FACT SHEET

CUMBERLAND BAY SLUDGE BED - WILCOX DOCK

December 15, 1994

STATE OF NEW YORK
DEPARTMENT OF HEALTH

Center for Environmental Health
2 University Place
Albany, New York 12203-3399

Summary

The New York State Department of Environmental Conservation (NYS DEC) and the New York State Department of Health (NYS DOH) have identified an area of contaminated sludge in part of Cumberland Bay near Plattsburgh, NY. This area is an inactive hazardous waste site. Untreated wood pulp and wood chip debris were discharged into the Bay for several decades and formed a large sludge bed near Wilcox Dock. In 1992, the State University of New York (SUNY) at Plattsburgh and the University of Vermont sampled the sludge and found a variety of compounds, including polychlorinated biphenyls (PCBs). The NYS DEC sampled the sludge and sediments in 1993 and 1994 and found that the sludge is contaminated with high levels of PCBs and lower levels of several other compounds. In 1994, wood chip debris that washed up on the shore of the Bay was analyzed for PCBs by the NYS DOH. The NYS DOH also analyzed beach sand, a mixture of beach sand and wood chip debris and lake water for PCBs. The wood chip debris had the highest levels of PCBs. While the health concern from the levels in the wood chips is low, it is prudent to avoid exposure to PCBs. The wood chip debris should not be discarded with trash, yard waste or lawn clippings. The wood chip debris should not be used as mulch or in compost.

Introduction

For several decades prior to 1973, wood product industries (sawmills and paper manufacturing/processing facilities) near Plattsburgh discharged their processing wastes into Cumberland Bay in Lake Champlain. These wastes either settled or were directly discharged into the northwestern part of Cumberland Bay between Wilcox Dock and Scomotion Creek (see Figure 1). This disposal of untreated waste ended in 1973 when the Plattsburgh Sewage Treatment Plant went into service and began treating waste from local industries.

For several years, the sludge bed was considered nothing more than a nuisance, emitting unpleasant odors, hampering boating and swimming activities in that area, and washing up wood chip debris along the shore. However in 1992, several compounds including PCBs, polychlorinated dibenzodioxins (dioxins), polychlorinated dibenzofurans (furans), and polynuclear aromatic hydrocarbons (PAHs) were found in a sample of the sludge. The sample was collected as part of a study of Lake Champlain done by SUNY at Plattsburgh and the University of Vermont with support from the Lake Champlain Management Conference.

In June 1993 and in March and August 1994, the NYS DEC collected sludge and sediment samples near Wilcox Dock and sediment samples in other parts of the Bay. These sample results show that the sludge is contaminated with high levels of PCBs and lower levels of several other compounds. The results also show that some areas outside the sludge bed are contaminated with lower levels of PCBs and various levels of several other compounds. The results are summarized in Table 1 on page 8. The high levels of PCBs in the sludge bed near Wilcox Dock are the major concern.

Wood chip debris resembling chainsaw cuttings often washes up on the shore of Cumberland Bay. The wood chip debris is probably from the sludge in the Bay. In August 1994, the NYS DOH analyzed samples of the wood chip debris from the shore, of the lake water near the shore and of beach sand for PCBs. In November 1994, NYS DOH took additional samples of the wood chip debris and of a mixture of sand and wood chip debris. The levels of PCBs in the wood chip debris varied from nondetectable to 210 parts per million (ppm). (see Table 2 on page 10).

NYS DEC and NYS DOH Results

NYS DEC Results

The NYS DEC collected sludge and sediment samples near Wilcox Dock and sediment samples in other parts of Cumberland Bay (see Figure 1). The results are summarized in Table 1 on page 8. A detailed report of the NYS DEC sampling data will be available by the January 1995 public meeting. These sampling results show that PCBs are present at high levels in the sludge and at lower levels in the Bay outside of the sludge bed. The levels of PCBs in the sludge north of Wilcox Dock ranged between nondetectable and 1,850 ppm. In comparison, the background level of PCBs in the sediments of Lake Champlain is less than 1 ppm. The level of PCBs exceed 50 ppm at many locations and depths within the sludge bed. PCBs discarded in the environment and found at levels above 50 ppm are considered to be hazardous waste by legal definition. The PCB levels are highest in the layers or beds that contain cellulose wood pulp or fine wood debris that resembles sawdust. The levels of PCBs found in most samples collected outside of the sludge bed area were lower, ranging between nondetectable and 2.6 ppm. In one area south of the Saranac River, PCBs were found at levels up to 78 ppm. The contamination

in this area does not appear to be related to the contaminated sludge bed near Wilcox Dock and will be studied separately as a potential inactive hazardous waste site by the NYS DEC.

