Miller
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1-800-342-9296**

New York State Department of Health (NYSDOH)

**Mr. Ronald Heerkens
NYSDOH
Syracuse Field Office
Third Floor
217 South Salina Street
Syracuse, NY 13202**

Document Repository Location

Technical documents can be reviewed at the following locations:

**Onondaga County Public Library
Syracuse Branch at the Galleries
447 South Salina Street
Syracuse, New York**

**Liverpool Public Library
310 Tulip Street
Liverpool, NY**

**Solvay Public Library
615 Woods Road
Solvay, NY 13209**

**New York State Departments of Environmental
Conservation and Law
615 Erie Blvd., West
Syracuse, NY 13204**

NEW YORK STATE
DEPARTMENT OF



ENVIRONMENTAL
CONSERVATION

FACT SHEET

Ley Creek PCB Dredgings Site
Onondaga County, N.Y.
April 1997

Notice of Availability of the Record of Decision for the Ley Creek PCB Dredgings Site

The New York State Department of Environmental Conservation (NYSDEC) and the New York State Department of Health (NYSDOH) announce the issuance of the Record of Decision (ROD) for the Ley Creek PCB Dredgings site. The ROD is the culmination of extensive investigations of this site and a public review process. The ROD declares the excavation and off-site disposal of PCB contamination exceeding hazardous waste levels (greater than 50 mg/kg), as well as the consolidation and containment on site of the remaining lower level PCB contaminated material, as the remedy to address the contamination identified at the site.

Site Description: The Ley Creek PCB Dredgings Site, Site No. 7-34-044, is approximately 18 acres in size and is located along the south bank of Ley Creek in the Town of Salina, Onondaga County (see attached figure). The Site is bounded by Factory Avenue on the south and Ley Creek to the north. The New York State Thruway is located immediately to the north of Ley Creek. The eastern limit of the site is Townline Road and the western limit is located approximately 1 mile downstream, near the Town of Salina Highway Department garage. A fence extends along the southern edge of the site, approximately 10 feet north of Factory Avenue.

The dredged materials were removed from the Creek during channel improvement programs for Ley Creek, conducted by the Onondaga County Department of Drainage and Sanitation from 1970-1983, with the major portion of the dredge material located on the south bank of Ley Creek. Ley Creek drains an area of approximately 30 square miles and is part of the Onondaga County Ley Creek Drainage District. The PCB contamination in the dredged materials and soils is the result of discharges of PCB contaminated water from the General Motors, Fisher Guide Plant. The Ley Creek PCB Dredgings Site is adjacent to the northern boundary of the General Motors; Fisher Guide (Site No. 7-34-057) and the Syracuse China (Site No. 7-34-053) inactive hazardous waste disposal sites.

The General Motors Corporation (GM) has completed a Remedial Investigation/Feasibility Study (RI/FS) to delineate the extent of the PCB contamination which is associated with the Ley Creek site and to evaluate the most effective means of remediating the site. The Remedial Investigation Report and Feasibility Study Report are available for public review at the document repositories listed at the end of this fact sheet.

Dear Interested Citizen:

This Fact Sheet provides an update on activities at this site. If you have any questions or would like further information, please contact:

Robert W. Schick, P.E.
NYSDEC
50 Wolf Road
Albany, NY 12233-7010
(518) 457-4343

For site-related health questions, contact the New York State Department of Health (NYSDOH) staff:

Ronald Heerkens
NYSDOH
217 South Salina Street
Syracuse, NY 13202
(315) 426-7627

Ms. Susan Van Patten
NYSDOH
Health Liaison Program
2 University Place
Albany, NY 12203-3399
1-800-458-1158, ext. 402
or (518) 458-6402

Selected Remedy: Based on the recently-completed Feasibility Study, the NYSDEC has selected the excavation and off-site disposal of PCB contamination exceeding hazardous waste levels (greater than 50 mg/kg), as well as the consolidation and containment on site of the remaining lower level PCB contaminated material to address the contamination present. The remedy involves the excavation and off site disposal of dredged material and soil greater than 50 ppm PCBs, regrading of material in the floodway with a low permeability cover, installation of a vegetated soil cover over the remaining material, groundwater monitoring, and maintenance access provisions. The excavation and off-site disposal of PCB contaminated material greater than 50 mg/kg, proposed as part of this remedy, will remove the levels of PCBs which are considered hazardous waste, from the site. This construction is expected to take about one year. Once the remedy is complete, a post-remedial operation maintenance and monitoring program will be established. A more detailed description of this alternative, as well as other alternatives evaluated in the Feasibility Study, can be found in the Record of Decision which is available at the document repositories listed below.

