MEMO: PCB Contamination

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HISTORY

Polychlorinated Biphenyls (PCB's) are a group of synthetic compounds which are introduced into the environment through a number of different media, including spills, effluent discharges, incineration, or stack emissions. PCB's cause a number of acute and chronic health defects, some of which bring about liver damage, reproductive disorders, and skin lesions. They are regarded as a suspected carcinogen by the International Agency for Research on Cancer.

In production since 1929, about one billion tons of PCB's have been discharged into the environment since that time. Of this, only about 4% has degraded, leaving about 96% of all PCB's ever produced extant in various ecosystems.

PCB's are subject to a very high degree of bioaccumulation. Once they enter the food chain, they tend to remain. Therefore, in addition to being a health hazard in themselves, high levels of PCB's also serve as an indicator of other bioaccumulators. For example, if a high level of PCB's are found in an environment also known to be subject to DDT contamination, it is a safe bet that high levels of DDT will be found within the organisms tested also.

At the present time the EPA gives a bioaccumulation total of 5 ppm (parts per million) as the danger level for fish. What this means is that should a signifigant number of tested fish show a toxicity level above this, the EPA recommends that the waters around the tested site be closed for commercial and recreational fishing for the species tested. For example, New Jersey recently closed down fishing for Striped Bass in the Hudson river due to elevated levels

of PCB's found within that species.

New Jersey has also taken a number of other steps regarding its recreational fishing programs. These actions were prompted by a study which showed that 75% of the Hudson rivers finfish, and 25% of its shellfish were contaminated. The steps taken included:

1) Recommending that meals of catfish, bluefish, and American eels be limited to one per week.

2) Meeting with the FDA, the EPA, and other federal agencies to discuss the problem.

3) The previously mentioned closing of Striped Bass fishing.

4) The funding of further studies into the states fishery problems. These studies produced some rather disturbing findings. It was found that accepted chlordane levels were exceeded in all the waters where PCB levels were above the accepted limits. Most distressing of all was the finding of high Dioxin levels in the Passaic river. This substance is so toxic that two weeks ago the Passaic was closed to all fishing and crabbing.

New York also faces problems as great as those of its neighbor. Due to emissions from the General Electric plant in Fort Edward some of the fish tested in the New York part of the Hudson had PCB levels of 100 ppm. Since the current danger level is recognized as 5ppm., and there is a move afoot to bring that down to 2ppm., any fish with a toxicity level this high can be regarded, for all intents and purposes, as little more than swimming chemicals. As a result of these findings, New York closed many fisheries, and issued numerous warnings and advisories. They also forced G.E. to install filters which reduced PCB emissions from tens of pounds a day to approximately one gram per day.

In addition the State has petitioned the EPA for funds to dredge portions of the river bed. Though at first reluctant, Ruckelshaus has indicated a willingness to go through with the project in recent weeks. The combination of

all these measures has resulted in the signifigant betterment of conditions in New York.

These two states have problems much greater than those present in Massachusetts. We would do well to listen to their suggestions in order to avoid the problems they now face. Those suggestions require no money, or formation of new agencies, and they make a great deal of sense. In short, they are that:

1) Some Federal agency take the lead in dealing with the problem. Right now, three agencies have interests at stake, (EPA, FDA, and NMFS) but none of them will take a leadership role. As a result, the States very often must go to all three before they get any action. Designating one as supreme in dealing with this issue would save alot of time and wasted effort.

2) Standardize the method of testing fish. Right now there is no assurance that Massachusetts tests the same way New Jersey does. This makes it harder to share data between the States. This is especially troublesome when discussing migratory fish.

3) Standardize the danger levels within fish and the response to those levels. Presently the EPA recognizes 5ppm. as the danger level. New Jersey and New York want that to go down to 2ppm, and at the present time that is what they operate under. Massachusetts, for reasons to be discussed, does not really want to see that happen. In addition, while N.J. might only issue an advisory at 2ppm, N.Y. might impose controls or a ban. They both want standardized response. One proposal is that the EPA recommend that at 2ppm an advisory be put out, at 3 ppm, meals be limited to once a week, and above that level fishing be closed. Whatever is settled upon, all the states involved

would like to see a decision in this matter.

PCB's in MASSACHUSETTS

After analyzing the PCB problems in other states it is much easier to view the problem in Massachusetts. Simply put, we are in nowhere near the danger of the other two states.

The PCB contamination of Massachusetts is largely limited to New Bedford Harbor, In fact, nowhere else in the state does the PCB level exceed the 2 ppm limits held to by New York and New Jersey. However, within the harbor, bluefish have been caught with levels as high as 16.5 ppm. As a result of this high level, caused by the dumping of approximately half a million lbs. of PCB's into the harbor, the state applied for and received Superfund monies to aid in the cleanup.

Mass. state officials agree with most of the proposals put forth by N.Y. and N.J. The State is perfectly willing to standardize and share its data with the other two concerned parties, and any others who may express interest. The one proposal they have problems with is reducing the danger level to 2ppm. The reason given is sound. Massachusetts has a one hundred million dollar recreational fishing industry, forty million of which is supplied by bluefishing alone. If the state should ever have to close its shores to fishing, the results would be devastating. Massachusetts would much rather just issue a warning at 2ppm, and close down at 5.

The fishermans argument is quite persuasive. They point out that they did not cause this, that they are in fact a clean industry. Since Massachusetts does not now exceed 2ppm, steps should [redacted] be taken to insure that we never do. Before you crack down on the fisherman, they argue, you should go to the source and clean up industry.

A glimpse of just how devastating high PCB readings could be to

our state was provided last April. At that time the Globe printed an article claiming Mass. bluefish were contaminated with PCB's. Within a week Mass. state offices were inundated with over 100 calls a day asking if fishing was safe. And even more frightening was the fact that restaraunt sales of bluefish slumped to 25% of normal. In fact., the Globe report was untrue, and happily the panic subsided. However, in light of these events it became apparent how susceptible the fishing industry is to scares of this type.

Suggestions

In light of the data brought out at the October 31st meeting , I feel we should take the following steps.

1) Support the idea of the EPA taking a leadership role in this issue. They should accede to the State's requests for shared data, standardized testing methods, and closer monitoring. The EPA is best suited for this job because they a) provide Superfund money, and b)set the danger level.

2) Support strongly increased industrial pre-treatment. The results achieved by New York in the case of G.E. are the best argument for this.

3) Support keeping the 5ppm. level and use the 2ppm. level as the basis for advisories.

4) Make sure that the Superfund money earmarked for New Bedford gets there, and is used effectively.

5) Explore ways in which to insure low PCB levels in the future. Perhaps a Governor's council is in order here, more than any federal action.

It is crucial that Massachusetts remain in a preventive stage. At this time the State mean for all fish is 1.26 ppm. This level must at least be

maintained, and if possible brought down. Once you step over the 2ppm. line the problem becomes not just prevention but clean-up and containment as well. These operations are much more expensive, as New York and New Jersey have found out. That is why industrial pre-treatment and preventive research are so important. With such a program Massachusetts can avoid signifigant PCB problems in the years to come.