Dioxin and furan compounds are present in the sludge bed area and in some sediment samples from other parts of Cumberland Bay. Additional dioxin and furan samples were collected from the sludge bed area and other parts of the Bay, but the results are not yet available. When the analyses are complete, we will evaluate all the dioxin and furan data and provide any necessary advice to the community and take appropriate action. Although dioxin and furans compounds have been found, the high levels of PCBs in the sludge bed near Wilcox Dock are the major concern.

The results also show that there are pesticides and PAH compounds in the sludge and several PAH compounds in the Bay outside of the sludge bed. The level of pesticides found in the sludge is very low (nondectable to 0.016 ppm). The levels of PAH compounds found in the sludge ranged between 5.9 and 66.2 ppm. The background level of PAHs in the sediments of Lake Champlain is less than 6 ppm. The PAH levels in most samples collected outside of the sludge bed area were lower, ranging between nondetectable and 1.6 ppm. In one area south of the Saranac River, PAHs were found at levels up to 453.2 ppm. This area will be studied as mentioned above.

Some of the NYS DEC samples were analyzed for metals and base-neutral-acid (BNA) compounds. The levels of the metals found in the sludge and other parts of the Bay are within the expected range of values reported for soils in the eastern United States. For this reason, the sample results for the metals are not listed in Table 1. Excluding dibenzofuran, which is discussed above, the only BNA compounds found in the samples include one or more of the following: bis(2-ethylhexyl)phthalate, butylbenzlyphthalate, or di-n-butylphthalate. These three compounds are common laboratory and sampling contaminants resulting from sample contact with plastic or rubber equipment during analysis or sample collection. The levels of these compounds detected in the samples are consistent with laboratory/sampling contamination and may not actually represent the BNA compound levels in the sludge or sediments of Cumberland Bay. The actual levels may be lower.

NYS DOH Results

The NYS DOH took samples of wood chip debris and of a mixture of sand and wood debris from the beach along Route 9 and at the public beaches. The NYS DOH also sampled the lake water and the water from a private home that uses the lake as a source of drinking water. The data are summarized in Table 2 on page 10, and Figure 1 shows the approximate sampling areas. The PCBs are associated with the wood chip debris. On beaches with frequent maintenance, there is less wood chip debris for people to come in contact with.

- Beach Along Route 9: Fourteen samples were taken of wood chip debris on the shore behind the condominiums and commercial businesses along Route 9. Ten of these samples were taken from piles of fresh wood chip debris. The other four samples were taken from piles of weathered wood chip debris that may have been on the beach for sometime. A sample of the beach sand and a sample of a mixture of sand and wood chip debris were also taken.

  The levels of PCBs in the fresh wood chip debris ranged from 24 to 210 ppm. The levels of PCBs in the weathered wood chip debris were lower, ranging from

3.0 to 23 ppm. The level of PCBs in the sample of sand was 0.026 ppm. The PCB level in the mixture of sand and wood chip debris sample was 2.4 ppm.

- Public Beaches: One sample of wood chip debris was taken and contained 2.4 ppm of PCBs. A sample was taken of a mixture of sand and wood chip debris and the PCB levels were 3.3 ppm. Five samples of beach sand were taken and the level of PCBs ranged from nondetectable to 0.003 ppm.

- Lake Water: A sample of lake water was taken off the beach along Route 9 and another lake water sample was taken off the public beach. The levels of PCBs in these samples were 0.00031 and 0.00021 ppm, respectively. The PCB levels in these samples do not exceed the New York State public drinking water standard of 0.0005 ppm.

