JOINT ENVIRONMENT / LAND ACQUISITION
AND
HEALTH COMMITTEE

Minutes

A meeting of the Joint Environment / Land Acquisition and Health Committee of the Suffolk County Legislature was held at the William H. Rogers Legislature Building, 725 Veterans Memorial Highway, Smithtown, NY 11787 on Wednesday, March 27, 2002 in the Rose Y. Caracappa Auditorium at 1:00 P.M.

Present Members
Legislator David Bishop, Chairman, Environment, Land Acquisition
Legislator Brian Foley, Chairman, Health
Legislator Michael Caracciolo, Vice Chairman
Legislator Ginny Fields, Member, Vice Chairman
Legislator Andrew Crecca, Member

Absent Member:
Legislator Jon Cooper, Member
Legislator Angie Carpenter, Member (Excused)
Legislator Maxine Postal, Member

Also in Attendance:
Paul Sabatino, Counsel to the Legislature
Martin Trent, Suffolk County Dept of Health Services/ Groundwater
Andrew Rapiejko, Suffolk County Dept of Health Services/ Groundwater
Bill Faulk, County Executive's Office
Linda Wilson, KeySpan
Chris Herr, Aide to Legislator David Bishop
Wayne Prospect, Self
Bruce Brownawell, Environmental Chemist
Leonard Greco, Suffolk Life
Bob DeLoia, Group for the South Fork
Steve Jones, Suffolk County Water Authority
Chris O'Connor, LINN
Michael Stevenson, Suffolk County Water Authority
Karen Randazzo, Suffolk County Water Authority Lab Director
Paul Ponturo, Suffolk County Dept of Health/ Water Resources
Vito Minei, Suffolk County Dept of Health Services
Amy Juchatz, Suffolk County Dept. of Health Services
Debra O'Kane, North Fork Environmental Council
George Proios, Chairman of Suffolk County Soil & Water District
George Guldi, Legislator District #2

Eben Brofman, Aide to Legislator Guldi
Jim Dobkowski, Aide to Presiding Officer Tonna
Mary Ann Murtaugh, Citizen
All other interested parties.

Minutes taken by:
Eileen Schmidt, Legislative Secretary

(The meeting was called to order at 11: A. M.)

CHAIRMAN BISHOP:
Good afternoon. This is the Special Meeting of the Environment Land/Acquisition Planning Committee and the Health Committee of the Suffolk County Legislature. Please rise for the Pledge of Allegiance to be led by Legislator Fields.

SALUTATION

CHAIRMAN BISHOP:
Good afternoon. The New York State Pesticide Reporting Law of 1996 mandates that the State Department of Environmental Conservation carry out a monitoring program to assess the health and environmental impacts of pesticide contamination in New York State.

Since 1997, the State DEC has contracted with the Suffolk County Health Department to sample private and public drinking water wells in high pesticide use areas. For the past four years, the DEC has given the Health Department $700,000 to implement the monitoring program.

Water analyses for the project is being conducted by the Department's Public and Environmental Health Laboratory, which has steadily increased its analytical capabilities and can now examine each water sample for 113 pesticide-related chemicals.

It is important to note that pesticide breakdown in water into other pesticide compounds called metabolites, or degradates. In many instances, the degradate compounds are just as toxic as their parent pesticides. However, there are no established contamination limits for the degradates even though their presence in our groundwater supply will far out last the parent pesticide from which they came from.

As a result of the water-testing program, the Health Department has concluded:

"Pesticide degradate compounds are now at least as great as a concern as many of the parent pesticide compounds. The new data suggests that these pesticide degradates may occur significantly more often in groundwater than the parent compounds. Therefore, the actual percentage of wells with detectable traces of pesticide related compounds in high pesticide use areas may be greater than previously reported."

This is the reason for today's special joint hearing of the Environment and Health Committees. Pesticide degradates pose a new environmental and public threat.

Protecting the public's health and welfare is a primary responsibility of County government. The Suffolk Legislature will work with the Health Department and the Water Authority to address this issue and explore all options to assist the people living in the affected areas.

I would like to take this opportunity to commend the Suffolk County Health Department for their dedication in implementing the pesticide monitoring program. Chairman Foley do you have anything you want to say before we begin or any other members?

CHAIRMAN FOLEY:
Well, I'd like to thank the Chair of the Environment Land Use Committee for jointly sponsoring this particular committee meeting. As was mentioned this is a special meeting; the reason for the special meeting will soon be self-evident once the testimony is given by those who've been asked to present evidence today. There will be a number of searching questions, but the record should reflect that today is really on the beginning Mr. Chairman and that subsequent meetings will be held, public hearings will be held. We will -- I'm fully expected that towards the end of May we'll be holding a public hearing and meeting in the eastern portion of Suffolk County closer to the area in question so that a number of individuals and groups who are unable to attend today will have their fair chance to speak and to illuminate to the pubic record about this very issue. I and other member of the committee look at today's meeting as the building blocks, if you will, the foundation upon which the future public hearings will be held so that we can create a public record, create the public momentum that's required to fully address this issue. There are a number of very

troublesome results stemming from this study and I'm sure that as today unfolds we will be asking the right questions, seeking the right answers to issue that so far have eluded our ability to find answers. And at the same time we're going to have to seek and find out why other levels of government, other agencies have been sitting on information that should have been public -- publicly -- public knowledge well before today. So with that said I look forward to today's meeting and subsequent meetings that will be held on the issue.

CHAIRMAN BISHOP:
Legislator Caracciolo.

LEGISLATOR CARACCIOLO:
Thank you, Mr. Chairman. Let me just quickly echo the remarks made by yourself and Legislator Foley and point out that really the purpose I believe of today's presentation is to underscore the need for action, action by County, State and Federal agencies to deal with a growing concern about what it is that goes into the ground and how it winds up in our water supply both public and private. Legislator Guldi and I looked at this map of the bi-county region it becomes very clear that predominately on the East End the five east end towns and eastern Brookhaven they're many, many residents who depend on private water wells for there portable water. That said the same individuals have to be apprised of potential health risk that may be associated with lawn care products and other pesticide applications that are made on their property because inadvertently or directly there could be a correlation between certain types of disease and other illnesses that may be associated with the application of such products. So as both you and Legislator Foley pointed out today is a beginning. I look forward to working with the members of this joint committee and hopefully finding solutions and possibly legislative remedies to deal with this growing concern.

CHAIRMAN BISHOP:
Thank you. Another other members wish to make a statement before we begin? All right. We have three invited entities; they are the Suffolk County Health Department, the Suffolk County Water Authority, and SUNY Stony Brook's Long Island Groundwater Research Institute. Also a number of community organizations which have for a long time brought this issue to the forefront of public attention that wish to speak as well. I think the best way to arrange this hearing today would be to begin with the Health Department then go to the Water Authority then the Long Island Groundwater Research Institute and conclude with the community organizations as they would probably want to hear what was said before they commented. Is that agreeable? Okay. Then that's how we'll do it. Very good. Martin Trent is the Supervisor of the Bureau of Groundwater Resources for the Suffolk County Health Department and he has a presentation that I think we all going to find very illuminating.

MR. TRENT:
Thanks. As you said I'm Martin Trent from the Department of Health Services. I'm Supervisor of the Bureau of Groundwater Resources. I thank you Mr. Bishop and Mr. Foley for inviting us to speak to you today. I'll try to condense I'm sorry about four years worth of work down into about 15 minutes or so if I can.

CHAIRMAN BISHOP:
(inaudible)

MR. TRENT: (with a slide presentation)
I hope to. We've been working on a program with the New York State Department of Environmental Conservation since 1997 to monitor pesticides in groundwater. The objective was to find which areas were impacted by pesticides; we targeted areas that we thought may be heavily impacted and it was not a random sampling program, but I think we did obtain pretty good geographic distribution. If you look at the map, is that the next slide? Okay. This is just the -- we have collected through March of 2001 over 4,000 samples in both counties with emphasis in Suffolk of course. Actually, at this point we're well over 5,000 because the monitoring program continues. We've been able to increase the analytical capability through our laboratory starting with about 60 or 70 pesticide compounds and we can now examine each water sample for up to 113 pesticide related compounds.

The map indicates the geographic distribution of wells that were sampled during the program as you can see in Nassau County the blue dots indicate largely monitoring well locations; we're working with Nassau County Department of Public Works. In western Suffolk County we have many public water supply wells that have been sampled with a smattering of private wells and as you head into eastern Suffolk County the yellow dots indicate private well that have been sampled by the program. This is the list of ten analytical methodologies that are utilized to look for those 113 compounds. When a sanitarian goes out in the field he's not going out with a quart jar and taking a sample. There are about 15 actual containers that are treated, sterilized depending on the type of analysis that we're doing and we have a very active research and development section in our own laboratory who has actually developed many of these pesticident methodologies including carbamate pesticides for dactyl metabolites for perchlorate and just more recently for the herbicide metabolites.

To-date over the four years we have found 52 pesticides or pesticide related compounds in groundwater samples that we've analyzed 13 of the compounds have exceeded the drinking water or maximum contaminant levels and surprisingly to us 30% of the wells that were tested given that geographic distribution did contain at least some detection of pesticide not exceeding standards, but traces.

Showing the pesticides that have been found exceeding drinking waters standards I think the important thing you see on this slide is that most of the ingredients have been banned. Some of them for 20 years such as aldicarb; some of them have been banned only more recently like alachlor and metolachlor, but those compounds were in regular use for the past 20 years and it's the metabolites are those compounds that are persisting in groundwater and that we're finding now.

This 33 of the pesticides that have been banned these are trade names since the inception of the program that are no longer allowed to be used on Long Island.

Moving up to more recently in the past year as the monitoring program is continued we've instituted that new analysis for metabolite compounds. We sampled something over 800 wells last year and about 50% of them have traces of pesticide compounds were found. Most of these wells were in the five eastern towns of Suffolk, but we do also detect some contamination in Nassau and western Suffolk. The surprising thing about the newer results because of the new analysis we have found that 30 or 323 or 38% of the wells contained more than one detection of pesticide compounds and 15% of the wells contained five or more compounds.

