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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION I

J. F. KENNEDY FEDERAL BUILDING, BOSTON, MASSACHUSETTS 02203

June 4, 1984

Honorable Roger Goyette
Member, Massachusetts House
of Representatives
State House
Boston, MA 02133

Dear Mr. Goyette:

Your interest in EPA's actions at the New Bedford Superfund sites prompts me to inform you of an information initiative that is beginning this week.

As you know, a number of residents in the area are concerned about children playing in or near PCB laden areas during the summer months. We have prepared the enclosed brochure, to be distributed throughout the New Bedford public school system, the Roman Catholic Diocese schools and several private schools in New Bedford, Fairhaven and Acushnet. Within the next few weeks we expect about 22,000 students to receive the brochure and to learn more about the hazards associated with PCB's.

Enclosed are copies of the brochure for your use. If you are interested in having additional copies available we will be pleased to supply you with them. Steve Ells or Susan Sladek in my office of Government Relations and Environmental Review will be happy to help. They can be reached on (617) 223-5750.

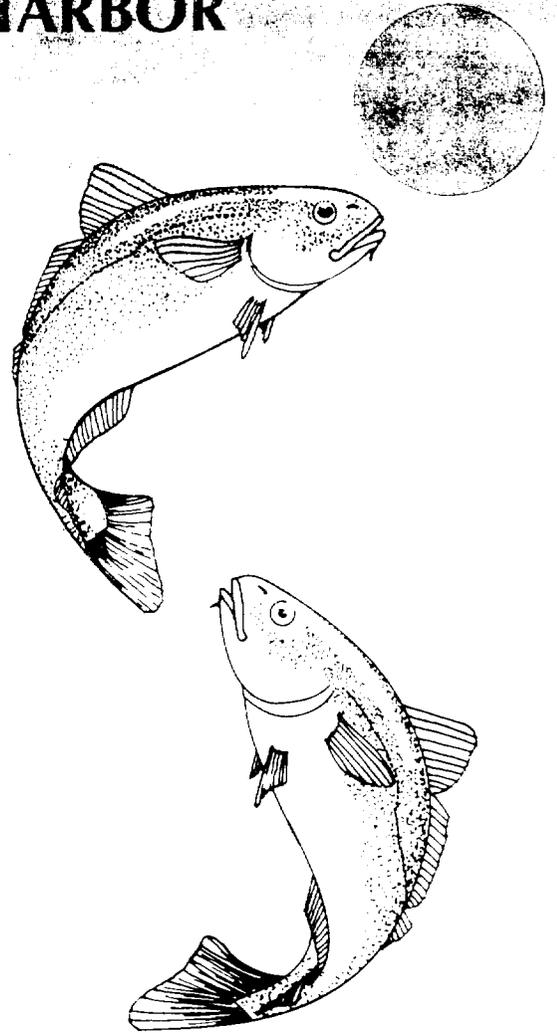
Sincerely yours,

A handwritten signature in black ink, appearing to read "Michael R. Deland".

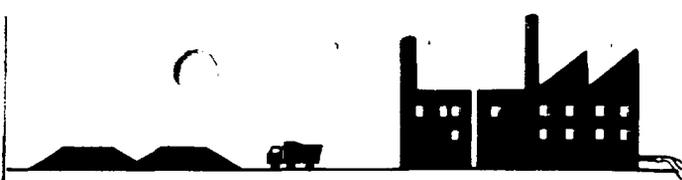
Michael R. Deland
Regional Administrator

Enclosures

PCBs and NEW BEDFORD HARBOR

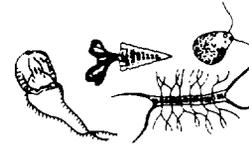


CLARIFYING
the ISSUES



What are PCBs?

PCBs—an abbreviation for polychlorinated biphenyls—are a type of man-made chemical made of very stable arrangements of carbon, hydrogen and chlorine. This stability means that PCBs generally do not break down when they are exposed to water, heat, electricity, or natural environmental forces. Because PCBs are so stable, they last for a very long time in the environment.

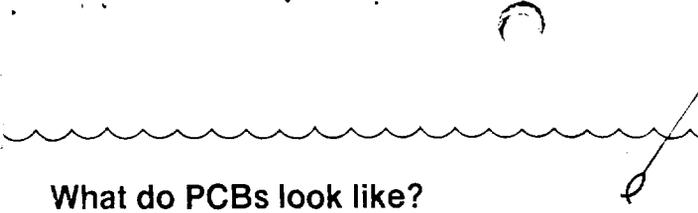


MICROSCOPIC
PLANT & ANIMAL
PLANKTON

Why and how are PCBs used?

