

APPENDIX I

Recent requests to open fishing on the upper Hudson River

In addition to the attached letters and resolutions, the Department also received in 1984 petitions bearing 376 signatures bearing the following message:

We, the undersigned do hereby support the opening of the Hudson River, within the boundaries of the Town of Stillwater, for a "Catch and Release" program for recreational fishing, and request the New York State Department of Environmental Conservation to take immediate steps to initiate the program.

Residents of the following cities, towns, or villages were represented:

Saratoga
Mechanicville
Stillwater
Waterford
Ballston Spa
Troy
Johnsonville
Schuylerville
Schogaticoke
Rock City Falls
Indianapolis, Indiana

CAPITAL DISTRICT BASSMASTERS

"competition & conservation"

July 19, 1982

Robert Flacke, Commissioner
Department of Environmental Conservation
50 Wolf Road
Albany, New York

Dear Commissioner Flacke:

The membership of the Capital District Bassmasters has directed me to contact you regarding the Department's ban on fishing in the Hudson River between Troy and Fort Edward.

We feel that the Department should revise it's ban on angling in this section of the river. We would like to see fishing allowed with a "Catch & Release" proviso. In other words, we think fishing should be allowed as long as the fish are returned to the river and not kept for table consumption.

The current ban has had a negative economic impact for localities and businesses along the river. Sportfishermen have been denied access to a natural resource when all they want is to be allowed to catch and then release the fish in the river. We agree that fish from this section should not be eaten, but the ban isn't controlling that and, in reality, the only people being hurt are the businesses and the sportfishermen. This is not an advantageous situation.

The Department has been quick to come to the state's bass clubs for assistance in conducting fish surveys and the like. We have helped save this state hundreds of thousands of dollars and we were happy to help. Unfortunately, it often seems that when we'd like something changed or rethought within the Department that some spirit of cooperation is lacking.

We believe this ban modification is a wholly legitimate request and can be promulgated immediately if the Department chooses to do so. We are prepared to lead a grassroots drive to remove the ban, but we would rather the Department took action on it's own initiative.

We look forward to hearing your thoughts on this matter.

Respectfully yours,



Les Bonesteel, Jr.
President

Please respond to: 6 Sunset Drive
Saratoga Springs, NY 12866

For more information:

CAPITAL DISTRICT
BASSMASTERS





THE SENATE
STATE OF NEW YORK
ALBANY 12247

JOSEPH L. BRUNO
CHAIRMAN

STANDING COMMITTEE ON
CONSUMER PROTECTION
ROOM 814, LEGISLATIVE OFFICE BUILDING
455-2346

February 14, 1983

Honorable Henry Williams
State of New York Department
of Environmental Conservation
Albany, NY 12233

Dear Commissioner Williams:

I am writing to you regarding a proposal by the Capital District Bassmasters to allow fishing (catch and release) on the Hudson River from Fort Edward to Troy Dam.

The Bassmasters previously wrote to then-Commissioner Flacke and the background information on this request should be on file.

I would appreciate any consideration you could give this request. A copy of the letter I received from the Bassmasters is enclosed.

Thank you in advance for your assistance and cooperation.

Sincerely,

Joseph L. Bruno

JLB/j

enc.

RECEIVED

FEB 18 1983

DIRECTOR, DIVISION OF
FISH AND WILDLIFE



THE ASSEMBLY
STATE OF NEW YORK
ALBANY

NEIL W. KELLEHER
108TH DISTRICT
RENSSELAER COUNTY

February 15, 1983

MINORITY COORDINATOR
LEGISLATIVE OPERATIONS

CHAIRMAN
ASSEMBLY MINORITY HOUSE OPERATIONS
COMMITTEE

Henry G. Williams, Commissioner
Department of Environmental Conservation
State of New York
50 Wolf Road
Albany, N. Y. 12233

Dear Commissioner Williams:

Enclosed are copies of correspondence re. Mr. Les
W. Bonesteel, Jr., Chairman, Capital District Bass-
masters.

I would appreciate your comments on this matter.

Sincerely,

ENCs:
NWK:mc

NEIL W. KELLEHER

RECEIVED

FEB 24 1983

OFFICE OF FIRST
DEPUTY COMMISSIONER

RECEIVED

FEB 22 1983
COMMISSIONER OF
ENVIRONMENTAL
CONSERVATION

CAPITAL DISTRICT BASSMASTERS

"competition & conservation"

February 17, 1983

Honorable Henry Williams
State of New York Department
of Environmental Conservation
50 Wolf Road
Albany, New York 12233

RECEIVED
FEB 24 1983
OFFICE OF FIRST
DEPUTY COMMISSIONER

COMMISSIONER OF
ENVIRONMENTAL
CONSERVATION

FEB 22 1983

RECEIVED

Dear Commissioner Williams:

The membership of the Capital District Bassmasters are once again contacting you regarding the ban on fishing in the Hudson River between Troy and Fort Edward.

We feel that the Department should revise its ban on angling in this section of the river. We again would like to see fishing allowed with a "Catch & Release" proviso. In other words, allow fishing in the river as long as the fish are returned and not kept for table consumption.

The ban currently is increasing its negative impact for localities and businesses. Anglers have been denied access to a natural resource when all they want to do is be allowed to catch and release fish. The current ban isn't being controlled.

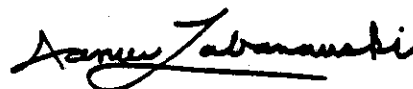
We question the ban in part because of the similar situation in Lake Ontario. The Department today does allow fish to be taken and consumed despite the fact that the same pollution does exist in this lake. Then, if its acceptable in one location why isn't it good in other locations in the state. Is this not a poor representation of "I Love New York" and "Fishing Great in New York" mottos.

The Department was quick to come to the state's Bass Clubs for assistance in conducting fish surveys. We have helped save the state thousands of dollars and were happy to do so especially considering the economic climate. Unfortunately, it appears that the same spirit of cooperation is lacking when we would like something done.

We believe that this ban modification is a wholly legitimate request that can be enacted immediately if the department chooses. A petition has been started to lift this ban, enclosed are the signatures of 225 sportsman who agree with our concerns.

We look forward to hearing from you with some positive answers.

