

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

IN THE MATTER OF:)	
)	
WATER QUALITY STANDARDS AND)	
EFFLUENT LIMITATIONS FOR THE)	R08-9
CHICAGO AREA WATERWAY SYSTEM)	(Rulemaking – Water)
AND THE LOWER DES PLAINES RIVER:)	
PROPOSED AMENDMENTS TO 35 III.)	Subdocket B
Adm. Code Parts 301, 302, 303 and 304)	

NOTICE OF FILING

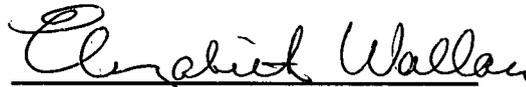
TO: See Attached Service List

PLEASE TAKE NOTICE that on the 4th day of October, 2010, I filed with the Office of the Clerk of the Illinois Pollution Control Board the attached Prefiled Questions of the People of the State of Illinois to Samuel Dorevitch and Thomas Granato, a copy of which is hereby served upon you.

Respectfully submitted,

LISA MADIGAN,
Attorney General of the
State of Illinois

By:



Elizabeth Wallace
Supervising Attorney

Andrew Armstrong
Assistant Attorney General

Environmental Division
Office of the Illinois Attorney General
69 West Washington Street, Suite 1800
Chicago, Illinois 60602
(312) 814-5396

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PREFILED QUESTIONS OF
THE PEOPLE OF THE STATE OF ILLINOIS
TO SAMUEL DOREVITCH AND THOMAS GRANATO

The People of the State of Illinois hereby files questions to Samuel Dorevitch:

1. Do you believe that human exposure to pathogens in water can cause gastrointestinal illness within exposed individuals? If so, what scientific literature supports this belief?

2. Do you believe that, in general, increased exposure to pathogens in water increases one's risk of developing gastrointestinal illness? If so, what scientific literature supports this belief?

3. The CHEERS Final Report indicates that levels of bacteria and parasites that cause disease "were much higher at CAWS locations than at other waters" (p. i). In addition, the concentrations of indicator viruses "were about 10 to 100 times higher at CAWS locations than at general use waters [GUW] locations" (p. xxvi). These differences were found to be statistically significant. However, on page V-8, the report states "if the magnitude of water exposure were the same in CAWS and G UW, there would be no statistical evidence that the incidence of AGI [acute gastrointestinal illness] differs between CAWS and G UW recreators."

a. Do these results imply that recreators ingesting equal amounts of water from the CAWS and G UW would have equal risk of developing AGI, despite the fact that there are higher levels of pathogens in the CAWS?

b. If so, how do you explain this finding?

4. The CAWS-North area was found to have the highest levels of pathogens but the lowest rates of illness. How do you explain this finding?

5. The CHEERS Final Report found that "[t]he youngest (age 0-10) and oldest (age 65 and over) participants "have a statistically significant lower odds of AGI than the age 11-64 year old participants" (p. V-12). Do you believe that children and

senior citizens are less likely to become ill from recreating on the CAWS than individuals in other age groups?

6. The CHEERS study used self-reported information about participants' exposures, activities and illness/symptoms.

a. Is validation of self-reported information important for epidemiological research?

b. Did you attempt to validate the survey questions related to water exposure and ingestion?

c. Did you attempt to validate participants' self-reported illness/symptoms (e.g., through medical records or a medical exam)?

7. The CHEERS survey asked participants "On a scale of 0 to 10 where 0 is not at all risky and 10 is very risky, can you tell me how much of a health risk you think it is to do water sports on the Chicago River?" (p. II-18).

a. Did you ask GUV recreators their perception of the health risks of recreating in the GUV waters?

b. If not, why not?

c. Would this information be useful for assessing the potential for increased water exposures or recall bias among the GUV group?

8. The CHEERS Final Report does not appear to indicate that the study asked participants whether they washed their hands and/or bodies following recreation on the CAWS or GUV.

a. Did you ask participants whether they washed their hands and/or bodies following recreation on the CAWS or GUV?

b. Do you have any information to discern whether either group of recreators was more fastidious than the other about washing following exposure to the water?

9. The CHEERS survey asked participants a series of questions about their exposure to water during recreation.

a. Among respondents who indicated that they swallowed more than a teaspoon of water during recreation, do the data from the CHEERS study enable you to determine if either group of recreators swallowed more water on average than their counterparts?

b. Do the data from the CHEERS study enable you to determine if either group of recreators spent a greater amount of time submerged or immersed in water than their counterparts?