Next Steps: Negotiations will be initiated with GM for a remedial design/remedial action order under which GM will design and implement the selected remedy. At this time it is anticipated that design of the remedy may begin later this year, with no construction expected to be started before the 1998 construction season. Updates will be provided to the mailing list as significant milestones are reached.

Estimated Cost: \$5,249,798

Document Repositories: Three locations have been established as document repositories to provide you with access to project information. The ROD and all other site related documents are available for review at the following locations:

NYSDEC Region 7 Office
615 Erie Boulevard
Syracuse, N.Y.
Contact: Charles Branagh
(315) 426-7551

Onondaga County Public Library
Paine Branch
113 Nichols Avenue
Syracuse, N.Y.
HOURS: 9am-9pm (M-T), 9am-
5pm (W-S) (315) 434-9135

NYSDEC
Division of Env. Remediation
50 Wolf Road, Room 242
Albany, N.Y. 12233-7010
Contact: Robert Schick
(518) 457-4343
(by appointment)

Your Opportunities to be kept Informed and Involved: The NYSDEC and the NYSDOH will keep you informed throughout this process. Your understanding and involvement in this project will help to ensure an effective remedial program. You are encouraged to contact us at any time with questions, comments or concerns.

Robert W. Schick, P.E.
NYSDEC
Division of Environmental Remediation
50 Wolf Road
Albany, New York 12233-7010
(518) 457-4343 or 1-800-342-9296

Sue Miller, Citizen Participation Spec.
NYSDEC
Region 7 Office
315 Erie Boulevard West
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(315) 426-7403

Ronald Heprkens
NYSDOH
Syracuse Regional Office
217 South Salina Street
Syracuse, NY 13202
(315) 426-4627

Susan Van Patten
NYSDOH
Health Liaison Program
2 University Place
Albany, New York 12203
1 (800) 458-1158, ext. 402
or (518) 458-6402

APPENDIX E

FACT SHEET



Superfund Removal Program

Region 2

Sawmill Creek Site
Clay, New York

September 1997

INTRODUCTION

The U.S. Environmental Protection Agency (EPA) will take immediate action this week to begin the removal of some of the hazardous wastes that have been discovered at a vacant lot off Steelway Blvd. South in the town of Clay. EPA will bring personnel and equipment to the site to remove hazardous-waste-filled containers and associated contaminated soil that were left at the site by illegal "midnight dumpers." The New York State Department of Environmental Conservation (DEC) requested that EPA and DEC conduct a joint preliminary assessment, which found materials that were flammable and contained polychlorinated biphenyls, or PCBs. EPA expects to complete the removal action and secure the wastes on-site in containers within two weeks or less. The transportation and disposal of the contaminants will be completed in approximately two months. The estimated cost of the removal is \$156,000 and will be financed under the Federal Superfund program.

BACKGROUND

The 30-acre site is located off Steelway Blvd. South, in the midst of a mixed commercial, light-industrial and residential area of Onondaga County. Sawmill Creek crosses the site along its north and east borders and empties into Onondaga Lake approximately two miles downstream.

The site is not fenced and is accessible by the public. There are approximately 25 drums on the site and about half of those contain flammable substances. The drums are in poor shape and are piled in several locations at the site. The soil in one small section is contaminated by PCBs, apparently because of a drum that was punctured. There are also piles of construction debris, iron piles, concrete, garbage and

containers scattered across the site that will not be addressed under the removal action.

NYS DEC conducted a preliminary site inspection on June 27, 1997 and asked EPA on August 27, 1997 to perform a removal action. On September 4, EPA conducted a joint investigation with NYS DEC and NYS Department of Health (DOH) and found that the site was eligible for an expedited removal action.