- Private Home: The NYS DOH sampled the drinking water from one home on Cumberland Head that uses the northeastern part of the Bay as a drinking water source. No PCBs were detected in the sample. The home is located across the Bay from the sludge bed.

A report of the NYS DOH sampling data will be available by the January 1995 public meeting.

Outcome of Sampling

The results of these combined sampling efforts prompted the NYS DEC and the NYS DOH to add all areas of contaminated sludge in the northwestern part of Cumberland Bay to the *New York State Registry of Inactive Hazardous Waste Sites*. This inactive hazardous waste site was added to the *Registry* as a Class 2 site and is known as the Cumberland Bay Sludge Bed - Wilcox Dock site. Listing of the Cumberland Bay Sludge Bed - Wilcox Dock as a Class 2 site in the *Registry* means that hazardous waste has been identified in that area and threatens the public health or the environment in some way. A Class 2 site requires additional study and some action to remove or contain the identified hazardous waste and reduce the threat it represents.

Questions and Answers

1. Can I swim at the beach?

YES. The levels of PCBs detected in the lake water near the shore ranged from 0.00021 to 0.00031 ppm and are not considered a health concern for people swimming at the beach.

2. Is there a health concern from PCBs if I swallow some lake water while I am swimming?

NO. Although PCBs were detected in the lake water near the shore, the levels found do not exceed the New York State public drinking water standard of 0.0005 ppm and are not a health concern.

3. Can my children play at the beach? What about the wood chip debris on the beach?

YES. Occasional contact with wood chip debris is not a health concern. Beaches with frequent maintenance have lower concentrations of PCBs. Adults and children should avoid piles and areas of collected wood chip debris.

4. Can I fish in the Bay?

YES. However, fish in Lake Champlain contain PCBs and mercury. Catch and release fishing poses no health risks, but if you are thinking about eating your catch, you should be familiar with and follow the NYS DOH fish consumption advisory. Children under 15 and women of childbearing age should eat NO fish caught anywhere in Lake Champlain, including Cumberland Bay. Women past their childbearing years and men should: (1) eat no more than one meal per month of brown bullhead or American eel caught in the Bay; and (2) eat no more than one meal per month of lake trout over 25 inches in length or walleyes over 19 inches in length caught anywhere in Lake Champlain.

Ice fishing is popular in Cumberland Bay. The NYS DEC caught yellow perch and other fish this past September and is testing them for PCB contamination. When the analyses are complete, the NYS DOH will evaluate the data and determine if the fish advisory needs to be changed. We will inform the public when the results are available and if there are any changes to the advisory.

5. Are PCBs a problem for people using the Bay for drinking water?

NO. The NYS DOH sampled the drinking water from a home on Cumberland Head that uses the northeastern part of the Bay as a drinking water source. No PCBs were detected in the sample. This home is located across the Bay from the sludge bed.

Although we detected PCBs in two lake water samples taken near the shore, the PCB levels in these samples do not exceed the New York State public drinking water standard. We are not aware of any intakes that draw drinking water from the Bay near the sludge bed. Public water is available to homes and businesses near the sludge bed area. The source of this public drinking water supply is seven miles away from the Bay.

6. Can I use the wood chip debris for mulch or compost?

NO. The wood chip debris should not be used for mulch or compost, recycled or used for any other purpose. Plants can take up PCBs from the dirt or mulch, and people eating the fruits or vegetables from these plants can be exposed to the PCBs.

7. Should I dispose of the wood chip debris myself?

NO. Over the winter, the NYS DEC and NYS DOH will determine how to remove the wood chip debris along the shore between Wilcox Dock and Scomotion Creek. Work will begin as soon as the lake conditions and the weather allow.

- **DO NOT BURN THE WOOD CHIP DEBRIS.**
- DO NOT use the wood chip debris for mulch or compost.
- DO NOT discard the wood chip debris with any trash, yard waste or lawn clippings.