Sincerely,

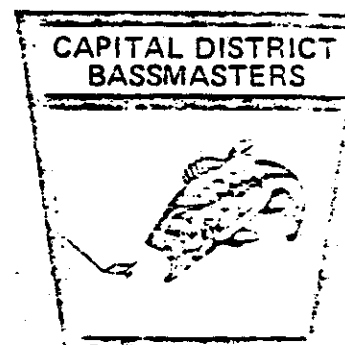


James Labanowski
President

Please respond to:

For more information:

Les W. Bonesteel
Chairman
6 Sunset Drive
Saratoga Springs, N.Y. 12866



Town of Stillwater

P.O. Box 700
Stillwater, N.Y.
12170



Site of the Turning Point of the American Revolution

August 21, 1984

Mr. Henry Williams, Commissioner
New York State Dept. of Environmental Conservation
50 Wolf Road, Colonie
Albany, N.Y. 12233-0001

RECEIVED
AUG 29 1984
ASSISTANT COMMISSIONER

Dear Commissioner:

As you know, through previous correspondence and meetings, I strongly support the concept of "catch and release" fishing in the Hudson River within the boundaries of the Town of Stillwater. At its regular meeting of August 16, 1984, the Stillwater Town Board unanimously supported that position via a resolution which is attached. I am also enclosing petitions signed by residents of the town, also in support of this concept.

On behalf of the residents of Stillwater, I thank you for seeking public opinion on opening the waters of New York State and I would be very willing to appear at the public hearing to state the opinion of our town as a matter of public record. There is no question that opening the Hudson would be a great boost to the area, both economically and recreationally.

Thank you for your outstanding cooperation and sincere consideration in relaxing your current restrictions.

Sincerely,

RECEIVED

AUG 29 1984

DEPT. OF ENVIRONMENTAL CONSERVATION
NATURAL RESOURCES DIVISION

A handwritten signature in cursive script that reads "Paul F. Lilac".

Paul F. Lilac, Supervisor
Town of Stillwater

SUPERVISOR
Paul F. Lilac

COUNCILMEN
Gerald Brewster
James Farnan
Thomas Kinisky
Ioan Ronda

ATTORNEY
Robert S. Trieble

TOWN CLERK
Susan Marceila

ENGINEER
Conrad Hoffman

Town of Stillwater

P.O. Box 700
Stillwater, N.Y.
12170



Site of the Turning Point of the American Revolution

RESOLUTION

WHEREAS, the Town of Stillwater has a beautiful facility, the Hudson River, flowing through it; and

WHEREAS, the Town Board is deeply concerned over the restricted use of this river; and

WHEREAS, the concept of a "catch and release" fishing program would allow recreational fishing to be enjoyed by many of our townspeople; and

WHEREAS, this type of recreational fishing does not endanger the public safety, health, and welfare of the residents; and

WHEREAS, the Department of Environmental Conservation now has an order restricting any fishing in the Hudson River from Fort Edward to the Federal Dam in Troy; and

WHEREAS, the Department of Environmental Conservation has shown a willingness to look at the possibility of lifting the current restriction on fishing; and

WHEREAS, ENCON Commissioner, Henry Williams, is seeking public opinion on the issue of relaxing any restrictions on fishing all the waters of New York State; and

WHEREAS, this Town Board, acting on behalf of its concerned residents, wishes to convey the message to the Department of Environmental Conservation in support of recreational fishing in the Town of Stillwater;

BE IT RESOLVED, that the Town Board of the Town of Stillwater does support the concept of a "catch and release" fishing program in the Hudson River; and

BE IT FURTHER RESOLVED, that this resolution and any petitions in hand be forwarded to Mr. Edward G. Horn, the Chief Fish and Wildlife Ecologist at the New York State Department of Environmental Conservation, Room 530, 50 Wolf Road, Albany, N.Y. 12233-0001.

SUPERVISOR
Paul F. Lilac

COUNCILMEN
Gerald Brewster
James Farnan
Thomas Kinisky
Ioan Ronda

ATTORNEY
Robert S. Trieble

TOWN CLERK
Susan Marcella

ENGINEER
Conrad Hoffman

Resolution No. 4

RESOLUTION OF THE VILLAGE OF STILLWATER, COUNTY OF SARATOGA AND STATE OF NEW YORK, memorializing the Department of Environmental conservation to undertake whatever actions are necessary to provide for recreational fishing on the Hudson River in and around the Town and Village of Stillwater, New York.

WHEREAS, the Village and Town of Stillwater has a most beautiful recreational facility available to its residents; namely the Hudson River; and

WHEREAS, the Village Board is deeply concerned over the restricted recreational use of this river imposed by the State of New York; and

WHEREAS, the Department of Environmental Conservation now has a regulation restricting any fishing in the Hudson River from Fort Edward to the Federal Dam in Troy; and

WHEREAS, the concept of a "catch and release" fishing program in this part of the Hudson River would allow recreational fishing to be enjoyed by many of our village and towns people; and

WHEREAS, this type of recreational fishing does not endanger the public safety, Health, and welfare of the residents; and

WHEREAS, the Department of Environmental Conservation has shown a willingness to look at the possibility of lifting the current restriction on such fishing in this area; and

WHEREAS, ENCON Commissioner, Henry Williams, is seeking public opinion on the issue of relaxing any restrictions on fishing all the waters of New York State; and

WHEREAS, this Village Board, acting on behalf of its concerned residents, wishes to convey to the Department of Environmental Conservation its support of recreational fishing in the Hudson River and around the Village and Town of Stillwater; therefore, be it

RESOLVED, that the Village Board of the Town of Stillwater does hereby memorialize the Department of Environmental Conservation to undertake whatever actions are necessary to provide for the concept of a "catch and release" fishing program in the Hudson River; and, be it further

RESOLVED, that a copy of this resolution be transmitted to Mr. Edward G. Horn, the Chief Fish and Wildlife Ecologist at the New York State Department of Environmental Conservation, Room 530, 50 Wolf Road, Albany, New York. 12233-0001.

Dated: September 10, 1984

I hereby certify that the foregoing is a true and correct copy of a resolution duly adopted by the Board of Trustees of the Village of Stillwater at a meeting duly held on the 10th day of September, 1984.

Witness my hand and the seal of said Village this 14th day of September, 1984.

Village Clerk

APPENDIX II.

Environmental Conservation Law, Section 11-0325

§11-0325. Control of dangerous diseases.

1. Whenever it is jointly determined by the Department of Environmental Conservation and the Department of Health or the Department of Agriculture and Markets, and certification is made to the Commissioner of Environmental Conservation by the Commissioner of Health or the Commissioner of Agriculture and Markets, that a disease, which endangers the health and welfare of fish or wildlife populations or of domestic livestock or of the human population, exists in any area of the state, or is in imminent danger of being introduced into the state, the department shall adopt any measures or regulations with respect to the taking, transportation, sale, offering for sale or possession of native fish or feral animals it may deem necessary in the public interest to prevent the introduction or spread of such disease. The department may undertake such fish or wildlife control measures it may deem necessary to eliminate, reduce or confine the disease.