PROPOSED ACTIONS

The goal of the removal action is to quickly eliminate the threat posed by the presence of the hazardous and flammable chemicals found during the September 4 assessment. The removal action will include testing to determine the extent of soil contamination addressed in the removal action and the transport of the contaminated materials to an approved disposal facility. This removal action will greatly reduce the public health and environmental threat posed by contaminants at the site.

The parties responsible for placing the hazardous wastes at the site are unknown. Attempts to track the parties down have as yet been unsuccessful. If any potentially responsible parties are discovered, appropriate enforcement actions will be pursued.

FUTURE ACTIONS

Following the EPA removal action, DEC and DOH will evaluate the results of the waste and drum sampling. Based upon the sampling results, DEC may conduct further environmental investigation to address any additional environmental or public health concerns.

PUBLIC PARTICIPATION

The agency may issue these facts sheets on a periodic basis to update the public on the progress of the cleanup. If you have questions or would like additional information about the site, please contact:

Ann Rychlenski
Community Involvement Coordinator
U.S. EPA, Communications Division
290 Broadway, Floor 26
New York, New York 10007-1866
(212) 637-3672
(800) 346-5009 toll-free

Alyse Peterson, Project Manager
NYSDEC
Div. of Env. Remediation
50 Wolf Road, Room 228
Albany, NY 12233-7010
(518) 457-1641

Greg DeAngelis
On-Scene Coordinator
U.S. EPA
2890 Woodbridge Avenue MS-211
Edison, New Jersey 08837
(732) 906-6874

Henriette Hamel
NYSDOH
Syracuse Field Office
217 South Salina Street, 3rd Floor
Syracuse, NY 13202
(315) 426-7627

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NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION



FACT SHEET - October 1997 American Bag & Metal Company, Inc. Site Spencer Street, Syracuse NYSDEC, Region 7, Onondaga County

Preliminary Site Assessment to Begin at American Bag & Metal Site

In October 1997, American Bag & Metal Company, Inc. will begin a Preliminary Site Assessment (PSA) of the American Bag & Metal Class 2a Inactive Hazardous Waste Site. Oversight will be provided by the New York State Department of Environmental Conservation (NYSDEC). The site is located on Spencer Street in the City of Syracuse, Onondaga County (site location map attached). The American Bag & Metal facility is scrap metal recycling business. The operation consists of receiving scrap metals, sorting and/or grading, storing, and baling of the metals on-site and shipment of the metals off-site to scrap metal re-users. In 1991, the New York State Department of Transportation (NYSDOT) collected soil samples from properties in and adjacent to the NYSDOT Spencer Street Bridge right-of-way to test for contamination. A 12-foot composite soil boring from the American Bag & Metal property detected polychlorinated biphenol (PCB) in the form of Aroclor 1260 at a concentration of 5.30 parts per million (ppm). Further investigations by the NYSDOT in 1992, and by American Bag & Metal in 1993, detected PCB Aroclor 1260 at concentrations ranging from 0.27 to 180 ppm. No other PCB Aroclors were detected on-site. NYSDEC placed this site on the Registry of Inactive Hazardous Waste Disposal Sites as a Class 2a site in June of 1995. A Class 2a site is a temporary classification assigned to sites that have inadequate and/or insufficient data for inclusion in any of the other New York State Inactive Hazardous Waste Site classifications. After the completion of the PSA the site will likely be reclassified to one of the 5 statutory classes identified in the Environmental Conservation Law.

The Site Investigation: The study to be done at the American Bag & Metal Site is called a "Preliminary Site Assessment" (PSA). The PSA will determine which New York State inactive hazardous waste site classification the site meets, and will determine if the site poses a significant threat to public health and/or the environment. As part of the investigation, various environmental media (including soil, sediment and surface water) will be sampled. Further investigation, study and cleanup may follow the PSA. This next step in this process may be a Remedial Investigation/Feasibility Study (RI/FS). During a RI, the full nature and extent of contamination is defined. The FS would evaluate possible actions to clean up the site. Based on RI/FS results, NYSDEC proposes a means for cleaning up the site in a Proposed Remedial Action Plan (PRAP), which is released for public review. Following NYSDEC consideration of public comments on the PRAP, a remedy is selected. The selected remedy is discussed in the NYSDEC Record of Decision. Sites may also be referred for an Interim Remedial Measures (IRM) after the PSA. IRMs are early cleanup actions that may not require a full-scale investigation and design.