The electrical industry found that these chemicals made excellent insulators because electricity could not pass through them. For this reason, PCBs have been used extensively as insulators in electrical equipment such as capacitors and transformers. Because PCBs are very resistant to fire, they have also been used as flame retardants in a variety of products. PCBs were also used in the past in varnishes, waxes, sealants, glues, hydraulic fluids, lubricants, adhesives, and pesticides because they do not break down easily.

Because PCBs may cause health problems and environmental damage, the U.S. Environmental Protection Agency (EPA) in 1979 banned the use of PCBs except in special conditions. These special conditions include the use of PCBs in "totally enclosed systems" where the chemical cannot be released into the environment, such as in electric transformers. EPA now carefully controls the use and disposal of PCBs and is eliminating the continued use of the chemical.



What do PCBs look like?

When PCBs are made, they usually appear as a colorless, or light yellow, oily or resin-like material. They also can appear as a white powder. However, PCBs are usually mixed with other materials such as mineral oil. Used in most industrialized countries, PCBs have found their way into our environment. However, we usually cannot see them, smell them, or taste them. Laboratory tests must be used to find out if PCBs are present in water, air, soil, or food.

SMALL FISH



Why should we be concerned about PCBs?

PCBs were first manufactured in 1929. Since then, we have used 1.25 billion pounds of PCBs in the United States. We have since learned a lot more about the chemical than we originally knew. We know that PCBs persist in the environment for long periods of time. We know that PCBs can damage skin and liver tissue. We know that PCBs cause cancer in laboratory animals and, therefore, are suspected of causing cancer in humans. We also know that PCBs accumulate in the fatty tissues of animals and humans. This is very important because this means that PCBs "bioaccumulate."

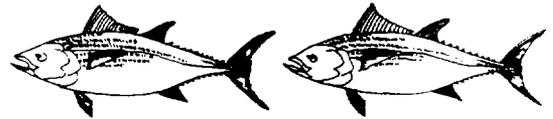


SMALL CRUSTACEANS



What does bioaccumulate mean?

"Bioaccumulate" is a word which is used to describe how certain chemicals collect in living creatures and pass from **one** type of animal to another in the food chain. PCBs are one such chemical. As an animal comes in contact with PCBs, the chemical is stored **in the** fatty tissues of the animal. Because PCBs are very stable, they are stored by the animal **for a very long time**. If a big fish eats a small fish containing PCBs, the bigger fish will collect — or **bioaccumulate** — the PCBs from the smaller fish. If a big fish eats a lot of small fish containing PCBs the large fish will collect all of the PCBs from the small fish. As the PCBs are passed through the food chain, the bigger animals collect greater and greater amounts of the chemical, as shown by the illustration on this page. People are at the top of the food chain. If people eat fish containing high quantities of PCBs, they will eventually **bioaccumulate** high amounts of PCBs. This is the reason fishing has been restricted in the New Bedford Harbor.



LARGE FISH

Where did the PCBs in the New Bedford Harbor come from?

Most of the PCBs in the New Bedford Harbor are thought to have come from the manufacturing process of the electronics industry. Two New Bedford facilities, Cornell-Dubilier and Aerovox, used PCBs in the production of electric capacitors from about 1940 to 1978. While the discharge of PCBs from these facilities has been significantly reduced, PCB contamination remains in New Bedford Harbor because PCBs are stable and long lasting.

Continued inside

AEROVOX

ACUSHNET

Where are the PCBs now?

Many of the PCBs in the New Bedford Harbor are in the underwater sediments of the harbor. They are located here because PCBs do not readily dissolve in water. They are heavier than water and, therefore, tend to sink. They also are attracted to solid particles like decaying plants, animal waste, and harbor bottom sediments. As these underwater sediments are disturbed, PCBs may be washed out of the harbor and into Buzzard's Bay. PCBs are also attracted to oily substances which float. They may wash out of the harbor in this form as well.

PCBs have also been found at Sullivan's Ledge and the New Bedford Municipal Landfill. Materials containing PCBs were disposed in these landfills and may be releasing PCBs into the surrounding environment.