2. Whenever it is determined by the Department of Environmental Conservation that an epizootic disease which endangers the health and welfare of native fish or feral animal populations only, exists in any area of the state, or is in imminent danger of developing or being introduced into the state, the department may adopt by order any measures or regulations with respect to the taking, transportation, sale, offering for sale or possession of native fish or feral animals deemed necessary in the public interest to prevent the development, spread or introduction of such disease.

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APPENDIX III

Health effects of contaminants found in fish taken from waters in New York State

DDT

DDT was used widely during World War II for the control of insect-transmitted diseases such as malaria and typhus. Soon thereafter, it found widespread use in agriculture and forest pest control where it was used as an insecticide. Because of its environmental persistence and hazard, it was banned in New York State in 1971 and the United States in 1973.

DDT is relatively stable and persistent in the environment. However, in the environment and in animals DDT is degraded to a variety of other compounds. DDE is the primary metabolite found in fish and other animals as well as the environment. DDE is virtually non-degradable and because of its high solubility in lipid is found stored in fat. Humans, fish, and other animals also metabolize DDT to DDD and eventually DDA. Although DDD is less stable than DDT or DDE, it too is lipid soluble and often found stored in fish and other animal tissues. DDA is much more soluble in water and is the ultimate excretory product of DDT ingestion in humans and other mammals. Humans convert DDT into DDA with a biologically half-life of approximately 1 year. DDE is eliminated much more slowly (biologic half-life of 8 years).

Ingestion of DDT by human volunteers and others have produced no definite examples of fatality, although illness of some subjects has been observed. At DDT levels of 5-10 ppm in food, rats exhibit microscopic alterations in liver cells.

Mice fed DDT at 100 ppm in their diet have a considerably shortened life span. Liver tumors have been found in mice fed doses as low as 0.3 mg/kg of body weight. Feeding studies in rats and other animals have produced no convincing evidence of carcinogenicity. Human workers occupationally exposed to DDT have not shown an increased incidence of cancer.

The FDA action level for DDT (total of all metabolites) in fish and shellfish is 5.0 ppm.

Source: National Academy of Science. 1977. Drinking water and health, Volume 1, Washington, D.C.

Mirex

Mirex is a highly chlorinated, highly persistent chemical produced primarily for use as an insecticide particularly to control the fire ant in southern portions of the United States and as a fire retardant. Between 1959 and 1967 Hooker Chemicals and Plastics Corporation in Niagara Falls, New York was the principal producer of mirex. The company ceased production in 1967 but continued to process mirex purchased from an out-of-state company until 1975.

Mirex is virtually insoluble in water but quite soluble in lipids and oils. As such, it is readily bioconcentrated and stored in fatty tissues of fish and other animals. Although mirex is virtually non-reactive it is environmentally and potentially biologically dechlorinated to form photo-mirex.

Mirex has been demonstrated to cause liver tumors in mice and rats, and as such, is considered a potential human carcinogen. Extremely limited toxicological assessment of photo-mirex suggests that its toxicity is comparable to mirex.

When mirex is fed to pregnant rats it accumulates in fetal tissues and has been shown to cause pregnancy failure, decreased fetal survival, reduced fetal weight, visceral abnormalities, and cataracts in the newborn. Although no human data are available to demonstrate placental transport of mirex, a potential hazard must be assumed.

The FDA has an action level for mirex in fish and shellfish of 0.1 ppm. When photo-mirex is detected, it is added to the mirex for comparison to the action level.

Sources: Hetling, L.J. and R.L. Collin. 1978. Status report: the problem of mirex in Lake Ontario. Technical paper 53. New York State Department of Environmental Conservation.

National Academy of Sciences. 1978. Kepone-hexachlorocyclopentadiene: An environmental assessment. Washington, D.C.

PCB

PCBs are actually a group of more than 200 similar chemical compounds. Because they are poor conductors of electricity and are fire-resistant, PCBs have been used as a coolant and insulator in electrical systems, particularly transformers and capacitors. They were used extensively between 1929 and the mid 1970's. In 1977, manufacturing of PCB was banned in the United States because of environmental persistence and rising concerns about long-range chronic health effects.

PCBs are relatively insoluble in water but highly lipid soluble and as such are stored in the fatty tissues of fish and other animals. Although humans can metabolize and excrete many PCBs, fish store these compounds in their tissues relatively unaltered.

Most knowledge of the human health effects of PCB exposure comes from two sources: worksite exposure and a 1969 accident in Japan (the Yusho incident) where people inadvertently ate rice oil contaminated by PCBs which had leaked from a heat exchanger. Symptoms associated with acute, relatively high-level exposure to PCB's include: eye irritation, headache, fatigue, chloracne (acne like eruptions of the skin), nausea and vomiting, digestive disturbances, and liver dysfunction.

There is also evidence that PCBs may adversely effect reproductive outcome. Babies born to many Japanese mothers who had eaten PCB-contaminated rice oil had discolored skin, runny eyes, and were of below average birth weight. However, in many reported cases of PCB exposure (including the Yusho incident) the PCBs were contaminated by other more toxic chemicals, leaving questions as to whether the observed health effects resulted from PCBs, from other substance, or from the combination of chemicals. Female mink fed fish containing 2 ppm PCB are unable to reproduce. Fetuses are resorbed, and kits rarely survive.

The greatest PCB-related human health concerns (based primarily on the results of animal studies) are from long-term, low-level exposure. There is experimental evidence of a carcinogenic effect of some types of PCBs on laboratory animals. Recent evidence suggests some behavioral and developmental deficiencies in infants whose mothers ate PCB contaminated fish over a period of several years (Jacobson et al., 1984).

The FDA recently (August 1984) lowered the tolerance for PCB in fish and shellfish to 2.0 ppm. Until that time, the tolerance was 5.0 ppm.

Sources: Jacobson, J., S. Jacobson, G. Fein, P. Schwartz, and J. Dowler. 1984. Prenatal exposure to an environmental toxin: A test of the multiple effects model. *Devel. Psychol.* 20(4):523-532.

New York State Department of Health. 1983. PCBs, Polychlorinated biphenyls. (A brochure produced by the Bureau of Toxic Substances Assessment, Albany, New York).

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USFDA. 1984. Polychlorinated biphenyls (PCBs) in fish and shellfish; Reduction of tolerances; Final Decision. Fed. Register 49(100): 21514-21520.