8. What makes the sludge bed area an inactive hazardous waste site?

The sludge bed area near Wilcox Dock is an inactive hazardous waste site because the PCBs exceed 50 ppm at many locations and depths in the sludge bed. PCBs discarded in the environment and found at levels above 50 ppm are considered to be hazardous waste by legal definition. The area north of Wilcox Dock that has over 50 ppm of PCBs is shaded dark grey on Figure 1. The PCB levels immediately outside of this zone are also elevated, but do not exceed 50 ppm. It is important to note that some areas with sludge have not been sampled and may have elevated levels of PCB and/or other types of contaminants.

The NYS DEC and the NYS DOH have added all areas of contaminated sludge in the northwestern part of Cumberland Bay to the *New York State Registry of Inactive Hazardous Waste Sites*. This inactive hazardous waste site was added to the *Registry* as a Class 2 site and is known as the Cumberland Bay Sludge Bed - Wilcox Dock site. The beach along Route 9 is not part of the site. Although some parts of the shore have wood chip debris with PCB levels that exceed 50 ppm, these parts and other areas with wood chip debris are not considered a part of the site. The wood chip debris on shore are probably the result of migration from the sludge bed.

9. What is a Class 2 inactive hazardous waste site?

Listing the Cumberland Bay Sludge Bed - Wilcox Dock as a Class 2 site in the *Registry* means that hazardous waste has been identified in that area and threatens the public health or the environment in some way. A Class 2 site requires additional study and some action to remove or contain the identified hazardous waste and reduce the threat it represents.

10. Where is the site located and how big is it?

- The site boundary is described as the offshore area between a line drawn due east from the navigational light near the Edgewater Estates and a line drawn due north from the tip of the breakwater south of Wilcox Dock. The western and southern site boundary is 75 feet off shore from the mean low water line and is parallel with the shore to just south of the concrete dock at the West Bay Plaza. South of this point, the boundary is the mean low water line extending around Wilcox Dock and to the tip of the breakwater. These boundaries are approximate and will be better defined as more information becomes available. The area described above is shaded grey on Figure 1.
- The site does not include the beaches along Rt. 9 or the public beaches.
- The estimated size of the site is 75 acres.

11. Now that the Cumberland Bay Sludge Bed - Wilcox Dock site has been identified as a Class 2 inactive hazardous waste site, what is the next step?

- As an interim step, the NYS DEC and the NYS DOH are working together to develop ways to (1) control the movement of contaminated wood chip debris from the sludge bed; and (2) remove the contaminated wood chip debris already on shore. Any recommendations or decisions regarding these activities will be shared with the public. Work will begin as soon as the lake conditions and the weather allow.
- The NYSDEC and NYSDOH will be working together to organize a Remedial Investigation/Feasibility Study. The purpose of this study is to determine the nature and extent of contamination at the site. Once this study is complete, different ways to cleanup the site will be developed and evaluated. Through a process involving public comment and agency review, a final remedy will be chosen and used to deal with the problems identified at the site. The study and any cleanup activities will be paid for by those responsible for the contamination at the site. If no one is identified or they are unwilling to do the necessary work, then the New York State Superfund will pay.
- During the study, it is advisable that the public avoid using the specifically defined site. This will reduce the risk of people being exposed to the contamination and decrease the chance of disturbing the sludge and causing the contamination to move from the site. The defined site does not include the beaches along Route 9 or the public beaches.

For More Information

If you have any site-related health questions or concerns, please contact:

Susan VanPatten or Richard Fedigan
1 800 458-1158, extension 402
NYS DOH
2 University Place
Albany, NY 12203

Clinton County Health Department
(518) 565-4840
133 Margaret Street
Plattsburgh, NY 12901

If you have any questions or concerns about the environmental studies please contact:

Daniel Steenberge
(518) 897-1242
NYS DEC Region 5 Office
Route 86
Raybrook, NY 12977

William Shaw (518) 457-0747
Robert Edwards (518) 457-5677
NYS DEC Central Office
50 Wolf Road
Albany, NY 12233-7010

or call 1 800 342-9296 and leave a message.