During the same period we tested 226 community water supply wells; we're well on our way to sampling every community supply well in Suffolk County. A lower percentage of wells are impacted and naturally the concentrations are also lower. Four of the wells that did exceed standards are for older chemicals and they do have granular activated carbon treatment that effectively remove all trace of that compound before it's put into the distribution system.

Again, looking at the recent sampling this is our top ten; the most frequently detected compounds. A couple of important things here out of all these compounds the only one that's still allowed to be use is metalaxyl everything else has been ban. The other thing that you see is that only one has an actually drinking water standard and that's out of the 10 compounds that we most frequently detect. Most of these compounds are using the 50 part per billion guideline or standard set for unspecified organic contaminants with the except of aldicarb which even though we've been finding it for 20 years we're still using that 7 parts per billion guideline because when EPA had published an MCL they were partitioned by pesticide manufacturer and that was withdrawn so we're still using 7 parts on that compound. Again, only seven of those compounds are using the 50 part per billion standard and because of multiple pesticide detections there is a provision in the Sanitary Code where you have detections of more than one organic compound that the standard for the total is 100 parts per billion. It's not unusual for us in our sampling program to test a private well and find 5, 6 or 7 different pesticides in that single drinking water well with maybe a total of 5, 10 or 20 parts per billion with no single constituent exceeding drinking water standards. So at that point the only thing we can do is to advise those residents of what's in their water

and what they may want to do about it, but they're not eligible for carbon filtration or public water on their programs that exist for some of the pesticide compounds because no single compound exceeds the standard. The -- for example for many years if you take the example of aldicarb, if you exceeded 7 parts per billion the manufacturer would provide you will a carbon filter or if public water was available they would provide funding to help you to connect. With Monsanto's product alachlor we have a similar program; if you exceed the drinking water standard of 2 parts per billion they'll provide you carbon filter or if public water is available to help you to connect. But if you have four parts of aldicarb and one part of alachlor and three parts of metolachlor no standards are exceeded and you're left on to your own devices.

As I said some of these compounds have been used very widely for the last two decades and we've only started to analyze for the breakdown products within the last two years. The metabolite compounds are most often detected in higher concentrations than the parent compounds and sometimes the parent compounds are not detected at all just the metabolites. And so one of the things that we see is that it is likely although we don't have the analysis to show it because these compounds were in heavy use for 20 years it's the probability is great that those metabolites have been in the groundwater and in drinking water wells without us having the ability to detect them.

Just a brief little lesson on this, I'm sure you've seen it before. Why do we find some chemical compounds and not others; it has to do with the chemical properties of the active ingredient Long Island's hydrogeology and the amounts of pesticides that are applied. The factors that affect leaching potential I think what we found one of the most important one's is the ability of the chemical to absorb to soil if it doesn't breakdown initially into less harmful products and doesn't absorb to the soil eventually we can find that compound or its metabolites in the groundwater.

We done some projects looking at specific types of agriculture and other land uses and I'll just go briefly over some of those finding. Vineyard monitoring, we've installed a group of monitoring wells at six East End vineyards. We're finding very low concentrations of pesticides and herbicides in those wells and associated with the vineyards because they have lower fertilization rates we also find lower concentrations of nitrate in those wells. We have a very active golf course monitoring program which is expanding all time and similarly we're finding contaminants only in about 23% of those monitoring wells that have been specifically located at these sites and nitrate concentrations in this case have been surprisingly low. As we have seen in private wells we installed monitoring wells downgradient for agricultural fields and as expected these wells were the most highly effective with the highest pesticide concentrations and also the highest nitrate concentrations.

We've taken a look at a couple of lawn care and landscaping industries to look to see if act as specific point sources and in case where we have put monitoring wells downgradient of them we have found in a couple of instances that they do indeed impact the groundwater either through sloppy housekeeping or just possibly (inaudible) from their own tanks. We have referred these instances to the Department of Environmental Conservation for enforcement action if needed at Stony Brook and this program is ongoing. We're sought of collecting data at random where we have monitoring ability downgradient at some of these locations.

Again, as I said, some of the merging issues here the biggest problems that we see is that there are multiple pesticide compounds detected in the wells. Many of the wells there is co-occurrence of similar type of compounds and that these compounds lack specific drinking water standards.

Another issue that's opening up a whole new avenue of research is the detection of these compounds in groundwater in stream flow and now we've been able to detect these metabolite compounds in groundwater underflow to the Peconic Estuary. There have been studies issued by the EPA on these that show that are severe effects from herbicide compounds to green algae. At this point we have no information that would connect them to the occurrence of Brown Tide, but it's very coincidental that the use of these compounds and the appearance of Brown Tide coincided.

Another issue that's emerging as we do expand our analyses is the issue of perchlorate. It's a contaminant in certain fertilizers and in some herbicides. This is another new analysis that was instituted just in the last few years; not every well is being sampled for it yet because we don't have enough analytical capability, but because it has a low drinking water guideline and chances are the standard is going to be established at an even lower level that this is going to be a bigger problem for us in the future. And coming up next we're still working with DEC; we've extending our monitoring contract with them for another year. We're working a work plan with them that has been submitted; there's a meeting next week, hopefully, we'll iron out our differences. We continue to expand and want to expand our analytical capabilities to look for new pesticides. We're working with Cornell Cooperative Extension on many of these issues so that they can advise the growers that if, you know, pesticide (A) and pesticide (B) is available to them for a certain insect problem if pesticide (A) leaches to use pesticide (B) so that they have an education program ongoing with that. Again, the MCI's are needed for these degradates and for what combinations of compounds and finally we have a big need to continue testing the private wells in those areas that are most vulnerable. Thanks.

CHAIRMAN BISHOP:
Mr. Trent, the most troubling aspect of what you presented is that many of the compounds that you're discovering in Long Island's drinking water supply particularly in the private wells there are no standards for. How many compounds are there in our wells that come from parent pesticides for which there are no standards?

MR. TRENT:
To sum it up to date, since the monitoring program began we've detected 52 different pesticide related compounds, but of those 52 only 15 compounds have actually standards. The rest rely generally on that 52 part per billion generic standard.

CHAIRMAN BISHOP:
Do you think that that's an adequate protection for the public health?

MR. TRENT:
We would like to see standards set for those most frequently detected metabolites because we as a local health department simply don't know. So we have asked the powers in the State Health Department and EPA for guidance on these issues and we're waiting to hear.

CHAIRMAN BISHOP:
As a scientist what do you know about the nature of the metabolites that you're discovering? Do you believe them to be as dangerous or as the pesticides from which they came? Do you have an opinion on that yet or --

MR. TRENT:
It's very compound specific. Some of the metabolites are known to be less toxic than the parent compounds, but other according to literature that EPA has published for example metabolites of alachlor are thought to be as toxic as the parent compound.

CHAIRMAN BISHOP:
I have other questions, but I don't want to monopolize the time. Legislator Fields.

LEGISLATOR FIELDS:
One of the statements that you made was that in these analyses you had detected compounds that were ban up to 20 years ago. How long before they actually breakdown or they're dissipated so that we don't see any trace of them or they're not in existence any longer?

MR. TRENT:
That's a good question. The compounds that we find are very, very persistent in groundwater and we have done some studies in the past that indicate that there maybe groundwater contaminants for 50 or a 100 years before they actually flushed from the

aquifer system because they're breaking down so slowly.

LEGISLATOR FIELDS:
So if we're detecting these 20 years from agents that were ban 20 years ago and we're -- we tend to ban more and more as years go by the cumulative effect of this has to be something that's we're looking at I guess that's dangerous. But in addition to that not only is it affecting the groundwater, but is it not leaching out and affecting the waterways and could you say that this might be the cause for Brown Tide or the decrease in clams or scallops or oysters in the Great South Bay?

MR. TRENT:
We haven't done work as yet with the pesticide metabolites in the Great South Bay, but we have found them in the Peconic Estuary and based upon the literature it would appear that there are certainly are going to be affects.

LEGISLATOR FIELDS:
And to the fisheries also I would assume not just the crustaceans or --

MR. TRENT:
That's a little bit out of my field, but if you change the ecology of the bay by changing the amount and types of phytoplanktons and eel grass beds and so on then that not only changes it for shell fish, but it could also effect fish, but --

LEGISLATOR FIELDS:
Thank you.

CHAIRMAN FOLEY:
Thank you, Mr. Trent for the presentation which raises a whole host of questions some of which we'll try to get some answers today, but as I said this is going to be an unfolding public discussion about pesticide contamination in various areas of our lands in our bay systems. You mentioned earlier that they're a number of private wells that still remain to be tested. How many remain to be tested? What is the cost per well and how much would be required to do a comprehensive testing for all the other wells that to this point have not yet been tested?

MR. TRENT:
Well, in Suffolk County in total there's still probably remain 50 to 60,000 individual private wells. Those that we have focused on are those in the East End in the agricultural areas because our studies have shown that those are the most impacted. We've estimated there could be as many as 5,000 wells that need to be tested.

CHAIRMAN FOLEY:
And how many have been tested so far?

MR. TRENT:
Well, since we've instituted the new metabolite analysis probably 1,000 to 1500.

CHAIRMAN FOLEY:
Okay. So the remaining number of wells which the great majority in other words have not yet been tested what kind of budgetary figure would be required to test the remaining wells?

MR. TRENT:
Well, additional personnel, of course, would be needed not only to collect the samples, but in the laboratory to perform those analyses; there maybe equipment requirements also. It wouldn't be a tremendous amount of positions, but you know it would be part of the --

CHAIRMAN FOLEY:
But I think what we need to hear if not today, but soon hereafter is what kind of, let's say, budgetary framework would be required to do the rest of the wells. Because I think if in fact we're going to move forward with additional testing as you say the -- your contract with the

DEC will be hopefully extended another year and I think part and parcel those contractual negotiations should be what are required by your division both personnel and dollars wise in order to fulfill the mission that you've been set upon for the last couple of years. Can you give us a ballpark today as to what -- what's the cost per test?