Chlordane

Chlordane is a member of the chemical family called chlorinated cyclodienes. It is the principal chemical found in the pesticide which bears the same name. The pesticide, a mixture of at least 11 major components several of which are other cyclodienes, has been used since 1947 to control insects and crab grass. The persistence of chlordane in the environment and effects on laboratory animals led to restrictions of use in 1976 to termite and carpenter ant control.

Chlordane is lipid soluble and highly persistent in the environment. As such it is readily bioconcentrated. Although highly stable in the environment, chlordane is metabolized to oxychlordane which is more toxic to animals than chlordane. Fish and other animals store oxychlordane as well as chlordane. Fish and other animals store oxychlordane as well as chlordane in fatty tissues.

Human illness and death have been observed from accidental poisoning by chlordane. Symptoms have included central nervous system effects such as headache, blurred vision, dizziness, convulsions, and insomnia as well as nausea and vomiting. These symptoms may re-occur for two to four months after cessation of the exposure, but have always been associated with large doses from spraying or manufacturing accidents.

Animal studies indicate that the liver can be affected, and chlordane has caused liver cancer in mice. However, similar studies in rats have not produced cancer and there is little evidence present to suggest that chlordane is carcinogenic in humans. Although feeding chlordane to rats or mice has not produced birth defects, reduced survival of offspring has been reported in some feeding studies.

The FDA has an action limit for chlordane in fish or shellfish of 0.3 ppm. Oxychlordane and other similar compounds found in the pesticide chlordane are also added when detected.

Sources: National Academy of Sciences. 1977. Drinking Water and Health, Volume 1, Washington, D.C.

New York State Department of Health. 1983. Pesticides for Termite Control. A brochure produced by the Bureau of Toxic Substances Assessment, Albany, N.Y.

Dieldrin

Dieldrin is a chlorinated cyclodiene which is slightly soluble in water, but more soluble in lipid. Dieldrin was commercially produced as a pesticide after World War II. It has received relatively limited use as an insecticide in agriculture. Its environmental persistence and carcinogenic behavior led to a ban on most uses in 1974. Dieldrin usage as a subsurface termiticide, for dipping non-food roots and tops, and for moth-proofing by manufacturing processes in a closed system are still permitted uses. Dieldrin is also produced environmentally as the metabolic product of aldrin, another cyclodiene still being used for termite control.

Although environmentally very stable, dieldrin is biologically metabolized to photo-dieldrin, a highly active neurotoxin which is more toxic to laboratory animals than dieldrin.

Although the acute effects of dieldrin poisoning are somewhat similar to chlordane (see above), the chronic effects have been demonstrated to be considerably more severe. Dieldrin has produced liver tumors in mice, and single oral doses in hamster and mouse have produced a significant number of birth defects.

The FDA has established an action level of 0.3 ppm dieldrin in fish or shellfish.

Sources: National Academy of Sciences. 1977. Drinking Water and Health, Volume 1, Washington, D.C.

U.S. Environmental Protection Agency. 1979. Suspended and cancelled pesticides. OPA 159/9, U.S. E.P.A. Washington, D.C.

Heptachlor epoxide

Heptachlor epoxide is also a chlorinated cyclodiene. It is produced environmentally and biologically from heptachlor. Heptachlor is manufactured and used as an insecticide and is also one of the components of the pesticide formulation chlordane.

Heptachlor epoxide is very stable and environmentally persistent. Because of its persistent nature and lipid solubility, it accumulates in the fatty tissues of fish and other animals.

Because of its persistent nature and lipid solubility, it accumulates in the fatty tissues of fish and other animals.

Heptachlor epoxide is more toxic to animals than heptachlor and intermediate between chlordane and dieldrin in its toxicity. The biological effects of heptachlor and heptachlor epoxide are similar to the other chlorinated cyclodienes. As with dieldrin, heptachlor epoxide has been found to be a potent carcinogen in both rats and mice.

The U.S. Food and Drug Administration has established an action level for heptachlor and heptachlor epoxide in fish and shellfish of 0.3 ppm. The World Health Organization has established a recommended acceptable daily intake of 0.5 ug/kg per day.

Source: National Academy of Sciences. 1977. Drinking Water and Health, Volume 1, Washington, D.C.

Dioxin

Dioxin is a term usually used to refer to one of 75 different chlorinated dibenzo-p-dioxins, i.e. 2,3,7,8-tetrachlorodibenzo-p-dioxin or TCDD. TCDD is a chemical by-product in the manufacture of certain chlorinated phenolic herbicides and preservatives, as well as a product of combustion of a variety of chemicals.

TCDD is soluble in lipids and only very slightly soluble in water. TCDD appears to be both environmentally and biologically persistent particularly in aquatic environments. Fish concentrate TCDD and do not appear to significantly metabolize it.

TCDD is one of the most toxic substances known. Chloracne in humans has been induced from industrial exposures and from environmental exposure associated with the industrial accident in Seveso, Italy (Homburger et al., 1979; Reggiani, 1980). Symptoms are associated with extremely low dosage exposure.

Experiments with laboratory animals have demonstrated that dioxin can be teratogenic and fetotoxic (causes birth defects or kills fetuses when pregnant animals are fed dioxins), can affect the immune responses in mammals, and is carcinogenic (causes cancer).

The FDA has no formal tolerance or action level for dioxin. However, in July 1981 a meeting was held in Ottawa with state, provincial, and federal officials to discuss the reports of dioxin in fish from Lake Ontario. On August 26, 1981, Commissioner Hayes wrote a letter to Governor Milliken with "advice on the public health significance of dioxin (TCDD) contamination of fish". The specific advice is as follows:

"If TCDD levels in fish average less than 25 ppt, we believe that there is little cause for concern. On the other hand, if the average values exceed 50 ppt, the State should seriously consider limiting the taking of fish from these areas. For those values between 25-50 ppt, sport fishermen, who generally consume fish from these areas only a few times a year, should restrict their intake to no more than one meal of such fish per week. For permanent residents of these areas who might be consuming these fish over the entire year, we would advise restricting their fish intake to no more than 1-2 times per month."

Canada Health and Welfare Ministry announced "the establishment of a guideline of 20 parts per trillion (ppt) 2,3,7,8-TCDD (dioxin) in commercial fish", and New York State Department of Health officials, "[u]sing a conservative approach to the establishment of an acceptable tolerance level of risk for fish contaminated with dioxin, set a recommended maximum of 10 ppt in fish flesh."