10. Is it possible that long time windows between symptom onset and sample collection (i.e., in one-third of the cases, the interval was more than 10 days) could affect the ability to detect pathogens? If so, for which pathogens do you believe the ability to detect could have been affected?

11. In response to a comment from the peer review of the CHEERS study stating that “[t]he stool results are at best inconclusive...[d]ue to non-compliance, differences in compliance across groups, days between illness and stool collection, low recovery rates and failure to sample asymptomatic people,” you indicate that you removed mention of these results from the study abstract (Appendix D, page D-3); however, you go on to say that you still discuss these results elsewhere in the report. Are the findings of the stool analyses in the CHEERS Final Report accurate and reliable?

12. The AGI analysis only includes illnesses that occurred within the first three days after recreation (Section 5.02). However, the survival curve analysis appears to suggest a time window of six days. Additionally, many of the studies for specific pathogens cited in Table V-4 report incubation periods longer than three days.

a. Why was a time window of three days selected for the analysis?

b. Why did the sensitivity analysis for time window (Table V-45) only include models for five days or less?

c. Was a similar sensitivity analysis performed for longer time windows?

13. Motor boating was found to be associated with one of the highest risks of AGI across both waterways, compared with other recreational activities (p. V-11; Table V-38). How do you explain this result?

14. The proportion of people engaged in motor boating on the CAWS that were recruited for the study are about half as high as the proportion observed on the CAWS (Table III-21). However, motor boaters were found to have one of the highest risks of AGI, compared with other recreational activities (p. V-11; Table V-38). If these findings are accurate, is it possible that the underrepresentation of motor boaters in the study could lead to underestimation of risk from recreating on the CAWS compared with GUW?

15. In the analysis of AGI, the CHEERS Final Report indicates that use of the body of water 5-10 days in the past year was associated with higher risk than 0-4 days. However, recreating more than 10 days was not statistically significantly different than use of 0-4 days (p. V-12). How do you explain this result?

16. You did not include any effect modifiers in your model because you conclude they are not statistically significant.

a. Do you believe your study design has sufficient statistical power to detect risk differences among subgroups of your study population?

b. One peer reviewer indicated that heterogeneity tests “have low statistical power and some authors advocate $p < 0.2$ to describe heterogeneity” (Appendix D-10). Did you consider relaxing your criteria for inclusion of effect modifiers in the final statistical models?

17. You indicated in your June 29, 2010 testimony that the final report would indicate the proportion of the study participants who enrolled in CHEERS only once versus those that enrolled repeatedly (pp. 41-42).

a. Did you assess differential risks to these repeat participants?

b. If so, could you indicate where this information is reported?

18. You indicated in your June 29, 2010 testimony that, within the time window of interest, “we can look at whether people who did or did not reuse the water since we spoke to them last have a different health risk than others” (pp. 43-44). Did you perform this type of analysis? If so, could you indicate where this information is reported?

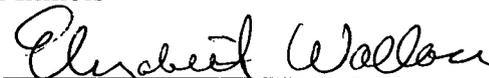
19. You indicated in your June 29, 2010 testimony that “definitely there were people who had symptoms but didn’t meet criteria for acute gastrointestinal [illness] and who provided stool samples” (p. 53). Additionally, when asked by Mr. Andes if you would look at samples from those people versus the people who had acute symptoms, you responded “yes.” (*Id.*) Have you performed this analysis? If so, could you indicate where this information is reported?

The People of the State of Illinois hereby file a question to Thomas Granato:

1. Please describe your educational and professional experiences relating to the field of epidemiology.

LISA MADIGAN,
Attorney General of the
State of Illinois

By:



ELIZABETH WALLACE

Supervising Attorney

Environmental Bureau

Office of Illinois Attorney General

69 West Washington Street, Suite 1800

Chicago, Illinois 60602

(312) 814-5396

DATE: October 4, 2010

CERTIFICATE OF SERVICE

I, ANDREW ARMSTRONG, do certify that I filed electronically with the Office of the Clerk of the Illinois Pollution Control Board the foregoing Notice of Filing and Prefiled Questions of the People of the State of Illinois to Samuel Dorevitch and Thomas Granato and caused them to be served this 4th day of October, 2010 upon the persons listed on the attached Service List by depositing true and correct copies of same in an envelope, first class postage prepaid, with the United States Postal Service at 69 West Washington Street, Chicago, Illinois, unless otherwise noted on the Service List.



ANDREW ARMSTRONG