Your Opportunities to Be Informed and Involved: The Onondaga Lake NPL Site Citizen Participation Plan describes activities to keep you informed and involved during the investigation and cleanup of the site. You are encouraged to review the Citizen Participation Plan which is available at the document repositories. Your comments and suggestions about the Citizen Participation program for the Onondaga Lake NPL Site are always welcome. NYSDEC encourages your participation in the project. Your understanding and involvement can help ensure a cleanup program that effectively protects the public health and the environment.

Document Repositories. Three locations provide access to information about the site:

NYSDEC Reg. 7, 615 Erie Blvd. West
Syracuse, NY 13204-2400
(315) 426-7400
Hours: M-F 8:30am - 4:45 pm
Please call for an appointment

Onondaga County Public Library
Syracuse Branch at the Galleries
447 South Salina Street
Syracuse, NY 13202
(315) 435-1900
Hours: M, Th, F & S - 9:00am-5:00pm
Tue, W - 9:00am-8:30pm

Atlantic States Legal Foundation
658 West Onondaga
Syracuse, NY 13204
(315) 475-1170
Please call for an appointment

For More Information About:

The Site Investigation:
Richard Mustico, Project Manager
NYSDEC, Div. of Env. Remediation
50 Wolf Road, Room 228
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(518) 457-1641

Health-Related Information:
Nina Knapp
NYSDOH
2 University Place
Albany, NY 12203-3399
1-800-458-1158 ext. 6402

Ronald Heerkens, Reg. Toxics Coord.
NYSDOH, Syracuse Field Office
217 South Salina Street, 3rd Floor
Syracuse, NY 13202
(315) 426-7625

HAZARDOUS WASTE SITE PROGRAM

Preliminary Site Assessment

On March 12, 1997, the New York State Department of Environmental Conservation (NYSDEC) and American Bag & Metal Company, Inc. (American Bag & Metal) entered into an Order on Consent to conduct a Preliminary Site Assessment (PSA) at the American Bag & Metal Inactive Hazardous Waste Site. Conducting the PSA will:

- determine which New York State inactive hazardous waste site classification the site meets;
- determine the extent of PCB contamination at the facility;
- determine if any potential risks to people's health and/or the environment have been created by the site; and
- if viable suggest an interim remedial measure (IRM) that may effectively clean up the site.

PSA activities will include:

- **Soil Sampling**

Soil borings samples will be taken to further characterize the nature of the contamination and determine the extent of PCB contamination at the facility.

- **Sediment Sampling**

Sediment samples will be collected in Onondaga Creek to assess the potential impacts of the site on Onondaga Creek sediments.

- **Surface Water Sampling**

Surface water samples will be taken from adjacent Onondaga Creek to assess if surface soil runoff from the site or creek sediment has affected the water quality in Onondaga Creek.

For more details about the upcoming preliminary site investigation, the PSA Work Plan will be available at the document repositories listed on page 1.

Site History

The American Bag & Metal Company, Inc. Inactive Hazardous Waste Site is located at 400 Spencer Street in the City of Syracuse, Onondaga County. The site is used for scrap metal recycling. Scrap metal operations at the facility began in 1965 and continue to the present. Site operations include receiving, sorting,

storing and shipping scrap metal.

In 1991, the New York State Department of Transportation (NYSDOT) obtained a composite soil sample from the American Bag & Metal property for laboratory analysis. As a consequence of the composite sample results, NYSDOT further investigated the American Bag & Metal property in the vicinity of Onondaga Creek and the Spencer Street Bridge for polychlorinated biphenols (PCBs). It was determined that PCB contamination (in the form of Aroclor 1260) existed at the site in excess of regulatory levels. A 1993 study by Stearns & Wheeler for American Bag & Metal confirmed the presence of the PCB contamination.