- Sources: EPA. 1984. Ambient water quality criteria for 2,3,7,8-tetrachlorodibenzo-p-dioxin, Washington, D.C.
- Homberger, E., G. Reggiani, J. Sambeth, and H. Wipf. 1979. The Seveso Accident: Its nature, extent and consequences, Ann. Occup. Hyg. 22: 327-370.
- Reggiani, G. 1980. Acute human exposure to TCDD in Seveso, Italy. J. Tox. Env. Health 6: 27-43.
- Canada Health and Welfare. July 30, 1981. Dioxin guideline announced for commercial fish. News release, Ottawa, Ontario, Canada.
- NYSDOH. August 5, 1981. Press release on presence of dioxin in fish from Lake Ontario, Albany, N.Y.
- Ontario MOE. July 17, 1981. Dioxin tests show Ontario fish, drinking water safe. News release, Toronto, Ontario, Canada.
- USFDA. August 26, 1981. Letter to William G. Milliken from Arthur Hull Hayes, Jr.

Cadmium

Cadmium is a relatively rare element (metal) smelted primarily from zinc ores. It is used extensively in industrial processes for electroplating, pigments, plastic stabilizers, and in batteries. As a natural element, cadmium does not break down or decompose.

Knowledge of both acute and chronic health effects have been associated with cadmium for quite some time. Ingestion of large amounts of cadmium can cause nausea, vomiting, diarrhea, abdominal cramping, and excessive salivation. Chronic, lower-level exposure to cadmium (particularly in workers exposed to cadmium) has produced severe damage to liver and kidney as a consequence of accumulation in these organs. Other more advanced symptoms may include joint pain, bone decalcification and deformities, bone fragility, and may result in death. Recent studies indicate that cadmium is also a carcinogen (causes cancer) in laboratory animals. Reports of significant increases in prostate cancer in persons occupationally exposed to cadmium for prolonged periods seem to corroborate the laboratory data.

Most scientists agree that the most significant route of human exposure to cadmium is through food consumption. In addition, cigarette smoke contains cadmium, and smokers run a higher risk of cadmium-related disease than do other segments of the population.

Although the FDA has not established a tolerance level or action level in foods, it is currently evaluating methodology for detecting cadmium in foods and is working with the U.S. Department of Agriculture and EPA to survey cadmium levels in food. The World Health Organization has recommended that cadmium exposure should be 57-71 ug/day or less.

Sources: U.S. EPA. Undated. Toxics Information Series: Cadmium.
Office of Pesticides and Toxic Substances. TS-793.
Washington D.C.

Friberg, L., M. Piscator, and G. Nordberg. 1971. Cadmium
in the Environment, CRC Press, Cleveland, OH.

Mercury

Mercury is one of the heavy metals. It has been refined from its ore, cinnabar, since the 15th or 16th century B.C. Today it is used primarily in battery manufacturing and the chloralkali process for producing chlorine as well as paints and industrial instruments. Until recently, it received wide use in pesticides, particularly fungicides. As mercury is an element, it cannot be broken down or degraded.

In the environment, natural biological processes convert mercury into methylmercury. Most mercury accumulated by fish tissues is methylmercury. This form of mercury is readily absorbed by the intestine in man and is the most toxic form of mercury.

In the human body, mercury accumulates in the liver, kidney, brain, and blood and causes both acute and chronic health affects. Chronic symptoms of mercury poisoning include loss of appetite, weight loss, birth defects, and central nervous system and kidney damage.

Relatively high levels of mercury contamination of fish were associated with the widespread poisoning of fishermen and their families from consumption of contaminated fish by methylmercury in Minamata, Japan. Other poisonings associated with the consumption of contaminated fish and grain contaminated with methylmercurial fungicides have provided substantial evidence regarding the "safe" level of consumption of mercury. In 1979, the U.S. Food and Drug Administration established a maximum tolerable level of 30 ug methylmercury daily in the diet. Assuming a standard 70-kg person, this is approximately 0.4 ug/kg per day methylmercury. This same level has been proposed by a Swedish Commission evaluating the toxicity of mercury in fish.

Currently, the FDA action level for total mercury in fish or shellfish is 1.0 ppm

Sources: EPA. Undated. Toxics Information Series: Mercury. Office of Pesticides and Toxic Substances. TS-793, Washington, D.C.

USFDA. 1979. Action level for mercury in fish, shellfish, crustaceans, and other aquatic animals; withdrawal of proposed rulemaking and termination of rulemaking proceeding. Fed. Register 44(14): 3990-3993.

Lead

Lead is one of the oldest metals used by man, known to the Ancient Egyptians and Babylonians. The Romans used it for piping water and to make solder. Today lead is used in the manufacture of batteries, pigments, in solder used extensively in plumbing, and many other industrial uses. An organic form of lead, tetraethyl lead, is used as an anti-knock agent in gasoline.

Although dietary lead is rather poorly absorbed by adults, infants and small children more readily absorb lead from food and water. Although acute lead poisoning in humans is rare today, subchronic and chronic lead poisoning is relatively common, especially among urban children. Excessive lead intake leads to effects on the hematopoietic (blood-forming) system, the kidneys, and nervous system. Recommended allowable daily intakes of lead are primarily based on effects on the blood-forming system. More recent concerns has centered on the subtle effects of lead on the behavior of infants and children. It appears that these effects may be exhibited only at levels above those already affecting the hematopoietic system, but more research is needed.

Environmental and occupational exposure to lead has also been associated with premature births, miscarriages, and sperm abnormalities. Studies with laboratory animals have also demonstrated that lead may be carcinogenic and teratogenic (causing birth defects). Although no evidence of lead-induced carcinogenicity or teratogenicity exists for humans, the potential needs further evaluation.

The USEPA recommends that lead intake for children between 6 months and 2 years of age should be no more than 150 ug per day. The World Health Organization has a provisional tolerable intake recommendation of less than 3 mg per week (equivalent to 6 ug/kg per day for a 70 kg person). This level is not designed to protect children.

The FDA has no tolerance or action level for lead or any of its environmental forms.

Sources: National Academy of Sciences. 1977. Drinking Water and Health, Volume 1, Washington, D.C.

National Academy of Sciences. 1981. Drinking water and health, Volume 4, Washington, D.C.

APPENDIX IV

Waters in New York where contaminant levels in fish exceed FDA tolerances or other guidelines and for which New York Department of Health issues a restrictive advisory.