MR. TRENT:
We're being reimbursed $250 per sample.

CHAIRMAN FOLEY:
From the DEC?

MR. TRENT:
From the DEC.

CHAIRMAN FOLEY:
That's the terms of the contract, correct?

MR. TRENT:
That's the terms of the contract.

CHAIRMAN FOLEY:
And that will continue to be the terms or -- is that area going to change with the extension of the contract?

MR. TRENT:
It could change I suspect DEC would probably resist that and so --

CHAIRMAN FOLEY:
Well, it will do what now?

MR. TRENT:
It would resist an increase in the cost per sample.

CHAIRMAN FOLEY:
So if it's 250 and we will have roughly 3500 or so wells left to be tested, how are those wells considered within this contract extension? Do you see getting to those wells within the next year? Do you see that they'll need to be another extension beyond that? If it needs to be an extension beyond the next year what are the budgetary responsibilities if you will of the contractor in this case the DEC cause that unfolds with other questions. Have they requested the kinds of money from the Governor, from the State Legislature in order to fully carryout the mission of this contract?

MR. TRENT:
Actually, they have not. What is happening is the DEC feels that they have enough data from private well collections to determine that they are impacted and is no longer funding the private well sampling program.

CHAIRMAN FOLEY:
Is it your professional belief that testing should continue and should not end at this point for private wells?

MR. TRENT:
Absolutely, should continue and the department is continuing to do that although not at the rate we would like to be going.

CHAIRMAN FOLEY:
All right and has that been expressed to State officials that you'd like to see this extended?

MR. TRENT:
Yes, it has.

CHAIRMAN FOLEY:
And what was the response from them again?

MR. TRENT:
That they no longer wish to fund that portion of the program.

CHAIRMAN FOLEY:
Mr. Chairman, I think that just again the purpose of today's meeting and it's already -- has already given us pause for concern that we need as a committee and as individual members to speak with our State counterparts and with the State DEC to ask them why in fact over the I would say probably the objections of the County Health Department that the State will not or does not see the need for anymore private testing of private wells and I think again that's something that we need as a committee to ask the State and see if we can have them change their minds in this particular area cause -- I mean, just within the first half-hour of this testimony we already have found at least one area of great concern. And I think we need to immediately speak with the State to see why they are discontinuing this very important part of this practice of trying to gauge the extent of contaminants in private wells. It really troubles me greatly that they will not extend this portion of the contract with the Health Department. I have some other questions Mr. Chairman, but I'll wait till another part of the meeting.

CHAIRMAN BISHOP:
Legislator Caracciolo.

LEGISLATOR CARACCIOLO:
Thank you. Mr. Trent, what is the ultimate goal of the State pesticide report in law, in other words, there's a monitoring component, which we're presently involved in. How many years will that take and then what is hoped to be gained, obviously, you have some preliminary data that's very alarming in some cases? At what point, do authorities step in and say, we have to perhaps pass legislation regulations to limit what is discharged into Long Island's sole source water aquifer?

MR. TRENT:
That is one of the aims of the program to access the environmental fate of some of these chemicals and as you saw the chemicals that were recently ban in '99 and 2000 were directly as a result of our monitoring and detecting them in local ground waters. More recently DEC has and EPA have looked at up front the leaching capabilities of many of these chemicals before they're registered so that we don't find out about them after the fact or ask them to go into joint monitoring programs with the County.

LEGISLATOR CARACCIOLO:
Are there cumulative adverse health effects possible as a result of what we now know as being discharged into the aquifer?

MR. TRENT:
I'm not qualified to answer that, but certainly we have that concern.

LEGISLATOR CARACCIOLO:
At what point do we address the concern in terms of prohibit limiting or eliminating point sources of pesticide into the bays, the waterways and ground water particularly the concern I think we all have is the portable water systems. Clearly, a large entity like the Water Authority had the ability through its ratepayer base to build infiltration systems to deal with that. Individual homeowners maybe even small businesses that have their own portable supply do not. They may not even be aware of the dangers associated with what they're presently drinking. So at what point should there be intervention and should there be public funds available much as we saw take place as a result of the tridium leak at Brookhaven National Lab where it required enormous amounts of Federal assistance to deal with the

homes now gradient of BNL when that problem was uncovered.

MR. TRENT:
I think we're all ready passed that point because if you go back to our annual report in 1999 we recommended that many of these actions be taken; that reliance on private wells be limited in areas where pesticide impacts are known to occur that public water be extended to them. The department is on record as advising for these types of actions.

LEGISLATOR CARACCIOLO:
Now was that notice provided to individual homeowners and property owners? In other words, there was a report and we've seen that published in the newspaper, but have the individuals involved been notified that their wells may contain contamination from pesticide use over long periods of time and that they may still be contributing to vis a vis their own lawn products.

MR. TRENT:
Only those individuals where we have tested the well. Each of those would be advised of what if anything is in there and what actions they should follow to try and correct the situation if needed. If we haven't sampled the well those individuals may not be aware.

CHAIRMAN FOLEY:
All the more reason why there needs to be a more comprehensive testing.

LEGISLATOR CARACCIOLO:
Clearly, the expansion needs to be included here and the funding to do that, but what actions are recommended when you give notice to an individual property owner that you found these contaminants in their portable water supply? What advice do you give them?

MR. TRENT:
The first recommendation we have always made is that they connect to the water supply if it's available. In the more rural communities on the East End that's not always possible and in fact there are areas that are simply not served by the public water companies because the population densities don't warrant it. Lacking that in some cases individuals can deepen their wells; this would be at their own expense, but in many other cases that's not possible because of the thinness of the fresh water aquifer on the East End and then filtration would be the third result to remove the contaminants. Of course, the people would have the option of using bottle water on a continuing basis to that would be a normal recommendation initially when we first find contamination, but that's not a long term solution.

LEGISLATOR CARACCIOLO:
Is it a goal of the study to ultimately determine culpability and liability?

MR. TRENT:
It is not for the County Health Department; perhaps through the pesticide regulations of the DEC they might take action in specific instances.

LEGISLATOR CARACCIOLO:
Clearly, this type of ground water contamination from pesticide use is not unique to this bi-county area; it's all over the country. In fact, when you look at cancer map cluster maps most people are not aware that this is not the only region in the country where we have one in nine or maybe it's down to one in eight now breast cancer incidence. There are many other parts of the country that have equal to that or even exceed that and I don't know if there is a cause and effect relationship specifically to pesticides, but certainly in terms of that effort we need to have answers to questions like that.

MR. TRENT:
Certainly, there are cancer studies ongoing on the island and the State Health Department is just now initiating a new one for the north portion of Brookhaven. As far as the occurrence

of these compounds in other areas of the country we know that that's a fact because the United States Geological Survey has done limited similar surveys in other areas of the country. There are only a few labs in the entire country that can do this amount of testing the County Health Department being one and the USGS pesticide lab in Kansas being the other. And so from their own studies in Iowa and South Carolina and elsewhere in the country we know that these same type of degradates are a problem.

LEGISLATOR CARACCIOLO:
Is there anyone else from the Health Department here that could speak to the breast cancer issue because as you may recall several years ago I sponsored legislation approved to conduct and fund an east end breast cancer study. And it's my recollection when that report came out there was nothing conclusive about a cause and effect relationship unique to the east end in terms of higher incidence of or less there were pockets where there seemed to be and there was supposed to be a follow up study to determine maybe what was some of the factors that attributed to those pockets having a higher level of breast cancer. Anyone here from the Health Department that could address that if not today I would suggest Mr. Foley in your committee since -- and since I'm not a member of that that you perhaps follow up on that. Thank you, Mr. Chairman.

CHAIRMAN BISHOP:
Thank you. Legislator Guldi.

LEGISLATOR GULDI:
Clarification of a couple of terms; you talked about traces of degradates and or direct chemicals being hit first in 30% of wells and then more recently you said in the last year in 50% of wells. Your 1999 report, if I remember correctly, from '99 to 2000 there was an alarming increase in the number of positive hits you have. Is that correct?

MR. TRENT:
Yes, because 2000 was the year we instituted the new analyses for the herbicide metabolites.

LEGISLATOR GULDI:
Yeah, and the '99 report recommended that we take action. What's the 2001 report reflect?

MR. TRENT:
The 2001 report is actually on the data collected cause there's a lag time in complying and reviewing the data and that report has been drafted it hasn't been issued yet.

LEGISLATOR GULDI:
When will that be available?

MR. TRENT:
I'm meeting with the DEC next week to hopefully iron out the differences over the interpretation of the data, but certainly the data is collected and much of it you saw here in these slides.

LEGISLATOR GULDI:
So the report is in draft and you're waiting for the DEC, you said?

MR. TRENT:
Right. They've issued comments --

LEGISLATOR GULDI:
I mean, its -- hold on. There's a dispute as to the date or the interpretation of the data?

MR. TRENT:
To the interpretation of the data.

LEGISLATOR GULDI:
Well, all right. So tell me about the data, the positive well hits, is the 2001 report showing 50%?

MR. TRENT:
Yes it is.

LEGISLATOR GULDI:
And the 2000 showed 30%?

MR. TRENT:
That's correct.

LEGISLATOR GULDI:
And what does that increase in positive hits tell you as a professional?

MR. TRENT:
It shows us that the problems of pesticide impacts to groundwater and drinking water is more wide spread than had previously been known and that's a direct result of an increase of our analytical capability to look for these contaminants of concern.

LEGISLATOR GULDI:
So you think that the increase is the result of better testing and that the contaminants are firmly in the environment?

MR. TRENT:
Yes.

