



March 17, 1984

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Mr. Gerry Sotolongo
U.S. EPA Region 1
JFK Federal Building
Boston, MA 02203

Dear Gerry:

I attended your public meeting in New Bedford and had a couple of comments to make.

After a slow start, you did a good job fielding questions that tend to stretch any definition of relevancy (e.g. Atlas Task). Regarding the slow start, is Elaine Kreuger still available for interaction? ^{with some planning.} Her presence was missed, perhaps in your contacts with Mass. DPH you can keep her involved.

In your search for other PCB disposal areas you should look at a landfill in Acushnet (not the town dump referred to at the meeting). I have heard anecdotal evidence that spoil from the I-195 causeway construction was dumped in an area that is connected hydraulically (by small stream) to the upper Acushnet River. I have marked this site on the enclosed map and if you wish to obtain further information you should contact:

Mr. Charles Peters
537 N. Main St.
Acushnet, MA 02743
(617) 995-6533

You are certainly under great pressure to "do something". I reiterate my concern that this project proceed with deliberation. The floc resuspended and lost during dredging will be highly contaminated, dewatering of dredged material will undoubtedly require a flocculation step, the disposal site will require long term security and monitoring and the effectiveness of the cleanup operation will need to be assessed. We need to know more about processes driving this system because the potential to do more harm than good is very real. This potential needs to be explained repeatedly so that deliberateness is not equated with inaction by the public. If you feel that you could use my assistance with this task, you may call me.

Mr. Gerry Sotolongo

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Also related to your public relations task is the brochure you referred to during the meeting. Diane Hoffman began to do this; will you use her effort? I have long been uncomfortable with comparisons made when low concentrations of contaminants were explained to the public (e.g. "a teaspoonful in a swimming pool", etc.). I have used an analogy of medication dosage and have enclosed a couple of calculations that you might consider incorporating.

Concerning research efforts needed to understand the processes driving this system, we have submitted a proposal to Sea Grant. I think that I sent you a draft copy of our proposal; the decision on funding will be made by the end of April. Work has continued into the winter on the collection of current data that will be used to model outer harbor circulation. I am currently putting all of our chemical data into technical report form and a technical report on Buzzards Bay circulation is being printed. As information becomes available I will send you copies.

Please be reminded that I would like to see the product of each RAMP work statement when available, even (perhaps, especially) in draft form. We remain interested and active in this environmental problem and the potential for remedial action.

Sincerely,



Bruce W. Tripp
Research Associate
Dept. of Chemistry
and
Coastal Research Center

BWT:pac
Enclosures

cc: J. W. Farrington
R. Tomczyk

Concentration of Environmental Contaminants: An Analogy

Why are ppm and ppb concentration levels important, after all "there's hardly any there and it even requires special techniques to find it"?

We add drugs to our body systems; minute amounts of complex chemicals when added to our personal "ecosystems" produce dramatic effects. Continuing this analogy, we don't always know the exact mechanism of drug action and cannot always predict side effects, much in the same way that contaminants dumped into one part of the environment can cause deleterious effects in far removed areas.

Is a ppm significant?

For example:

$$\begin{aligned} \text{Aspirin} - 2 \text{ tablets per average } 150 \text{ lb adult} &= \frac{650 \text{ mg}}{68 \text{ kg}} = 9.6 \text{ mg/kg} \\ &\approx 10 \text{ ppm} \end{aligned}$$

$$\begin{aligned} \text{Antibiotic} - \sim 250 \text{ mg dose, } 6 \text{ times/day} &= \frac{250 \text{ mg}}{68 \text{ kg}} = 3.7 \text{ mg/kg} \\ &\approx 4 \text{ ppm} \end{aligned}$$

Poisons - (e.g. arsenic, azide, H₂S, naphthalene)
< 0.01 ppm - 100 ppm TLV (inhalation)

Thus, < 1-10 ppm of "drug" in our own complex system can produce a significant, observable effect. The same concentration level of contaminant in a complex ecosystem can have an equally significant effect.

BKripp
12 Mar 84