A document repository has been established for this site to provide people with information about the site. As documents related to this site become available, we will put them in the repository. The repository is located at the Clinton County Clerk's Office, County Government Building, 137 Margaret Street, Plattsburg, NY 12901, (518) 565-4700. They are open weekdays from 8 am to 5 pm.

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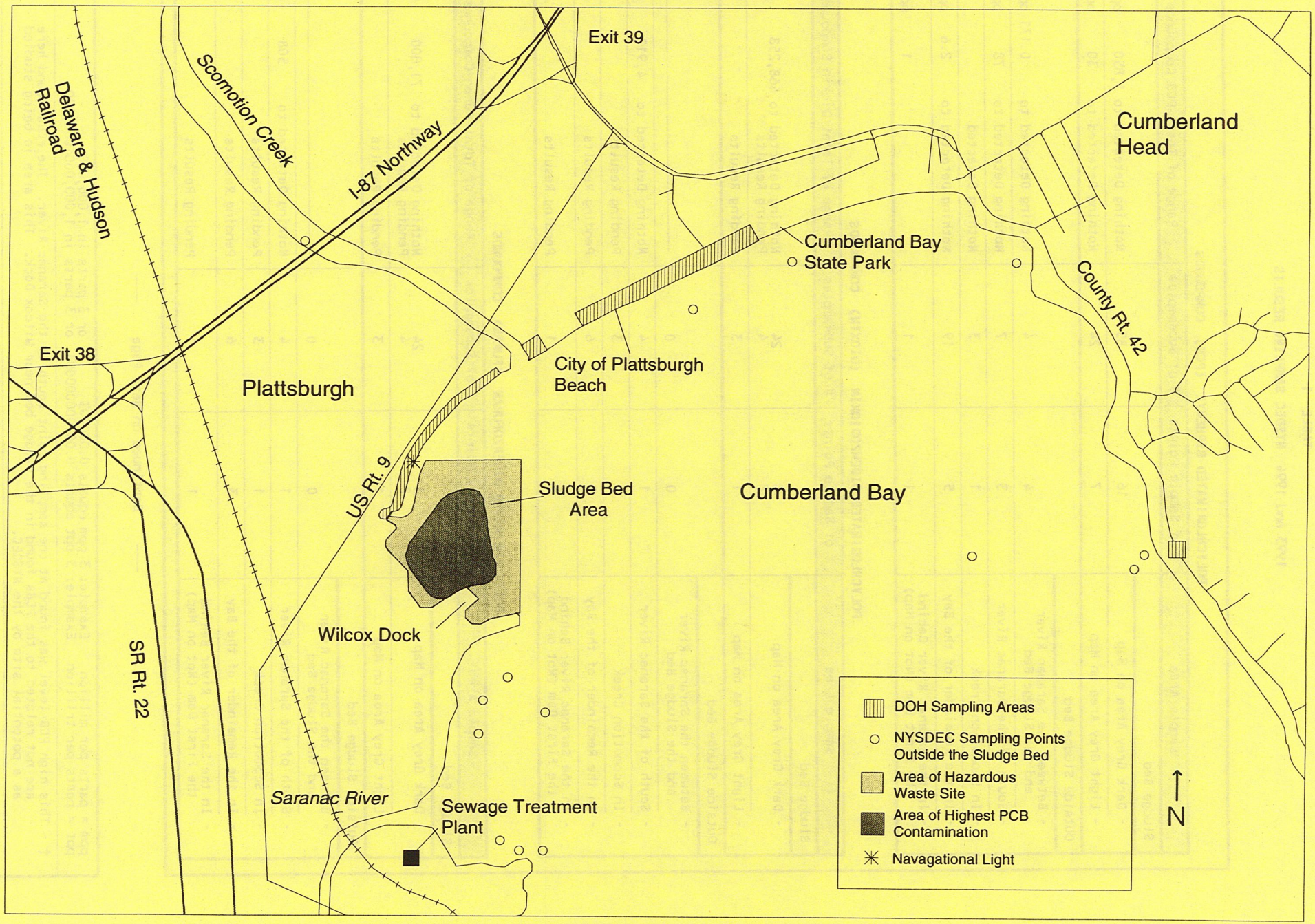
Figure 1. Map of Upper Cumberland Bay