Water	Contaminant(s)	Species	Advisory
Belmont Lake	chlordanes	Carp	●
Buffalo River	PCB	Carp	■
Canadice Lake	PCB	Lake trout (>21")	●
Canandaigua Lake	DDT, PCB	Lake trout (>24")	■
Canaan Lake	chlordanes	Yellow perch	■
Cayuga Creek	TCDD	All species	●
East River	PCB	American eel	●
Fourth Lake (Herkimer County)	DDT	Lake trout	●
Hoosic River	PCB	Brown trout (>12")	■
Hudson River -Hudson Falls to Troy -Troy Dam south to and including Lower New York Harbor	PCB PCB	All species Striped bass, white perch, American eel, Largemouth bass pumpkinseed, carp, goldfish, brown bullhead, white catfish	● ●

● Eat none

■ Eat no more than one meal (1/2 pound) per month

* Eat no more than 6 crabs per week

N.B. These restrictive advisories include amendments announced in a DOH/DEC press release dated November 15, 1984

APPENDIX IV

(Continued)

Water	Contaminant(s)	Species	Advisory
Indian Lake (Lewis Co.)	PCB	Black crappie, rainbow trout smelt, Atlantic needlefish	■
Keuka Lake	Cadmium	Blue crab - heptopancreas (mustard, liver or tomalley) - cooking liquid	* ● discard
Kinderhook Lake	mercury	All species	■
Lake Champlain (Vicinity of Plattsburgh)	DDT	Lake trout (>25")	■
Lake Ontario, St. Lawrence, and Niagara River below the Falls	PCB	American eel, white perch	■
	PCB	American eel brown bullhead	● ■
	PCB, mirex, TCDD	Eel, channel catfish Lake trout, chinook salmon coho salmon > 21", rainbow trout > 25", brown trout > 18"	●
Long Pond (Lewis County)	Mercury	White perch; smaller coho salmon, rainbow and brown trout Splake (>12")	■ ●

● Eat none

■ Eat no more than one meal (1/2 pound) per month

* Eat no more than 6 crabs per week

N.B. These restrictive advisories include amendments announced in a DOH/DEC press release dated November 15, 1984

APPENDIX IV

(Continued)

Water	Contaminant(s)	Species	Advisory
Marine waters -West of Wading River and Route 46 near Mastic Beach	PCB	Striped bass	●
-East of Wading River and Route 46 near Mastic Beach	PCB	Striped bass	■
Massapequa Reservoir	chlordanes	All species	●
Mohawk River below Lock 7	PCB	White perch	●
Nassau Lake	PCB	Eel, black crappie	●
Niagara River -below falls	PCB PCB	Carp Smallmouth bass	■
Onondaga Lake	mercury	All species	●
St. James Pond	chlordanes	All species	■
St. Lawrence River (Morristown to Iroquois Dam)	lead	All species	■
Saw Mill River	PCB	American eel	■
Schroon Lake	PCB, mercury	Lake trout	■

- Eat none
- Eat no more than one meal (½ pound) per month
- * Eat no more than 6 crabs per week

N.B. These restrictive advisories include amendments announced in a DOH/DEC press release dated November 15, 1984

APPENDIX IV

(Continued)

Water	Contaminant(s)	Species	Advisory
Sheldrake River	chlordane, dieldrin, PCB, heptachlor epoxide	Eel	●
Spring Pond	chlordane	All species	●
Stillwater Reservoir	mercury	Splake	■
Valatie Kill (between Co. Rt. 18 and Nassau Lake)	PCB	All species	●

● Eat none

■ Eat no more than one meal (½ pound) per month

* Eat no more than 6 crabs per week

N.B. These restrictive advisories include amendments announced in a DOH/DEC press release dated November 15, 1984

Current Health Advisory from 1984-85 Fishing Small Game, Hunting, and Trapping Regulations Guide.

Health Advisory

To minimize potential adverse health impact, the NYS Department of Health recommends that:

- You eat no more than one meal (1/2 pound) per week of fish from any water in the state except as recommended below.
- Women of childbearing age, infants and children under the age of 15 should not eat fish with elevated contaminant levels. Most fish taken from the waters listed below contain elevated contaminant levels.
- The following restrictions on eating fish are advised for specific waters and their tributaries to the first barrier impassable by fish.

Water	Species	Recommended
Belmont Lake (Suffolk Co.)	Carp	•
*Buffalo River (Erie Co.)	Carp	□
*Canadice Lake (Ontario Co.)	Lake trout over 21"	□
*Canandaigua Lake (Ontario-Yates Co.)	Lake trout over 24"	□
Canaan Lake (Suffolk Co.)	Yellow perch	•
Cayuga Creek (Niagara Co.)	All species	•
*East River (New York City)	American eel	•
*Fourth Lake (Herkimer Co.)	Lake trout	•
*Herkimer River (New York City)	American eel	•
Hessie River (Rensselaer Co.)	Brown trout over 12"	□
Hudson River:		
Hudson Falls to Troy Dam	All species	•
*Troy Dam south to and including the lower NYC Harbor	Striped bass, American eel, white perch, carp, goldfish, brown bullhead, largemouth bass, pumpkinseed, white catfish	•
	Black crappie, rainbow smelt, Atlantic needlefish	□
	Blue crab:	Eat no more than six crabs per week
	hepatopancreas (mustard, liver or tomalley) coating liquid	Discard
Indian Lake (Lewis Co.)	All species	□
Kauka Lake (Yates-Stauben Co.)	Lake trout over 25"	□
*Kinderhook Lake (Columbia)	American eel, white perch	□
*Lake Champlain (vicinity of Plattsburgh)	American eel	□
Lake Ontario, St. Lawrence River and Niagara River below the falls	Brown bullhead	•
	American eel, channel catfish, lake trout, chinook salmon, coho salmon over 21", rainbow trout over 25", brown trout over 18"	•
	White perch, smaller coho salmon, rainbow and brown trout	□

Water	Species	Recommended
*Long Pond (Lewis Co.)	Splake over 12"	•
Upper Massapequa Reservoir (Nassau Co.)	All Species	•
*Mohawk River (below Lock 7)	White perch	•
Nassau Lake (Rensselaer Co.)	American eel, black crappie	•
*Niagara River (entire)	Carp	□
*Niagara River (lower)	Smallmouth bass	□
Onondaga Lake (Onondaga Co.)	All species	□
St. James Pond (Suffolk Co.)	All species	□
St. Lawrence River (Morristown to Iroquois Dam)	All species	□
*Saw Mill River (Westchester Co.)	American eel	•
Sheldrake River (Westchester Co.)	American eel	•
Spring Pond (Suffolk Co.)	All species	•
Stillwater Reservoir (Herkimer Co.)	Splake	•
Valatie Kill (between Co. Rt. 18 and Nassau Lake)	All species	•

- Eat none.
- Eat no more than one meal per month.
- Changes from the 1984-85 Health Advisory

ADDITIONAL ADVICE

The health implications of eating deformed or cancerous fish are unknown. Any grossly diseased fish should probably be discarded. Levels of PCB, mirex and possibly other contaminants can be reduced by removing the skin and fatty portions along the back, sides and belly of smallmouth bass, brown trout, lake trout, coho salmon, and striped bass. A guide to this method can be obtained from any DEC office.