LEGISLATOR GULDI:
You don't think it's a result of from the year 2000 to 2001 increase in use --

MR. TRENT:
No. These are older chemicals that we're detecting, but we're just looking at them for the first time.

LEGISLATOR GULDI:
All right. When will the report be available, the 2001 report?

MR. TRENT:
Hopefully, in the next month.

LEGISLATOR GULDI:
In the event that -- when it's available I'd like you to route it to me as I'm sure everyone on the committee would like to see it, but in the event that it's not going to be available in that timeframe I'd like you to reach out and let me know why.

MR. TRENT:
Certainly.

LEGISLATOR GULDI:
Okay. The secondary concern I have is I'm going to be provincial; being an East End Legislator and having a district that is literally covered with your yellow dots for private wells on the chart. If you eliminate the public -- the community public well supply and non-community public well supplies and monitoring wells, what's your percentage of hits on the private wells alone?

MR. TRENT:
It varies by area.

LEGISLATOR GULDI:
On the East End in my district -- talk about the other --

MR. TRENT:
I think in the five east end towns the percentage was 50%.

LEGISLATOR GULDI:
What percentage five east end private wells only?

MR. TRENT:
Right.

LEGISLATOR GULDI:
Not community wells. The concern I have is you mentioned the population demographics and the lack of availability of public water supply being limited on the East End. I guess that's a line of questioning for the Water Authority isn't it?

MR. TRENT:
I would appreciate that.

LEGISLATOR GULDI:
Okay. Well, I'll hold that line of questioning for them. Thank you.

CHAIRMAN BISHOP:
Legislator Fields had a follow-up.

LEGISLATOR FIELDS:
Are there grants available for testing, you know, so that the County could get these grants and do further testing?

MR. TRENT:
Not to my knowledge.

LEGISLATOR FIELDS:
Is it just that you don't know or do you know.

MR. PONTURO:
Well, just to point out the fact -- I'm sorry, Paul Ponturo I'm Chief of the Office of Water Resources. I think that something needs to be stressed is that fact that we actively sought out this relationship with DEC to accomplish exactly, you know, what you're saying. So in the sense there was this I think since our initial detection of pesticides the aldicarb problem back in '79 I think it's been an active attempt of this department to try and seek out --

LEGISLATOR FIELDS:
No, I'm just wondering, you know, if there's a question here of the ability for us to check further and not be compensated by DEC is there perhaps another area that we can touch.

MR. PONTURO:
I'd say there are no other funding sources that we're aware of.

LEGISLATOR FIELDS:
Federal or State or anything, okay.

MR. PONTURO:
I would say not.

LEGISLATOR FIELDS:

And the second question and I'm not sure whether the answer was given or not, but have you sent out letters to all private well owners to say that you should try to get your well tested and that you may have some difficulty with your water?

MR. TRENT:
Individual letters, no. There's been public outreach certainly in meetings and bulletins and that type of thing, but individual letters, no.

LEGISLATOR FIELDS:
And how many have there 50,000 more that need to know that their wells are or are not drinkable?

MR. TRENT:
There are probably 50,000 private wells in use in Suffolk County. Again, those 5,000 or 6,000 on the East End in the agricultural areas are the ones we'd like to sample first.

LEGISLATOR FIELDS:
Is that 6,000 you said? 6,000?

MR. TRENT:
5 or 6,000 would be an estimate.

LEGISLATOR FIELDS:
5 or 6,000, okay. Thank you.

CHAIRMAN BISHOP:
Legislator Foley.

CHAIRMAN FOLEY:
Thank you, Mr. Chairman. In answer to one of Legislator Guldi's questions, at this increase from 2000 to 2001 from 30% to 50% your answer again for the record was --

MR. TRENT:
These are not new chemicals that have been newly registered in use, okay. The --

CHAIRMAN FOLEY:
Hold on one second, she has to change the tape.

MR. TRENT:
Sure.

CHAIRMAN FOLEY:
And really to reframe the question, this alarming increase and use the word alarm and alarming increase tells you a lot about that problem particularly in the eastern portions of the County.

MR. TRENT:
Well, it's endemic to those areas of the County because of the wide spread application of these chemicals. The particular compounds that we're finding are metabolites of herbicides and they were registered in the late 1970's and use up until 1999 and 2000. So they've been only recently -- there uses only been recently halted, however, those metabolites once there in the ground water are very persistent and will be there for many years.

CHAIRMAN FOLEY:
Okay. And just on that point and that will be persistent for a number of decades. You mentioned earlier that they're multiple pesticides throughout a number of private water wells, but there are no standards for a number of the pesticides or the compounds that they've broken down into. There are only general standards as opposed to particular standards. What's the regulatory process that you'd have to undertake to request both the State DEC as well as the EPA to come up with some definitive threshold number for these

other pesticides or these other compounds and how have you started that request?

MR. TRENT:
Both the State DEC and EPA are notified by our annual reports, which contain this data. As far as the specific compounds, which are the most frequently detected, we have corresponded with the State Health Department and requested that they look at them and establish specific standards.

CHAIRMAN FOLEY:
And what has the response been?

MR. TRENT:
We're waiting for that response.

CHAIRMAN FOLEY:
All right. So it was only within the last year that you made that request?

MR. TRENT:
Yes, sir.

CHAIRMAN FOLEY:
Okay. Could you send to this -- to the two committees a copy of your request?

MR. TRENT:
We can do that.

CHAIRMAN FOLEY:
Okay. If I could just may (inaudible) questions, Mr. Chairman. Number two, you mentioned earlier about carbon filtration and how carbon filtration is given free of charge to a number of homes if in fact those homes have compounds that are over the limits; is that not correct?

MR. TRENT:
That's correct.

CHAIRMAN FOLEY:
Okay. And who pays for those carbon filters?

MR. TRENT:
Chemical manufacturers.

CHAIRMAN FOLEY:
Okay. And what is the cost to a homeowner if they wanted to place that in their homes.

MR. TRENT:
Depending on the setup it would probably be between say 1200 and $2,000.

CHAIRMAN FOLEY:
Okay. And that would have to be yearly replaced on a yearly basis?

MR. TRENT:
That would be installation; the carbon would have to be changed depending on the pesticide loading and the amount of water use. Periodically, in some homes maybe as often as six months and in other homes maybe once every two years.

CHAIRMAN FOLEY:
And you stated the reason that many homes who have detectable levels are not eligible for this filtration systems because they don't break -- they don't exceed the standards.

MR. TRENT:

Correct.

CHAIRMAN FOLEY:
All right. I think that's all the more reason why we need to have standards set for some of these other compounds so they could have this kind of -- all right, once you have the carbon filters how much does it filter out. I mean, is it 99%, 50% --

MR. TRENT:
Greater than that. While the carbon is very, very efficient in removal of most of these organic compounds and for quite a period of time the levels of pesticides in the filtered water will be not detectable.

CHAIRMAN FOLEY:
Okay. Finally, Mr. Chairman, if you could also Mr. Trent send us a copy of contract that -- or you, Mr. Ponturo or whoever you may have to speak to in the Health Department to send the committee, the two Chairs the copy of the contract that you're now have with the State DEC and also send us a copy of if there's any changes that are being proposed for the contract extension. Okay.

MR. TRENT:
Sure, no problem.

CHAIRMAN FOLEY:
All right. Thank you. Thank you, Mr. Ponturo.

CHAIRMAN BISHOP:
We recognize Legislator Caracciolo. I just want to understand, you said that the monitoring program so far that you've conducted has revealed that there's a much greater extent of pesticide degradation or leaching into the water supply than was originally anticipated?

MR. TRENT:
Right, because of the new analyses. Up until 2000 we were looking at the parent compounds, the active ingredients in any of these pesticides.

CHAIRMAN BISHOP:
Right.

MR. TRENT:
Now we're looking at the breakdown products and we're finding them much more frequently than that parent compound.

CHAIRMAN BISHOP:
Okay. Now then you report this to the DEC; you write a report and the DEC doesn't accept the report because they disagree with your analysis, but not the facts that underlie the analysis, is that the dispute right now?

MR. TRENT:
We're having an active discussion with them over the interpretation of the data, yes.

CHAIRMAN BISHOP:
Who owns your brain? I mean, if you conclude based on -- I mean, the facts are one thing; you present the facts. The DEC may have an interpretation of those facts that are different than yours, but I don't understand. You work for Suffolk County Department of Health and you are contracted with the State to establish the fact, but the interpretation you didn't contract away your ability to interpret or did we?

MR. TRENT:
I don't believe we did.

CHAIRMAN BISHOP:
Okay. So you're going to attempt to work this out with the State, but if -- in any case I expect that at our next hearing you're going to tell us what your interpretation is; you've held back on that interpretation.

MR. TRENT:
No. I'm explaining it to you, but the report to the State they've objected to certain language that we put in.

CHAIRMAN BISHOP:
All right. What are the -- can you revealed what they've objected to so I can see where the dichotomy is?

CHAIRMAN FOLEY:
What's the language that they object to?

MR. TRENT:
Some of it has to do with those emerging issues on what the effect of the new findings --

CHAIRMAN FOLEY:
Have they outlined what their objections are to you?

MR. TRENT:
Yes.

CHAIRMAN FOLEY:
Have they outlined that in memo form?

MR. TRENT:
We have correspondence.

CHAIRMAN FOLEY:
All right. We'd like to have a copy of that correspondence, please.

MR. TRENT:
Certainly.

CHAIRMAN FOLEY:
Okay. Cause what we need to do is is to find out exactly where there's a difference between your interpretation and theirs and what justification do they give for differing with your interpretation of the facts. Now Legislator Bishop I know that we need to hear from some other people, but if Mr. Trent is able here and now over the next few minutes to give us at least an overview of what the differences are I think that would be very instructive to the committee. And I would ask that if it's something that can be summarized in five minutes time or perhaps if it takes a little bit longer, but I think we need to establish for the record where there's a disagreement between the Health Department and the State DEC as far as the interpretation of the facts as you've presented here today. Are you prepared to do that?