Note: Locations are approximate

TABLE 1

1993 and 1994 NYSDEC SAMPLING RESULTS

POLYCHLORINATED BIPHENYL (PCB) COMPOUNDS

Sample Area	# of Sample Points	# of Subsamples	Range of Total PCB Compounds
Sludge Bed			
- Dark Grey Area on Map	16	85	Nothing Detected to 1,850 ppm
- Light Grey Area on Map	7	24	Nothing Detected to 30 ppm
Outside Sludge Bed			
- Between the Saranac River and the Sludge Bed	4	4	Nothing Detected to 0.171 ppm
- South of the Saranac River	3	7	Nothing Detected to 78 ppm †
- In Scomotion Creek	1	3	Nothing Detected
- In the Remainder of the Bay	5	19	Nothing Detected to 2.6 ppm
- In the Saranac River Behind the First Dam (Not on Map)	1	1	1 ppm

POLYCHLORINATED DIBENZODIOXIN (DIOXIN) COMPOUNDS

Sample Area	# of Sample Points	# of Subsamples	Range of Total Dioxin Compounds
Sludge Bed			
- Dark Grey Area on Map	3 2	24 4	Nothing Detected to 468,258 ppt Pending Results
- Light Grey Area on Map	1	3	Pending Results
Outside Sludge Bed			
- Between the Saranac River and the Sludge Bed	0	0	———
- South of the Saranac River	1	4	Nothing Detected to 4,912 ppt
- In Scomotion Creek	1	3	Pending Results
- In the Remainder of the Bay	3	6	Pending Results
- In the Saranac River Behind the First Dam (Not on Map)	1	1	Pending Results

POLYCHLORINATED DIBENZOFURAN (FURAN) COMPOUNDS

Sample Area	# of Sample Points	# of Subsamples	Range of Total Furan Compounds
Sludge Bed			
- Dark Grey Area on Map	3 2	24 4	Nothing Detected to 71,800 ppt Pending Results
- Light Grey Area on Map	1	3	Pending Results
Outside Sludge Bed			
- Between the Saranac River and the Sludge Bed	0	0	———
- South of the Saranac River	1	4	Nothing Detected to 508 ppt
- In Scomotion Creek	1	3	Pending Results
- In the Remainder of the Bay	3	6	Pending Results
- In the Saranac River Behind the First Dam (Not on Map)	1	1	Pending Results

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ppm = parts per million Example: 3 ppm equals 0.000003 or 3 parts in 1,000,000
ppt = parts per trillion Example: 3 ppt equals 0.000000000003 or 3 parts in 1,000,000,000,000

† - This high PCB level was found at one sampling point south of the Saranac River. The PCBs found here are **not** related to the PCBs found in the sludge bed near Wilcox Dock. This area is being studied as a potential site by the NYSDEC.

THIS IS A SUMMARY TABLE ONLY

TABLE 1 (Continued)

1993 and 1994 NYSDEC SAMPLING RESULTS

POLYNUCLEAR AROMATIC HYDROCARBON (PAH) COMPOUNDS

Sample Area	# of Sample Points	# of Subsamples	Range of Total PAH Compounds
Sludge Bed			
- Dark Grey Area on Map	1	5	5.993 to 66.180 ppm
- Light Grey Area on Map	0	0	———
Outside Sludge Bed			
- Between the Saranac River and the Sludge Bed	0	0	———
- South of the Saranac River	3	6	2.542 to 453.2 ppm
- In Scomotion Creek	1	2	Nothing Detected to 1.252 ppm
- In the Remainder of the Bay	1	1	0.07 ppm
- In the Saranac River Behind the First Dam (Not on Map)	1	1	1.564 ppm