- **Marine Waters**—eat no striped bass taken from marine waters of western Long Island, which includes that portion of the island west of a line between Wading River and the terminus of Route 46 near Mastic Beach. Eat no more than one meal (one-half pound) per month of striped bass taken from eastern Long Island marine waters. Women of childbearing age, infants, and children under 15 should not eat striped bass taken from Long Island marine waters. A brochure is available providing additional information.
- **Snapping turtles** retain contaminants in their fat, liver, eggs and to a lesser extent in the muscle. If you choose to consume snapping turtles, carefully trimming away all fat and discarding the fat, liver and eggs prior to cooking the meat or preparing soup, or other dishes, will reduce exposure. Women of childbearing age and children under the age of 15 should avoid ingesting snapping turtles or any soup or stew made with snapping turtle meat.
- **Waterfowl**—it is recommended that you eat no mergansers. Other waterfowl should be skinned and all fat removed before cooking; the stuffing should be discarded after cooking (if prepared in that manner); limit eating to two meals per month.

• Changes from the 1984-85 Health Advisory

APPENDIX V

Source of contaminants to waters of New York in which fish exceed tolerance limits.

Contaminant	Water	Source
PCB	Hudson River	industrial discharge, sediment waste salvage industrial waste industrial waste ? ? ? ? ? ? ? industrial waste ? industrial discharge industrial discharge industrial discharge ?
	Canadice Lake	
	Nassau Lake/Valatie Kill	
	Hoosic River	
	Mohawk River	
	Lake Ontario	
	Sheldrake River	
	Lake Champlain	
	Buffalo River	
	Canandaigua Lake	
	Kinderhook Lake	
	Sawmill River	
	Marine waters	
	East River	
Harlem River		
Niagara River		
DDT	Canandaigua Lake	?
	Keuka Lake	?
	Fourth Lake	?
chlordane	Long Island waters	pesticide use
	Sheldrake River	pesticide use
dieldrin	Sheldrake River	pesticide use (?)
heptachlor epoxide	Sheldrake River	pesticide use (?)
TCDD	Cayuga Creek	industrial waste
	Lake Ontario/Niagara River	industrial waste
mercury	Indian Lake	?
	Onondaga Lake	chloralkali plant, waste disposal
	Schroon Lake	?
	Stillwater Reservoir	?
	Long Pond	?
cadmium	Hudson River	industrial discharge, sediments
lead	St. Lawrence River	industrial discharge
mirex	Lake Ontario	industrial discharge and waste

APPENDIX VI

Posting waters where contaminant levels in fish result in restrictive consumption advisories

I. Introduction

Each year the NYS Department of Health (DOH) issues a Health Advisory recommending that anglers limit consumption of fish taken from certain waters in the State. Currently there are three levels of advice regarding consumption of fish. At the first level, DOH recommends that no more than one meal (½ pound) per week of fish from any water of the state be eaten. This advisory pertains to all waters of the state where there is no more restrictive advice and regardless of whether monitoring data on contaminants in fish is available or not.

Two other categories of consumption advice are also recommended which are more restrictive. One recommends that no more than one meal per month be eaten and the other that no fish be eaten. In some waters these advisories are applied only to specific species, but in other waters the advisory is applied to all fish species. In addition, for waters with the restrictive advice, women, infants and children under the age of 15 are advised not to eat fish taken from these waters. Appendix IV contains the current version of the Health Advisory.

In April of each year, DEC Bureau of Environmental Protection staff and DOH staff meet to discuss new contaminant data in fish flesh and to modify the Health Advisory to reflect the new contaminant information. The timing of this meeting is designed to provide this information to the new issue of the NYS Fishing, Small Game Hunting, and Trapping Regulations Guide which is released in August. The meeting also coincides with the beginning of fishing season and provides an opportunity for a press release at that time to announce any changes in the Health Advisory and to remind anglers of the Advisory.

Currently, the public is made aware of the Health Advisory in a number of ways as spelled out in Section VII.B of this document. Other means of alerting the public to the Health Advisory have been discussed in the past including posting signs on waters with fishing closures or restrictive advisories. For reasons that will be discussed below, posting waters with restrictive advisories is not recommended.

II. Alternative policies

The following alternative policies make sense as potential options regarding posting of waters:

- A. Post all waters in the state.
- B. Post all waters closed to fishing or for which a restrictive advisory (no more than a meal per month or do not eat) exists.
- C. Post waters closed to fishing and those waters with a restrictive advisory where no fishing license is required or where significant numbers of anglers not requiring a license (less than age 16 or senior citizens) may be fishing.

N.B. Currently no fishing license is required to fish in the Hudson River south of the Troy Dam and marine waters including the Harlem and East Rivers.

- D. Post only waters closed to fishing.
- E. Do not post any waters.

III. Corollary elements and issues

If one of the posting options is chosen, a number of subsidiary issues would need to be addressed in the management of such a program.

- A. Alternative locations for posting

Signs could be posted at a number of different locations on appropriate waters:

- 1. Public access sites
(e.g. Public fishing rights, boat launching sites, public parking sites)
- 2. Privately-owned public access sites
(e.g. beaches with boat launching sites, fishing piers, charter boat berths, marinas)
- 3. Bait and tackle shops

Three logical policy options would include 1, or 1 and 2, or 1, 2 and 3 with increasing effort required for each of these three options. Posting of privately owned sites will probably require voluntary compliance by owners.

Posting could also be made at regular intervals along a shoreline or at all points of access, but this is not considered practical, particularly for large waters like Lake Ontario or the Hudson River.

B. Additional languages

Waters in the New York City area requiring posting would probably need to be posted in languages other than English in order to reach many of the public who are fishing. A Sea Grant study identified a number of Latin American anglers who did not speak English and also identified fair numbers of Chinese and Southeast Asian immigrants who did not read or speak English. The following languages would potentially be needed:

Spanish
Chinese
Vietnamese

C. Maintenance

Once erected, signs must be maintained. Some effort will be needed for periodic checking to ensure that signs have not been removed or defaced. Public access sites are not always policed adequately to identify problems, and keeping these signs up may be a significant problem. One might expect these problems to be worse in urban areas of the state. Experience of the Department with posting shellfish beds closed to shellfishing indicates that the maintenance problem can be significant. However, use of metal signs (currently not used on shellfish beds) may reduce vandalism.