MR. TRENT:
It's a little difficult without having that correspondence.

CHAIRMAN FOLEY:
All right. Fine, so why don't we do this; let's get the correspondence and they when we have some follow-up hearings you'll then be ready willing and able to give us a fully developed presentation on the disagreements with the DEC.

CHAIRMAN BISHOP:
When did you write the report?

MR. TRENT:
The report was sent to Albany October of 2001.

CHAIRMAN BISHOP:
Okay. So now they've had it for six months.

MR. TRENT:
The comments were returned in February so --

CHAIRMAN BISHOP:
But they haven't released it to the public and they control the release to the public.

MR. TRENT:
That's correct.

CHAIRMAN BISHOP:
They don't control your brain we've established that, but they do control the release of the report to the public and they've held on to it for six months because they don't agree with the interpretation that you made within the report. Well, that's very troubling. Legislator Caracciolo.

LEGISLATOR CARACCIOLO:
Thank you. Mr. Trent the slide presentation that you made and the map that was included in the handout title of which is Pesticide Sampling Locations 1997 - 2001. How many wells are depicted on this?

MR. TRENT:
Somewhere over 4,000.

LEGISLATOR CARACCIOLO:
Okay. And how many of these is there a separate enclosure in this document or something else that shows where the contaminated wells are that exceed standard?

MR. TRENT:
We're in the process of preparing that; we have done it for older reports. In the 1990 report -- 1999 report I'm sorry there's a similar map that shows basically the first 2,000 sample locations and companion maps show where they were detection's and where there were {exceedances} and we're in the process of --

LEGISLATOR CARACCIOLO:
Okay. Of the 4,000 that we've now tested how many of those exceed standard?

MR. TRENT:
About 7%.

LEGISLATOR CARACCIOLO:
About 7%, I think that's very important before everybody leaves here today distribute this map and give the public the impression that from the Queens border out to Montauk, you know, everything is contaminated.

MR. TRENT:
That just shows geographic distribution --

LEGISLATOR CARACCIOLO:
Oh I think that's a very important part of this presentation because, you know, maps pictures can be deceiving and often times people's attention is drawn to something a lot of little dots on it and they incorrectly failed to recognize that these are just the locations of those wells sampled. These are not 4,000 contaminated public and private wells.

MR. TRENT:
No at all.

LEGISLATOR CARACCIOLO:
So your saying 7% or about 300 and what 50 wells out of the total have contamination that exceeds standard?

MR. TRENT:
Roughly, sure.

LEGISLATOR CARACCIOLO:
And out of that amount what percentage would be private verses public well water supply?

MR. TRENT:
The vast majority would be private wells.

LEGISLATOR CARACCIOLO:
Would be private, okay. I notice on this map by the way that it looks like the Smithtown - Nissequogue area they're apparently still a lot of homes that still are on private wells.

MR. TRENT:
That's correct up in St. James, Head of the Harbor, Nissequogue.

LEGISLATOR CARACCIOLO:
I see that's all that appears to be true up in the Stony Brook area, Old Field.

MR. TRENT:
Yes.

LEGISLATOR CARACCIOLO:
It's predominately although in southern Brookhaven and obviously all of the South Fork there are many, many more private wells. In terms of in just going back to where to we go from here, what's the next step?

MR. TRENT:
Well, for the department what we're actively doing now is trying to finalize the report from last year with DEC. We're setting up our sampling program for next year with them. We have in the works the -- we're trying to establish MCI's for these compounds that we're concerned about.

LEGISLATOR CARACCIOLO:
And the end goal again is to try to come up with some methodology some standard on what's acceptable what's not acceptable, but what do we do about those locations where we determine as a result of this monitoring program wells exceed standard. And how do we assist those who are not in a financial position to remedy that problem?

MR. TRENT:
Traditionally, the department after sampling a well we provide the advice. We're not funded or have the ability to actually provide the remediation.

LEGISLATOR CARACCIOLO:
At what point does government have that responsibility? I know it's public policy issue and I don't know if it's addressed elsewhere in other states or other localities. I'm sure this is not pacesetting work that's -- I'm sure that other parts of the country that have dealt with other environmental hazards and contaminates that have affected public water supply as I've mentioned before BNL and they're the Federal government clearly and appropriately stepped

in and provided and paid for the Suffolk County Water Authority to expand their mains and provide hook ups all with the exception of the connection from the home to the water main in the street. Do you foresee that eventually that might be necessary?

MR. TRENT:
We have proposed in the past that there possibly be attacks on pesticide sales in the state to go towards monitoring any extension to public water supply where wells might be impacted.

LEGISLATOR CARACCIOLO:
That's the first time I've heard that; when was that proposed?

MR. TRENT:
It was probably part of that same '99 report. It was probably after that because that was really the first annual report --

LEGISLATOR CARACCIOLO:
And that would still be a recommendation?

MR. TRENT:
It's one avenue of funding that certainly is not being utilized right now.

LEGISLATOR CARACCIOLO:
Final question, any consideration of that suggestion by state lawmakers or others?

MR. TRENT:
I'm not aware of that.

LEGISLATOR CARACCIOLO:
Okay. Thank you very much.

LEGISLATOR GULDI:
I have some questions, but I'll keep it short. Did the Water Authority ever consider mitigating factors to be interdiction and prohibition of the pesticides from the environment?

MR. TRENT:
I'm not sure I understand the question.

LEGISLATOR GULDI:
Ban, did you ever think about a ban?

MR. TRENT:
Most of the --

LEGISLATOR GULDI:
Most of the stuff is already ban.

MR. TRENT:
Right.

LEGISLATOR GULDI:
But we're getting new stuff, aren't we?

MR. TRENT:
While they're new chemicals to us, but they're generally metabolites of the older chemicals. The newer chemicals that are on the market do not get registered in Nassau and Suffolk County if there's a possibility that they can leach.

LEGISLATOR GULDI:
Okay. The map you provided us, it's well sites. Can you generate the map again showing only the wells where you've gotten positive hits; where you've gotten -- use a separate color

for wells above drinking water standards?

MR. TRENT:
Yes, we can; we're working on it.

LEGISLATOR GULDI:
Okay. I'd like to see that map. Thank you.

CHAIRMAN BISHOP:
(inaudible) and we'll bring up the Water Authority. Are you Power Pointing as well? You're power speaking. Good afternoon.

MR. JONES:
My name is Steve Jones, I'm CEO of Suffolk County Water Authority, and to my immediate right is Karen Randazzo who's head of our Water Testing Laboratory and to her right is Mike Stevenson who's the Deputy CEO for Administration. Do you want me to just talk a little bit first? Okay. The Suffolk County Water Authority provides public water to approximately 1.2 million out of the 1.4 million people in Suffolk County. We have over 500 wells at over 200 locations scattered throughout Suffolk County. There are a number of other water providers in Suffolk County in Riverhead, Hampton Bays and the south southerly portion of Huntington and the northerly part of Babylon who provide public water to the bulk of the rest of Suffolk County's population.

Our water-testing laboratory located here in Hauppauge on Motor Parkway has the highest level of certifications provided by the State and Federal government for all of our water testing that we do there. We have in the past developed testing protocols, which are now used nationally and were adopted by the EPA. This is not always the case; there are some testing protocols are developed by the EPA and they're contractors by the USGS where possibly by other water testing laboratories, but we are continually trying new testing methods all the time to find these various chemical compounds. We are doing a number of things and have over the years, there was mentioned maybe before about outlawing pesticides outlawing chemicals. We found when the Safe Drinking Water Standards were first developed in the late 1980's by the Federal government, the Suffolk County Water Authority over a short period of time approximately two years, installed 79 granular activated carbon or GAC units throughout our system. Our system as I indicated is over 500 wells over 90
% of those wells have raw water that meets drinking water standards right out of the ground. We only have to put in GAC units in other forms of filtration in approximately 10% of our wells. So we kind of go into the places that the Health Department wouldn't normally go because the Health Department is specifically looking for as, Mr. Trent indicated, the Health Department study is looking for particular chemicals. They're going to go where the likelihood is high that they're going to find them. We want to go and put our wells in where the likelihood is very low that we're going to find these things so that's why over 90% of our wells meet drinking water standards right out of the ground. I will note especially, that the cleanest water that has only very, very trace amounts of nitrogen volatile organic chemicals and iron is in the Central Pine Barrens. The water coming out of there just doesn't get much better than that.

So as I indicated we have 79 -- we had at one time 79 GAC units installed on our wells; we're now happy to say that we're down to 47 GAC units. So the inescapable conclusion is that because of the high volume of pumping that we do we have literally been cleaning up the Aquifer at least in these localized situations where we're literally pulling in large quantities of pesticides and other contaminant. They're binding to the carbon and then the carbon gets changed out once a year sometimes more from these large filters and gets taken away and used in a sewer plant or some other place. So we have been we have quite a few less of these filtration units online than we have had in the past.

A couple of other quick points, we do provide funding to the Long Island Groundwater Research Institute. You'll hear from one of their representatives in a few minutes. We do fund them every year and the scientific research that they do. They're is package of

programs that the -- last night the Suffolk County Water Authority Board met and started the approval process for a number of new initiatives that we're undertaking this year. There was mention made about the South Shore Estuary Reserve and also the Peconic Estuary Reserve and the chemicals that are washing off of lawns and streets and such into our streams and {enbayments}. The Suffolk County Water Authority Board last night approved a new program that we're going to be undertaking this year, which will probably go for the next three years. It's a package part of which is grant funding to the Long Island Groundwater Research Institute to monitor nitrogen in pesticides as they're coming down; as they might be applied on people's lawns and coming down through the root zone and into the soil to determine what the rate and what kinds of things are able to pass down through the soil and what would be the optimum levels of applications of organic principle organic fertilizers and pesticides so we're going organic.