In June of 1995, the NYSDEC placed this site on the New York State Registry of Inactive Hazardous Waste Disposal Sites as a Class 2a site. In March of 1997, American Bag & Metal and the NYSDEC entered into a Consent Order to conduct a PSA at the facility. The Consent Order also allows the company to perform an IRM with the NYSDEC's approval and oversight. A PSA Work Plan was submitted to the NYSDEC by American Bag & Metal in May, revised in August and approved in September of 1997.

What Happens Following the Preliminary Site Assessment?

Following the PSA, American Bag and Metal will submit a PSA Report to the NYSDEC for review and comment or approval. After the PSA report is finalized an IRM and/or RI/FS will be performed at the site. Additional fact sheets and citizen participation will be forthcoming as this process unfolds.

APPENDIX F

Table 1
Public Health Action Plan [3]
1995 Onondaga Lake Public Health Assessment

1. ATSDR and the NYS DOH will coordinate with the appropriate environmental agencies to develop plans to implement the recommendations contained in this public health assessment.
2. ATSDR will provide follow-up to the PHAP, outlining the actions completed and those in progress. This follow-up report will be placed in repositories that contain copies of this public health assessment, and will be provided to persons who request it.
3. The NYS DOH will continue community health education to the affected populations, including annual reviews and updates to the state fish and game consumption advisories, as needed.
4. The NYS DOH will evaluate measures to a) notify the public about the possible health risks associated with eating fish from Onondaga Lake, and b) provide information to the public and people who eat fish in the Lake about how to obtain copies of this public health assessment. The NYS DOH will contact a physician regarding his concern over cancer incidence in the area.
5. ATSDR will initiate a literature review of available toxicological data for the compounds 1-phenyl-1-(4methylphenyl)-ethane and 1-phenyl-1-(2,4-dimethylphenyl)-ethane that were detected in fish, sediment and water from the Onondaga Lake.
6. The NYS DOH will review additional data that are developed as part of on-going investigations of Onondaga Lake. If warranted, the NYS DOH will complete additional follow-up activities based on these reviews.

Table 2
1995 Public Health Assessment Recommendations

Recommendation 1	Additional investigations should be conducted to determine the extent and degree of contamination of the lake shoreline, air, waterfowl, or other species in the area hunted for food, and the sediments in the Barge Canal at the lake outlet.
Recommendation 2	Consideration should be given to better characterize potential contaminants in fish caught in the northwest outlet of the lake and the Seneca River and in the tributaries entering the lake.
Recommendation 3	The possible contamination of dredged sediments used to fill north of Ninemile Creek should be investigated. The potential for the public access to this area should also be evaluated. Any future dredging activities should be closely monitored to make sure that the dredging spoils are not distributed in a way that would significantly increase exposure to contaminants of concern in sediment.
Recommendation 4	Additional investigations should better identify the source of the petroleum hydrocarbon mixture detected in the lake sediments and evaluate measures to reduce or eliminate the discharge.
Recommendation 5	Monitoring of fish from Onondaga Lake for contaminants (including Mercury, PCBs, and possibly chlorinated dibenzofurans, chlorinated dibenzodioxins and chlorinated benzenes) should be conducted and/or continued. Consideration should be given for measuring PAH concentrations in fish from Onondaga Lake and an appropriate reference lake.
Recommendation 6	The compound(s) contributing to the odors from the tar beds should be identified, and efforts to eliminate odors and contaminant air releases from the tar beds should be considered.
Recommendation 7	Measures to further reduce mercury from entering the lake should be considered.
Recommendation 8	Measures to eliminate combined sewer overflows and fecal contamination of the lake should be considered.
Recommendation 9	Investigations should be conducted to identify sources of PCBs and possibly chlorinated dibenzofurans in fish.
Recommendation 10	Additional Investigations should address the magnitude of contamination by and the toxicological significance of 1-phenyl-1-(4-methylphenyl)-ethane and 1-phenyl-1-(2,4-dimethylphenyl)-ethane.
Recommendation 11	Additional data that are developed for the Onondaga Lake site should be reviewed to evaluate the possible public health significance of human exposure to contaminants in the environment.