D. Updating as appropriate

Advisories are updated annually. Few advisories on the waters change significantly from year to year; nonetheless, a system would be needed to ensure that changes in the Advisory are reflected by signs that are posted and that when Advisories are no longer appropriate, the signs are removed.

E. Cost to license holder

A posting program will incur costs which if managed by Fish and Wildlife staff will probably be paid for from the Conservation Fund. In most cases the contamination of fish is the consequence of industrial discharges, improper disposal of industrial chemicals, or pesticide use. When sportsmen and their organizations become aware that this expense is borne primarily by sportsmen licenses, one can assume that objections will be voiced. On the other hand other individuals and groups will feel that since the Advisory is primarily to protect the unsuspecting angler, it is quite appropriate that this activity be supported by the Conservation Fund.

F. Institutional responsibilities

The Health Advisory is promulgated by DOH. Many have argued that the publication of this Advisory should be the responsibility of DOH. Whenever technical issues arise about the Advisory, DEC staff have suggested that questioners contact the DOH for clarification and explanation.

DEC publishes the Health Advisory in the Guide as an appropriate warning to all anglers who receive a fishing license. This document is an efficient and effective vehicle for getting the message to licensed anglers in the State.

If DEC assumes responsibility for posting certain waters in the State, it must first consult with DOH regarding the choice of waters to be posted and the message on the signs.

IV. Discussion of alternative posting policies

The choice of an appropriate posting policy for the state should hinge on two primary issues: adequately informing the public about health advisories and correctly conveying the distinction between various health risks to the public.

A. Distinction between health risks to the public

DEC manages a shellfish sanitation program which includes posting of waters. This program involves monitoring waters throughout the marine district to determine whether the beds should be closed to shellfishing or not. This monitoring is exclusively on the basis of microbiological contamination of water with total and fecal coliform. If coliform levels are too high, DEC closes the beds to shellfishing and posts these waters to announce such a closure. Additionally, notice is provided to each licensed shellfish harvester. Monitoring is conducted approximately every fourth year except for select special circumstances. Waters may be reopened when coliform levels decline to acceptable levels. No similar monitoring effort is expended to ascertain the presence of chemical contaminants in shellfish, and no closures of shellfish beds are currently the consequence of chemical contamination.

The health risk associated with eating contaminated shellfish is different in kind from the health risks associated with consumption of fish containing elevated levels of chemical contaminants. The health risk from eating contaminated shellfish is acute. If the shellfish contains pathogens (disease-causing micro-organisms such as bacteria and viruses), an individual is at high risk of contracting the disease (e.g. gastroenteritis, hepatitis) within a short period of time. The health effects associated with consumption of fish containing elevated chemical contaminants such as those which are found in New York State

(e.g. DDT, PCB, mirex, chlordane) are chronic in nature. The adverse health affect would not be exhibited until some later time (on the order of years) after consumption of these fish. Routine consumption of these levels of chemical contaminants are probably required to produce the adverse health effects. In any event, the health risk assessment assumes that an individual is routinely consuming approximately one half pound per week of fish at or above the tolerance level of contaminantion.

Equally importantly, however, the health risks posed by fish contaminated with chemicals such as those found and discussed above is still a controversial subject. The nature and magnitude of the threat is suspected but not yet proven. On the other hand, microbiological contaminantion of shellfish is a well-known source of human illness, indeed even death. Clams and oysters can accumulate pathogens from the water in which they live. A single meal of a single contaminated shellfish could be fatal. A long history and now well-understood etiology links many human diseases with microbiological pathogens borne by water and accumulated by shellfish. Unfortunately, numerous humans have suffered the consequences of eating contaminated shellfish, in some cases fatally. To date, for the chemical contaminants which are being found in fish, only a suspected etiology exists between chemical contaminants at the levels that are currently being observed in fish and adverse health effects in humans.

This discussion should in no way be construed to suggest that health advisories should not be issued, merely that health advisories are a more appropriate response to the nature of the health risk associated with exposure to fish containing elevated chemical contaminants. This risk is different from that posed by contaminated shellfish, and the governmental response to these health risks should recognize the difference.

The policy option which most closely preserves this distinction is option D, to post only waters closed to fishing. If the proposed contaminant policy is finally adopted, waters which are closed to fishing would be those where chemical or other contamination of fish poses a health risk comparable to that exhibited by contaminated shellfish, i.e. a health risk considered by the DOH to be an emergency. To adopt any of the other posting alternatives would not retain this distinction in health risks.

B. Publics not currently being informed

Recreational anglers in New York can fish a number of marine and freshwaters without a fishing license, and a select group of individuals can fish in any water of the state without a license (i.e. individuals less than age 16 or senior

citizens). The current method of informing the public about health advisories may not be reaching individuals in these categories.

Policy C is designed to accommodate this situation. If it were implemented, the Department would post Belmont Lake (Suffolk County), Massapequa Reservoir (Nassau County), St. James Pond (Suffolk County), Sheldrake River (Westchester County), Spring Pond (Suffolk County), the Hudson River from Troy to New York City including the East River and the Harlem River, and potentially the Valatie Kill and Nassau Lake (Rensselaer County).

If one were to post a subset of these waters rather than all of them, presumably those which are potentially creating the greatest public health risk should be chosen first. On the basis of numbers of anglers and quantities of contamination being consumed, only the Hudson River would stand out as being potentially considered different from all of the others. Many more individuals fish the Hudson River than the other waters listed and anecdotal information suggests that some ethnic groups in New York City are eating the entire fish in a stew not just the filets.

The current proposal associates posting with closures and high public health threat. Advisories would not be posted and are used when the public health threat is less or less well-understood. To post advisories would no longer retain these distinctions. Once some waters that have advisories are posted, it is hard to justify not posting other waters for which there are health advisories. Regardless of what the message reads on the sign, the act of posting sends a message. The association of posting with both chemical contamination and microbiological contamination will make it more difficult to educate the public to the different public health risks involved. There is a potential danger that some individuals will believe that the public health risks associated with microbiological contamination of shellfish are exaggerated. Others will be unduly frightened about eating any fish caught in posted waters or possibly swimming or wading in the water.

If select groups of individuals are currently not being adequately informed, the distinction between health risks can still be retained without posting while at the same time providing the information to the public. A greater effort could be devoted to getting advisories in the hands of bait and tackle shops, to using community organizations more effectively, and to more effectively describing the issues in brochures and pamphlets that might receive wide distribution.

V. Recommendations

- A. Post only waters closed to fishing.
- B. Enhance public information about the existing Health Advisories.

EGH/rd
December 6, 1984

EXPRESS TERMS

Repeal 6 NYCRR 11.3 Onondaga Lake.