Suffolk County Water Authority is going to go organic this year with our lawn and turf maintenance cause we want to be able see if we can show our customers throughout Suffolk County how they can have green lawns and not pollute our bays and streams with the runoff that might occur with over concentrations of some of these fertilizers and pesticides and then the Groundwater Institute will do the scientific monitoring of that. So that's a program that we're undertaking; we have our own self interest obviously at heart which has to do with more the fact that people put all this stuff on their lawns and then they use more irrigation than they need to use which washes everything off and also causes wreaks havoc with our system when everybody turns on their irrigation systems at the same time. So the quality issues and quantity issues are tied together and we have obvious interest in maintaining the best system that we can maintain, but we also believe that our customers should know if they're not being groundwater guardians and they're being groundwater polluters they should be aware of that and be made aware that it's possible for them to do their part to upgrade the groundwater quality in this County.

We have been working closely with the Health Department and with the State and Federal government as well on these testing protocols. Karen Randazzo is here and will answer any technical questions you have about the chemicals, the testing protocols and such. So I would pretty much leave it with that other than to say that we do work directly with potential customers who are interested in banding together to pay like they're doing in Nissequogue like they're doing in Old Field, Lloyd Harbor. These people can afford to ban together and bring in water service to replace their private wells, but there are places in the County where people cannot afford to come together and pay for it. Sometimes developers pay for water main extensions; sometimes towns like the Town of Southold paid for water main extension to people living around the Cutchogue landfill. The Town of Brookhaven through community development funds paid for some water main extensions down in Mastic-Shirley and we're still working with the County Health Department in identifying areas where people deserve to have public water and the question is always just who's going to pay for that. So I'll stop there and would be happy to answer any questions that you have.

CHAIRMAN FOLEY:
Thank you, Mr. Jones. Legislator Fields has some questions.

LEGISLATOR FIELDS:
Who decides what to test for? I think you made a comment that you test for more than or maybe you could just tell me again. Do you test for more than the Suffolk County Health Department tests for?

MR. JONES:
I'll turn it over to Karen; she'll tell you.

CHAIRMAN FOLEY:
You have to speak closely into the mike.

MS. RANDAZZO:

Okay. We test for everything that the County tests for with the exception of the new herbicide metabolites.

LEGISLATOR FIELDS:
So then you don't test as many as they test for?

MS. RANDAZZO:
That's correct.

LEGISLATOR FIELDS:
Who decides, you know, what you're supposed to test for? Who makes that determination?

MS. RANDAZZO:
We follow the regulations of --

LEGISLATOR FIELDS:
Could you talk into the microphone?

MS. RANDAZZO:
We follow the regulations of the County and State Health Departments.

LEGISLATOR FIELDS:
The County and State Health Departments.

MS. RANDAZZO:
And EPA.

LEGISLATOR FIELDS:
Okay. And the EPA, so again, we go right back to what the standards are and whether or not there are standards. Okay. Thanks.

CHAIRMAN FOLEY:
As a follow-up to that would it not make sense to try to have a similar testing protocol as the County Health Department if they're doing these metabolites? How much more difficult would it be for your labs to do similar kinds of testing beyond what you presently do?

MS. RANDAZZO:
It is difficult to test for the metabolites; there are only two labs, the Suffolk County Health Department, and the USG that do test for these metabolites. We are working on it.

MR. JONES:
Part of the problem is that we need to develop different kinds of testing protocols, which can be used on a routine regular basis as opposed to for a specific scientific study. So that's sometimes is the reason why perhaps for a special study certain test are done where we are required to do testing on a routine basis maybe a different piece machinery, maybe a different type of protocol.

CHAIRMAN FOLEY:
Thank you.

LEGISLATOR CARACCIOLO:
Steve, on behalf of the members present I'm sure we'd all like to congratulate you and the Water Authority for undertaking this new initiative on organic lawn maintenance and program. That follows your work here in the County as Planning Director and the initiative of Legislator Bishop and others to have County building grounds and golf courses eventually use organic in lieu of pesticides. In terms of the wells under the ownership of the Water Authority, how many of those that you mentioned are contaminated by virtue of VOC's and other chemical compounds outside of pesticides and where would they be predominately

located?

MR. JONES:
I would say that the 10% number is a good number to use. We find some vestiges of agricultural chemicals still over in the Commack, Northport, East Northport area. We find of course them still very prevalent on the North Fork and some on the South Fork as well and generally, the pesticides and some of the herbicides can be traced to there use in farming. And the other sources would be perhaps high density areas like some areas in Northport, which are unsewered, but developed at a fairly high density and have over a long period of time loaded nitrogen into the groundwater with cesspools. And then in some of the areas some additional areas where we pick up pollutants they're often times volatile organic compounds that come out of gas station areas or industrial areas as well.

LEGISLATOR CARACCIOLO:
In fact, I've seen some of the maps that the Planning Department has promulgated and if you think this one which is just shown sampling monitoring well sampling locations has a lot of dots on it you should see the map that shows contaminated -- contamination, groundwater contamination areas in Suffolk County. It has even more dots as I recall on it from predominately spills from underground fuel tanks being commercial or private or what have you.

MR. JONES:
That guy makes his living putting dots on maps so the more dots he puts on the map the better his business is.

LEGISLATOR CARACCIOLO:
You only say so we all have a perceptive of what we're looking at here and they're other problems that are effecting our groundwater besides pesticides and they too need to be addressed and measures taken to prevent those types of contamination.

MR. JONES:
Now that's one example the MTBE is of course one example of a situation where the County, the Suffolk County Water Authority began testing for MTBE quite a long time before the EPA and the State government and local government got on their radar screen. We were finding it as part of gasoline pollution and leaky fuel tanks and such. We go after, by the way, very aggressively if we can determine the source we will go after in court manufacturer's, gas station retailers whoever takes, but anyway the MTBE is a situation where the Water Authority did develop a testing protocol and it was used by the EPA and is now used by others. But generally speaking it's difficult for us all the time to be the leaders in developing these protocols. They're not easy to do; it's kind of like finding your way in the dark and it's very difficult to develop sometimes these testing protocols.

LEGISLATOR CARACCIOLO:
I know in your travels both as County Planning Director and now as CEO of Suffolk Water you've spent a fair amount of time in Southold Town addressing water issues and public water expansion and could you just give us a synopsis again. We look at the areas affected and we realize that 7% of -- is, you know, is private wells. What can you in your role and what can the Water Authority do to assist the homeowners who may want to hook up to a public supplier like the Suffolk County Water Authority.

MR. JONES:
The North Fork with the acquisition of the Greenport system allowed the Suffolk County Water Authority to start to stitch together the Mattituck system and the Southold system with the Greenport system and we are essentially coming to the end of that process which now enables people to at their own expense to tie in. We have favored in a plan that was developed with the County Health Department and the Town of Southold we favor the existing homeowners who have problems with their private wells. They are the first to get an opportunity to tie in not the developers of new properties. We have a map that's been adopted by the Town and that the Health Department uses also showing where the water mains are going and where they're not going. The reason that we're showing it that way is

because on the North Fork in the same fashion as Montauk peninsula. There is a limited quantity of fresh water, potable water that's available. It's a little bubble sitting on salt water; if we take it out too quickly it's going to pollute all the well with chlorides, so we have to be very careful. When the North Fork we have other problems that we don't have in Montauk where not only do we have chlorides underneath, but we have all these farm chemicals coming from the surface. So we have a very limited water supply for the North Fork based and we're trying to balance that with population and urging in the strongest possibly way for the Town of Southold to do their job and to try and limit as much as they can a future population of the North Fork because we simply don't have enough water for all the potential customers there. We tried to lay that out in very blunt terms to them what they need to do cause we are a water purveyor we are not a water regulator we can't say no to people. All we can tell them is this is what it's going to cost. Eventually, people will come around like Mr. Rennert down there in Sagaponack where cost is not an issue. Just tell me what I got to pay and if I have to build a whole big desalination plant or whatever I do whatever I got to do. Just tell me what I gotta do.

LEGISLATOR CARACCIOLO:
Is that the 60, 000 square foot home?

MR. JONES:
So on the North Fork it's just a matter of time before somebody has sufficient money to say just put in whatever filtration system you gotta put in. Give me fresh water you gotta give it to me.

LEGISLATOR CARACCIOLO:
What limitations do you have in the Water Authority in terms of water main extensions? How far out from the source can you lay pike? Are there limitations?

MR. JONES:
Generally, with the system that we have now we go -- we'll go out maybe three or four miles away, but we'll generally go out three or four miles from our sources. We can always develop new sources and depending on the topography and the pressure we can go up to 20 miles. Sometimes we have to -- if we have to put in booster pumps then we'll need your help in lowering LIPA rates so we can afford to run the booster pumps.

LEGISLATOR CARACCIOLO:
The final question, since you mentioned the best source of clean drinking water within the Pine Barrens it would seem to me in looking at the map that those areas to the east and west of the Central Pine Barrens that could be included in a public water plan that would be an ideal source. I know there's cost associated with that and that cost has to be born by all of the ratepayers, but do you have a rate structure in place cause I seem to recall in Shoreham a decade ago when a former private water authority was taken over the homeowners in that former water district had to pay a premium on top of their Suffolk County water rate until such time as I guess the improvements that were made to that system were paid off. I mean, that's one way to approach, you know

MR. JONES:
Their premium which is above the Suffolk County Water rate is half of what they were paying to the private company.

LEGISLATOR CARACCIOLO:
Why I remember that as well, I sponsored that legislation, so.

MR. JONES:
Yes. There are surcharges, there are water districts that, or tax districts that could be freighted. There are federal funds and possibly state funds that might be available, but a variety of techniques there to help provide -- what we do for our customers is to the greatest extent possible we go for environment facilities corporation financing which is two points below our double A bond rating finance and we're able to pass the saving along to them that and then we also try to finance in their own customer bills the cost to them to tie in the

surcharges. We will spread that out over ten years to the --

LEGISLATOR CARACCIOLO:
Final, final question, what is the typical diameter of your water main system and what is the cost per mile?