The New Bedford municipal wastewater treatment facility is known to be discharging PCBs from Clark's Point. This discharge is from waste products which were pumped for many years into the municipal sewage system from industries in New Bedford. PCBs still remain in the sewer lines and discharge pipes. The EPA and the State are taking steps to eliminate this problem.

⇐ TO MUNICIPAL LANDFILL

⇐ TO SULLIVAN'S LEDGE

LEGEND*

-  High contamination (> 50 ppm)
-  Moderate contamination (5-50 ppm)
-  Low contamination (< 5 ppm)
-  Closed to all fishing
-  Closed to taking of lobsters, eels, and bottom feeding fish

How can we protect ourselves from PCBs?

The best way to protect ourselves is to avoid coming in contact with PCBs. Observe the ban on fishing in New Bedford Harbor. The symbols on the map indicate the areas where fishing has been restricted. These restrictions should be followed. Do not eat fish or shellfish (including lobsters) which have been caught in the closed areas. They most likely contain PCBs.

The shading on the map indicates areas of higher and lower concentrations of PCBs. Because the health effects of PCB exposure depend on the individual exposed and many other factors, no specific concentration level can be considered "safe." In general, measurable levels of PCBs have been found throughout the lower Acushnet River and the New Bedford Harbor. Avoid coming in contact with harbor mud and sediment — particularly the mudflats north of the Coggeshall Street Bridge — they are likely to contain PCBs. Children should be cautioned against playing near the river. Sullivan's Ledge should also be avoided.

What is being done to clean up PCBs in the New Bedford Harbor?

The EPA and other Federal agencies, the Commonwealth of Massachusetts, local government, and citizens are working together to solve the PCB problem in the New Bedford area. Studies are underway to identify the best remedial actions to take. As agencies propose actions, the public will be asked to comment on the proposals. A broad study will recommend a long-term solution for the entire harbor, Sullivan's Ledge, and the New Bedford Municipal Landfill.

For more information, contact: U. S. Environmental Protection Agency, Region 1, Office of Public Affairs - 2203, John F. Kennedy Federal Building, Boston, Massachusetts 02203.

NEW BEDFORD

FAIRHAVEN

COGGESHALL STREET BRIDGE

ROUTE 6 BRIDGE

CORNELL-DUBILIER

MUNICIPAL WASTEWATER TREATMENT PLANT

*Areas differentiated on this map are approximate. They are based on median concentrations of one type of PCB (Arochlor 1254) found in the Acushnet River and the New Bedford Harbor. Total concentrations of PCBs may be higher since additional types of PCBs are known to be present.

The restriction on fishing extends outward to Ricketson's Point and Wilbur Point. An area extending further outward to Mishaum Point and the southern tip of West Island is closed to the taking of lobsters only.

What are the health effects from exposure to PCBs?

Health effects from exposure to PCBs can be either **acute** (from short-term exposure to high concentrations) or **chronic** (from long-term exposure to low concentrations). If people are exposed to high concentrations of PCBs, they may experience acute effects such as nausea, vomiting, weight loss, discolored gums, swelling of the joints, jaundice, digestive disorders, and abdominal and joint pain. Chloracne, a skin rash, is a common symptom of PCB exposure. Damage to the liver may also occur.

Less is known about the chronic health effects of PCB exposure. In general, PCBs do not break down in the body. They are stored in the body. Over time, increasing concentrations of the chemicals **bioaccumulate** in the body's fat cells. Liver damage is known to occur when high concentrations of PCBs are accumulated. Skin lesions (open sores) may appear. PCBs may also cause problems with reproduction and child birth. Research has shown that PCBs cause cancer in laboratory animals and, therefore, are suspected of causing cancer in humans.

We are learning more about the long-term effects of PCBs through research. Until we know more, exposure to PCBs should be avoided.

United States
Environmental Protection
Agency

Region 1
Office of Public Affairs — 2203
John F. Kennedy Federal Building
Boston, MA 02203

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EPA-335



PCBS AND CHILDREN: INFORMATION FOR PARENTS

Parents are alert to the problem of PCB contamination in the **New Bedford Harbor** area. This fact sheet will help parents to protect their children from the contamination.