PESTICIDE COMPOUNDS

Sample Area	# of Sample Points	# of Subsamples	Range of Total Pesticide Compounds
Sludge Bed			
- Dark Grey Area on Map	4	21	Nothing Detected to 0.016 ppm
- Light Grey Area on Map	2	7	Nothing Detected
Outside Sludge Bed			
- Between the Saranac River and the Sludge Bed	4	4	Nothing Detected
- South of the Saranac River	3	7	Nothing Detected
- In Scomotion Creek	1	3	Nothing Detected
- In the Remainder of the Bay	5	9	Nothing Detected
- In the Saranac River Behind the First Dam (Not on Map)	1	1	Nothing Detected

BASE-NEUTRAL-ACID (BNA) COMPOUNDS

Sample Area	# of Sample Points	# of Subsamples	Range of Total BNA Compounds
Sludge Bed			
- Dark Grey Area on Map	1	5	1.9 to 52 ppm ‡
- Light Grey Area on Map	0	0	———
Outside Sludge Bed			
- Between the Saranac River and the Sludge Bed	0	0	———
- South of the Saranac River	3	6	0.61 to 48 ppm ‡
- In Scomotion Creek	1	2	Nothing Detected to 17 ppm ‡
- In the Remainder of the Bay	1	1	2.815 ppm ‡
- In the Saranac River Behind the First Dam (Not on Map)	1	1	36.2 ppm ‡

ppm = parts per million Example: 3 ppm equals 0.000003 or 3 parts in 1,000,000

‡ - Excluding dibenzofuran (discussed separately), the only BNA compounds detected in the samples include one or more of the following: bis(2-ethylhexyl)phthalate, butylbenzylphthalate, or di-n-butylphthalate. These three compounds are common laboratory and sampling contaminants. The levels detected in the samples are consistent with laboratory/sampling contamination and may not represent actual levels in the Bay.

THIS IS A SUMMARY TABLE ONLY

Table 2
NYS DOH 1994 Sample Results

Location	Wood Chip Debris Data	Number of Samples
Rt 9 Beaches	3.0 to 210.0 ppm	11
Public Beaches	2.4 ppm	1

Location	Mixture of Sand & Wood Chip Debris Data	Number of Samples
Rte 9 Beaches	2.4 ppm	1
Public Beaches	3.3 ppm	1

Location	Sand Data	Number of Samples
Rte 9 Beaches	0.026 ppm	1
Public Beaches	ND to 0.003 ppm	5

Location	Water Data	Number of Samples
Lake Water at Shore	0.00021 to 0.00031 ppm	2
Homeowner Water Supply from Lake Champlain	ND	1

ND = Nothing Detected
ppm = parts per million

Cumberland Bay Fact Sheet
Evaluation Form

The New York State Department of Health and Department of Environmental Conservation prepared this fact sheet to inform people about the Cumberland Bay sampling results and to answer questions we thought you might have.

Please take a few moments to fill out this evaluation form. Your comments will help us to do a better job with future fact sheets. Thanks for your participation! You can bring this form with you to the public meeting, or mail it to us at the address below.

1. Please rate how well we did at informing you about the sampling results.
   ____ (Poor) I didn't understand them before, and I still don't.
   ____ (Average) After reading the fact sheet I have a general idea of the results.
   ____ (Excellent) Terrific job! I understand the results well.
   ____ Other comments, please specify. _____

2. Please rate how well we did at answering your questions.
   ____ (Poor) You didn't answered my most important question, which was _____
   _____
   ____ (Average) You covered the basics adequately.
   ____ (Excellent) You answered all the questions I had about the sampling.
   ____ Other comments, please specify. _____

3. Were there parts of the fact sheet that weren't as clear as they could have been? If so, which ones? _____
   _____

4. Do you have questions that were not answered in the fact sheet? If so, what are they?
   _____
   _____

5. How did you hear about the factsheet?
   ____ Mailed to me / left on my door.
   ____ Friend or neighbor told me about it.
   ____ Heard about it in the media and called for a copy.
   ____ Other, please specify. _____

6. Use this space for any other comments or suggestions you have. _____
   _____
   _____

Thank you for completing the evaluation form. Please fold, staple and mail to: Susan VanPatten, NYS DOH, 2 University Place, Room 240, Albany, NY 12203-3399.

Susan VanPatten
NYS DOH
2 University Place, Room 240
Albany, NY 12203-3399