MR. JONES:
Generally, the pipe that we generally use is a 12 inch diameter ductile iron pike which is the installed cost is approximately $43 a running foot. So I don't know what it would be per mile, but it's $43 a foot.

LEGISLATOR CARACCIOLO:
Thank you. Thank you, Mr. Chairman.

CHAIRMAN GULDI:
A 132 questions, $42 a foot. Let's talk about development pressure and cost; the technical problems in the East End both North and South Fork with respect to delivering water the point you make is that when you get the sufficient development pressure the customer says, doesn't care what it cost put it in. So ultimately the -- right now there are lots of areas that I know that don't reach with mains and have chosen or can't go there on the North Fork in particular in Southold, is that correct?

MR. JONES:
Only on the North Fork they're areas where we have chosen not to go because of the fact that we would pass by a lot of farmland and basically stimulate development. We're not the Water Authority has had a long history of being an entity that's stimulates development, but we're not, we don't do that anymore. When we do it's not because we want to it's because we're passing by somebody is paying for water mains and passing by an undeveloped piece of property --

CHAIRMAN GULDI:
Yeah, but so if so when someone comes to the Water Authority with sufficient, I want the water mains here and I'm willing to pay for it you as an authority as a public agency service agency put them in.

MR. JONES:
Yes.

CHAIRMAN GULDI:
So the concern I have is just in terms of relative cost. The Davis Park was that the water district that you were talking about or was it another one? It was brought to my attention recently are you familiar with the Davis Park Water District the Water Authority acquired some few years ago?

MR. JONES:
Yeah, somewhat.

CHAIRMAN GULDI:
Am I correct that the Davis Park Water District was about 60 homes?

MR. JONES:
I think it was more than that.

CHAIRMAN GULDI:
Is it?

MR. JONES:
Yeah, I think so. I think we took them the whole community over; I think it's over a

hundred, probably, well over a hundred.

CHAIRMAN GULDI:
A hundred homes?

MR. JONES:
Yeah, and we did have a special rate for them that we don't anymore.

CHAIRMAN GULDI:
All right. The special rate that's what I want to get to. I understand that in the first two years the capital cost to the Water Authority on -- for that acquisition was something in the order a $1,200,000; 640 the first year 400 and some odd the second year. Is that approximate --

MR. JONES:
That's yeah, I know that when we took it over it was just black plastic pipe on the surface or underneath the boardwalks and that we put in actual water pipes.

CHAIRMAN GULDI:
How long is it going to take the Water Authority to recapture that investment for that number of homes?

MR. JONES:
Well, the pipe that we put in last usually lasts about 100 years or so. We try to get our investment back in maybe the first 20 or 30 years.

CHAIRMAN GULDI:
So what's the surcharge?

MR. JONES:
The surcharge is that we charge people is usually based at least in the mainland part it's based on the $43 a running foot.

CHAIRMAN GULDI:
Okay. And the areas that you're not servicing in Southold would have to be treated the same way or is that discretionary?

MR. JONES:
Yes, yes.

CHAIRMAN GULDI:
Okay.

MR. JONES:
Let me clarify that just briefly by saying that there are people who want water who are outside of the area and we require them to do a special environmental review as part of their development plan through the Town of Southold. It may cost them a huge sum more if they're outside of the currently designated water supply areas. Then they would have to pay for the development not only water main extensions, but the development of existing supply. So it would cost them we would say yes you can have water, but it would cost them substantially more money.

CHAIRMAN BISHOP:
Let's see if I can tie this in to today's hearing. If 50% of the private wells on the East End are containing, I don't know if it's trace amounts, but we'll say trace amounts of degradates and parent pesticides. Is that enough of a public health concern that it mandates the Water Authority to extend it's service further east?

MR. JONES:
We have on the North Fork we have areas that are called Health Department priority areas

and they're dash lines on this map that was adopted dash lines around sub-divisions. It's just a matter of who's going to pay; the Town of Southold paid for the first one, which was actually colored pink, which was the landfill area. They paid for it. Somebody just has to pay for it, but yeah those areas are already designated by the Health Department.

CHAIRMAN BISHOP:
Because I thought I heard earlier you said that, you know, we don't want to stimulate investment as a Water Authority, development right stimulates development.

MR. JONES:
Right.

CHAIRMAN BISHOP:
By extending means, but what I'm saying is now there is a counter pressure because there's as problem with the private wells. So what's the policy that reconciles the two?

MR. JONES:
The way we reconcile the two is that as we did the serving the Cutchogue landfill there's no water main that appears on the water supply map. We elected to find the source of water, which was down Depot Lane to the south of the landfill, and we put the water main up to these people there. Everybody between point A and point B came into us and we said the only people that can tie in are people who are retiring or abandoning a private well. If a guy has piece of property that's vacant and has no private well they can't tie in to that water main. It's not sized for them; we don't have sufficient supply. The supply that we created and that we put in it's called Evergreen Avenue, Wellfield; the supply that we created there is just enough for the existing -- to serve the existing homes there.

CHAIRMAN GULDI:
So if you --

MR. JONES:
If we pump more --

CHAIRMAN GULDI:
But if by passed landowner vacant lot A says I want the water give me what it cost you'd have to assess them for additional field development cost or you just say no we don't it?

MR. JONES:
They have to get if from another source. We have to find another source and feed them from another source and create a whole new supply cause like at Evergreen Avenue we're already hooking people up and we're pumping and we're starting to draw in these agricultural chemicals cause of the way we draw down the water the more we pump.

CHAIRMAN FOLEY:
So you're not extending water mains you're going right to the source of the problem sought to speak and filtering the waters and --

MR. JONES:
Well, we're having to put in more filtrations there that we had hoped to get away with.

CHAIRMAN BISHOP:
So your remedy was already there, but you're not allowing anybody new to get in on that water.

MR. JONES:
Correct.

CHAIRMAN BISHOP:
Okay. Is there anything in Mr. Trent's presentation that you disagree with or that you're concerned is not fully portrayed.

MR. JONES:
No, not at all.

CHAIRMAN BISHOP:
Very good. I have no further questions on the Water Authority, does anyone else? Thank you. Dr. Bruce Brownawell is here from the Long Island Groundwater Research Institute. He's an assistant professor at SUNY Stony Brook Marine Science Research Center. Oh, you have a presentation as well.

DR. BROWNAWELL:
Well, I only got my email requesting testimony two days ago so most of my testimony is written (inaudible)

CHAIRMAN BISHOP:
That's find.

MS. SCHMIDT:
You have to speak closer to the mike.

DR. BROWNAWELL:
Is this all right?

MS. SCHMIDT:
Yes.

DR. BROWNAWELL:
Are we ready?

CHAIRMAN BISHOP:
Yes, sir.

DR. BROWNAWELL:
Thank you for this opportunity to provide testimony today on this matter.

CHAIRMAN BISHOP:
I don't know if that's on.

DR. BROWNAWELL:
It doesn't sound like it, does it?

CHAIRMAN BISHOP:
On top there's a button which is to be clicked towards yourself.

MS. SCHMIDT:
It's on.

CHAIRMAN BISHOP:
Okay.

DR. BROWNAWELL:
Testing.

CHAIRMAN BISHOP:
Now you're on.

DR. BROWNAWELL:
I guess it's a good mike. I don't normally have access to these. I'm an environmental chemist and a professor at the Marine Science Research Center at SUNY at Stony Brook. I'm

also a member and here today cause of my involvement with the Long Island Groundwater Research Institute. My expertise is in environmental organic chemistry and water quality research and although I avidly reach the environmental toxicology literature, I am not a toxicologist or health scientist.

I'm just starting my journey as a pesticide chemist and have started conducting some research on pesticide use to control the West Nile Virus. I am currently funded to utilize some state of the art LC-MS instrumentation to study the occurrence and fate of pharmaceuticals and personal care products in Long Island groundwaters. And many of these chemicals share similar physical and chemical properties with newer generation pesticides and their metabolites and the same type of instrumentation is being used for example at the Health Department to conduct more powerful assessments of pesticide exposure. It's my intention to continue to move the direction of my laboratory's research program into the study of the fate and effects of metabolites -- pesticide metabolites in the future.

Before I start my comments on this issue I would like to point out that my comments that I make today reflect my own observations and opinions and are not those of Stony Brook University or the Long Island Groundwater Research Institute.

There's been fundamental changes that have occurred in the types and usage of pesticides since the inception of the environmental movement in the early 1960's led initially by Long Island citizens. The U.S. has banned or restricted the uses of many persistent hydrophobic polychlorinated pesticides such as DDT, Dieldrin, Mirex, Chlordane, Toxaphene, Kepone and Lindane just to name a few. These chemicals were more persistent more {baraqumacable}, but we did not appreciable leach into groundwater supplies because they sorb strongly on to soils and even if they do leach their limited by their extremely low water solubilities to very low concentrations. And it's very well demonstrated that drinking water is almost never if ever an important exposure pathway for these chemicals. However, limitations on their use has been one of the major achievements with environmental regulation and these chemicals have been decreasing in our food chain at least in the United States.

Today's newer generation pesticides are generally more soluble and more easily degraded by chemicals and microbial processes. The parent pesticides can often move easily in the groundwater if they are not first degraded. The growing class of pyrethroids is an exception to this generalization as they have limited solubility and have little tendency to leach into groundwater at least the parent compounds.

Environmental half-lives of today's pesticides can vary between minute and months and depend upon specific pesticide and environmental conditions for example, the stability of organophosphate and carbamate pesticides can be appreciably influenced by soil or groundwater pH. The problem that we've had on Long Island with the persistence of Aldicarb in our relatively acidic soils is a testament to the problems associated with extrapolating pesticide fate information from soil to soil. Unfortunately, knowledge of the environmental fate for many pesticides is severely lacking and often is limited to the industry studies conducted during the registration process.