Children's Perceptions of Hazardous Waste

Stories about hazardous waste are often in the news these days. People are concerned about the hazards of contacting contaminated materials. Children hear adults talking about PCBs in New Bedford Harbor and hear different opinions about the problems. Conflicting information may lead to questions and fears in the children's minds:

- Fears over what will happen to them if they are exposed to PCBs. Fears that they may have been exposed to PCBs in the past.
- Fears that the health and safety of their friends and family may be threatened.
- Curiosity about PCBs -- What do they look like? Why can't we see them?

Young people may react to limited information about PCBs in the harbor in a variety of ways:

- Older children in particular may see the danger as an opportunity to show their bravery. They may challenge themselves or their friends to enter posted or known contaminated areas.
- They may become convinced that they are getting sick.
- They may have scary dreams about the problem.

Sharing accurate information may prevent unnecessary anxiety in children while at the same time assuring that children avoid areas with PCB contamination.

Although all the answers are not yet known about PCBs in the harbor, we do know that certain locations contain PCBs and should be avoided. And we have some information about the health effects of PCBs. For more information, see the attached "PCBs and New Bedford Harbor." Additional copies of this free fact sheet are available in English and Portuguese from the U. S. Environmental Protection Agency, Region I, Office of Public Affairs - 2203, John F. Kennedy Federal Building, Boston, MA 02203.

Protecting Children from PCB Contamination

Children and young adults need to be informed of the importance of avoiding areas that contain PCBs and avoiding activities that could bring them in contact with the chemical. Ignorance of the potential risks may result in children playing in hazardous areas.

What Can be Done to Avoid PCBs

- Do not fish or eel in the harbor area, or in any of the areas closed to fishing.
- Avoid coming in contact with harbor mud or sediment.
- Avoid shoreline areas where high concentrations of PCBs are known to be.

PCBS E CRIANÇAS: INFORMAÇÕES PARA OS PAIS

Os pais devem estar alertas para a contaminação de PCB na área da Enseada de New Bedford. Esta folha de informações ajudará os pais a protegerem seus filhos da contaminação.

Percepção Infantil dos Resíduos Perigosos

Nos últimos tempos, histórias sobre os resíduos perigosos estão constantemente no noticiário. As pessoas ficam preocupadas com o perigo de entrarem em contacto com os materiais perigosos. As crianças ouvem os adultos a falarem sobre os PCBs na Enseada de New Bedford e ouvem diferentes opiniões sobre o problema. Informações divergentes podem levar a perguntas e temores no espírito das crianças:

- Medo sobre o que lhes acontecerá se ficarem expostos aos PCBs. Medo de que tenham sido outrora expostos a PCBs.
- Medo de que a saúde e segurança de seus amigos e suas famílias possam estar ameaçadas.
- Curiosidade sobre os PCBs -- Com que se parecem? Por que não podemos vê-los?

Os jovens podem reagir às informações limitadas sobre os PCBs na enseada de várias maneiras:

- As crianças mais velhas podem sobretudo perceber o perigo como uma oportunidade de mostrarem coragem. Podem desafiar a si mesmos e a seus amigos a entrarem em áreas restritas ou conhecidamente contaminadas.
- Podem convencer-se de que estão realmente ficando doentes.
- Podem ter pesadelos sobre o problema.

Informar precisamente às crianças pode evitar uma desnecessária ansiedade e ao mesmo tempo garantir que elas evitarão as áreas contaminadas de PCB.

Embora ainda não se saiba todas as respostas com relação aos PCBs na enseada, estamos certos de que certas áreas contêm PCBs e devem ser evitadas. Também temos informações sobre os efeitos dos PCBs sobre a saúde humana. Para mais informações, veja a publicação anexa "Os PCBs e a Enseada de New Bedford." Cópias extras dessa folha de informações em inglês e português podem ser obtidas da U. S. Environmental Protection Agency, Region I, Office of Public Affairs - 2203, John F. Kennedy Federal Building, Boston, MA 02203.

Como Proteger seus Filhos da Contaminação de PCB

As crianças e os jovens adultos devem estar informados sobre a importância de evitarem as áreas que contêm PCBs e evitarem atividades que possam pô-los em contacto com esse químico. Ignorância sobre os riscos potenciais pode levar as crianças a brincarem em áreas perigosas.

O Que Pode Ser Feito para Evitar-se os PCBs

- Não pesque ou mergulhe na área da enseada ou em nenhuma das áreas proibidas à pesca.
- Evite pôr-se em contato com a lama ou o sedimento da enseada.
- Evite as áreas costeiras onde sabe-se que existe alta contaminação de PCBs.