APPENDIX G

Response to Comments Received During the Public Comment Period

This appendix addresses technical and public health issues submitted by the public during the public comment period of May 29, 1998 through June 28, 1998. ATSDR will maintain public comments for the Onondaga Lake Health Consultation as part of the administrative file for the Onondaga Lake site.

The patient who was the subject of a physician's 1990 petition of ATSDR to conduct a public health assessment of the Onondaga Lake site provided comments during the public comment period. In her letter, she provided additional concerns about her personal and family medical history. She asked that ATSDR address a limitation of cancer incidence studies due to migration of people into and out of the population undergoing the study. An ATSDR physician responded to the patient by letter. The major points of this letter include:

A limitation of cancer incidence studies is that it is difficult if not impossible to identify and locate every member of a community who may have moved into or away from the community during the period of interest. However, this limitation does not affect the basic conclusion of the Onondaga Lake Health Consultation that cancers in the Lakeland area are not related to the Onondaga Lake site.

Cancer is extremely common. The American Cancer Society estimates that about 30% of all persons now living will develop cancer during their lifetime. Although a number of risk factors for cancer have been identified, in the majority of cases, the true etiology is unknown. It is important to recognize that each type of cancer has a unique set of risk factors. For example, smoking is a risk factor for lung cancer but not for skin cancer. Also, there may be different risk factors for cancers of the same site or organ based on the cancer cell type. Thus, when examining cancer causes, it is generally inappropriate to group all types of cancer together and look for a common cause.

Breast cancer is the most common cancer in U.S. women. It is estimated that one in 10 women will develop breast cancer during their lifetime. One of the most significant risk factors for breast cancer is a family history of breast cancer in the mother or a sister, suggesting a strong genetic component. Other breast cancer risk factors include increasing age, early menarche (first period), late menopause, having no children, or a first pregnancy after age 30. However, about 70% of breast cancer patients have no identifiable risk factor. Other than exposure to ionizing radiation at a young age, no environmental cause, such as a specific chemical exposure, has been conclusively associated with breast cancer. In particular, neither mercury or PCB's, the two primary contaminants identified in Lake Onondaga, have been shown to cause either breast or other types of cancer in humans.

ATSDR has concluded that there is not a relationship between cancer and the Onondaga Lake site based on the following factors:

Overall cancer incidence data does not suggest a significant excess of cancer over what is typically seen in other communities. Cancer incidence data has not identified a particular type of cancer which is occurring at a higher rate than seen in other communities. As discussed in the Onondaga Lake Health Consultation, the increase in prostate cancer in males is most likely the result of improved methods of detection. Mercury and PCB's, the two main contaminants, have not been conclusively associated with increased cancer rates in humans with known excess exposures.

2. A resident of Onondaga County provided a letter that addressed issues surrounding the Onondaga Lake site. While his letter did not specifically address the Onondaga Lake Health Consultation, ATSDR will summarize his major points below:

As a former member of several environmental conservation committees, he states that he remembers Onondaga Lake as a "County problem" as early as the 1940's.

He states that he sees no need to make Onondaga Lake swimmable or to be used for subsistence fishing purposes.

He requests a practical and equitable approach in selecting methods to remediate the lake.

A response to these points within the body of this health consultation is not needed. However, his points are noted and ATSDR will refer his letter to the appropriate personnel at the New York State Department of Environmental Conservation (NYS DEC).

- 3 At the request of the NYS DEC, ATSDR made the following corrections or clarifications:

ATSDR added an explanation to the second paragraph on page 3 to clarify why the New York State Department of Health's October 1996 cancer incidence study for the town of Geddes detected an excess of prostate cancer. ATSDR does not believe that the excess prostate cancer can be attributed to the Onondaga Lake Superfund site.

ATSDR changed a sentence on page 1 (paragraph 4) and page 5 (first paragraph under the Fish Contamination at Onondaga Lake section) to reflect that the NYS DEC collects fish samples on an annual basis from Onondaga Lake, not Onondaga Lake and its tributaries.

ATSDR clarified the definitions of *phase I investigations* and *phase II investigations* on pages B-4 and B-5, respectfully, to reflect the NYS DEC's use of the terms.