CHAIRMAN FOLEY:
Do have a hand out that might be helpful.

DR. BROWNAWELL:
Yes. Some copies were made and I have a few here. There's a copy of extra copies here.

CHAIRMAN FOLEY:
Give one to the stenographer. Thank you, Brian.

MS. SCHMIDT:
Thank you.

DR. BROWNAWELL:

Now the problem is this is the first time I have ever read anything even in class other than my children so I've got to find my place again. I found it. So today we've heard about the prevalence of pesticide metabolites that are being increasing detected as pesticide residues in both surface and groundwater's of New York State and around the world. In most cases much less is known about the fate and effects both ecological and to humans of metabolites.

In some cases it's the metabolite itself that's the active form of the applied pesticide. For example, the herbicide 2,4-D is often applied as an ester and it is only after hydrolysis in the soil to it's acid metabolite that the toxicity to plants is observed. On the other hand and this is where we have some disagreement. I was on -- well, I'll tell you what I had prepared; the herbicides as an example on the other hand herbicides alachlor, metolachlor and acetochlor degrade in soil to their oxanilic and ethane sulfonic acid degradates which is as far as we know are non toxic. Now I go that information from an email correspondence with Mike Thurman from USGS in Kansas City yesterday and Martin says he has contrary information and says that the metabolites at least of alachlor are none to be significantly toxic, but I use this example just for illustrative purposes that sometimes the metabolites aren't toxic. It depends on how the functionality has been changed during metabolism.

Some pesticide metabolites are known to be both toxic and persistent however, atrazine and cyanazine degrade to their dealkylated degradates which are still somewhat toxic. In the State of Wisconsin regulates drinking water for atrazine as the sum of chlorinated metabolites together with atrazine for this reason. That's not done in New York.

The mode of toxic action of pesticide metabolites can be much different that that of the parent compounds. For example there's concern about the endocrine disrupting activities of several pesticide metabolites including that of pyrethroids. How to regulate pesticides when many of their metabolites are toxic is a great challenge as you've heard today. Not only do we typically know even less about their environmental fate and health effects, but we are still learning what to look for. Just on Monday, I had a phone conversation with Mike Thurman the renown pesticide chemist at the USGS in Kansas City and he wants to come to my lab to try to validate the identity of a new metabolite of Trifluralin on our high resolution LC-MS. So it's a moving target, you know, when you ask the Water Authority today whether they're analyzing for all the same pesticides as the Health Department is and it's a floating target and it's going to continue to change as a function of time.

Detections of pesticides and their metabolites has increased dramatically over recent years because of major advances in analytical chemistry and because of the efforts and important work of a select few dedicated scientist and analysts, including Ken Hill over at the County labs. At a national level USGS scientists especially, Mike Thurman and colleagues such as Ed Furlong and Mike Meyers have pushed pesticide analysis to new levels.

A large number of pesticide and degradate compounds can now be detected in the low part per trillion range with newer equipment like the MS we just received it will be possible to make part per quadrillion determinations of many analytes at the same time. Within the next few years it will be within our reach to measure in drinking water the preponderance of chemicals used in our society, most of them at the vanishingly low concentrations. Just last week, the first national reconnaissance of pharmaceuticals and personal care products in our nation's streams and rivers was published by USGS scientists. I'd like to say that ultratrace detection will present huge challenges with respect to communication of risks to each other, to the media and to the public.

Getting back to the problem at hand we're not worried about part per quadrillion detections, but multiple pesticide detections in the part per billion range close to and sometimes exceeding drinking water MCI's as we heard. The important questions unfortunately, questions that I don't have the answers to today that come to my mind are the following and I'd like to get up make a few comments on the transparencies.

So some of the questions and this is not exhausted that we need to be asking I think are whether drinking water MCI's are conservative and protective of human health and I certainly don't know the answer to that. One of the comments I can make is that certain other states

and certainly other countries the EEU in particular don't think so. For comparison in the EEU the regulations for drinking for individual pesticides are not -- are uniformly .1 parts per billion and when you are multiply pesticides residues in the sample as we've learned today is quite prevalent in some of the more contaminated samples. The cumulative maximal admissible concentrations, the language they use in Europe, is .5 parts per billion. In New York it's 100 parts per billion so it's a factor of 200.

So the next question is, are MCI's and then I talk briefly about the regulations in Wisconsin that talk about atrazine metabolites whether is it three or four parts per billion the sum of the atrazine metabolites is the drinking water standard. Here is would be virtually as high as 100 parts per billion because of the default values for the compounds that don't have limits that would push it up to 50 parts per billion each. Our MCI's based upon the best knowledge and science and again I would just offer the observation that other municipalities, governments, countries don't necessarily agree with the standards that we've adopted in New York. Does the default MCI's of 50 parts per billion make sense? It seems to me to be high, that's intuition, again I'm not a health science. I know that the total amount of organic matter that's in typical ground water samples is on the other of about 50 parts per billion. So all the organic matter that's currently present is comparable to what the default MCL is.

Should we be worried about metabolite toxicity? The way the Europeans handle this is to use the precautionary principle if we don't know we don't let it there. Here it's guilty until proven innocent. It's going to end up being, I think probably the correct approach is something in between and it --

CHAIRMAN FOLEY:
(inaudible)

DR. BROWNAWELL:
Excuse me. I meant to mean I meant to say innocent until proven guilty, excuse me. Thank you for the correction. But certainly I think as we're gathered here today we need to start to worry about those issues. How should mixture pesticides be regulated, I've already talked about that question. What does the future hold? The only thing I know for sure is the detection limits will continue to go lower and lower and lower and the number of detections will go higher and higher and higher, but I also know and I'm quite hopeful that our abilities to look at both the ecological and human health effects of pesticides will increase enormously in coming years with advances in bio-technology and pharmaceutical sciences to where I think we can start to do existing things and not have to rely on epidemiology. How do we get out of this mess? I think I'd like to make a few comments in terms or recommendations. I think what we should all realize after hearing the first two speakers is that we should continue to support our County Health Department first of all and to be supportive of the Water Authority as well. I think we're very fortunate on Long Island and especially in Suffolk County to have really unique and very special and very dedicated people working for us. Our water is probably the best taste in the United States. It's almost comparable to what they do in Europe, which is amazing, actually. So first of all I think we need to start thinking about how to develop strategies for communicating risk associated with ultra, ultra trace detections to government, media, and the public. You know there's a lot of money spent right now for no detects for good reason. The press doesn't know how to deal with detects and the public certainly doesn't and so all we hear about, you know, there's contamination and as I tried to point out earlier we're going to be finding detects depending which lab you send your samples to you're going to be finding detects in many, many, many samples in the future.

One of the things that's become apparent to me and I sought of always knew, but has become more apparent to me as I've gotten into pesticide research is that we need to do a better job as a nation in involving the best researchers in to studying pesticides. This hasn't been the case historically. Very little peer-reviewed research has been done on pesticide fate, chemistry and effects. Most of it seems to be done by the manufacturer themselves or through agricultural land grant ARG extension type programs and not to say that it's all bad

research, but it's not the best research that we can be getting or should be demanding from my opinion. So I think they're intimately tied together one and two if we're going to try to convince the public that a certain level of low detection pesticide is not harmful to you, you better have some good science to back that up. And right now I'm not all that comfortable with making to many statements either way.

One of the issue that I'm also interested in, I'm sure someone has done it, but I think we all need to take into account is, yes, we have detections in drinking water, but we have high pesticide residues in foods and certainly people in terms of exposure at home. And I think one of the valuable things that could be done maybe by the Health Department if they haven't already done it is to compare drinking water contamination to other relative exposures. Should we be investing huge sums of money in water systems and water cleanup when there are other exposures that are much more important? So it's something that is obvious that I think we need to make sure that we remember.

I rarely write letters to Congress, but this year I wrote a number of letters because USGS is {inaudible} program and toxic program should have been taken out of the President's budget. It's not clear to me whether it was do to lobbyist or do to the survey putting out a sacrificially lamb to get the rest of their budget, but the survey is always under extreme pressure and they need all the support they can get for the important work they're doing. If it wasn't for the survey we wouldn't know nearly what we know about pesticides and their metabolites in the United States, but I can certainly say the same thing for the Health Departments of New York, especially, the County Health Department and water survey. If we really wanted to stick our neck out and stir the water then an idea that came to me yesterday was that you might consider hosting an international workshop on assessing pesticide risks. Certainly, there's a lot of assumptions that are made differently by different groups and different countries and to get some people together to try to understand those differences could only be beneficial.

And finally, I think we should consider the cost and feasibility and benefits of further cleanup of public and private water supplies and I'll conclude my testimony at this point, thank you.

CHAIRMAN BISHOP:
Thank you. That was excellent and very thought provoking. Let me ask you for your opinion. If you are a policy maker at the County or State level would you work for MCL on degradates at this time or would you wait for more research to be done?

DR. BROWNAWELL:
Again, it's a -- I mean, it's a real difference. Most of my colleagues in terms of looking at emerging contaminates are in Europe where there's a lot of emphasis on minimizing exposure to these chemicals and in Europe they apply the precautionary principle as I mentioned before. And so I'm not sure where you draw the line between a precautionary when we don't have sufficient information, but you know it's a potential concern or when you use the approach that's most often taken in the United States and that's to wait for a smoking gun and extensive testing that goes through often time through litigation before something's done. Although there's a lot of examples in the United States where effects of pesticides have been noted and regulatory action has been taken quite quickly. To be honest with you I don't know how one and I haven't thought enough about this, how one -- it's a difficult issue to wrestle with and my sense is that what's called for is a study in the Health Department would be a good one to take it on. We have lots of expertise both at the County level and the State level. From looking at what's known and what other at least the United States has done to tackle this question. I mean, it's not like you were working totally in a vacuum here.

CHAIRMAN BISHOP:
When there are multiple chemical compounds found and you said that in New York we use, what is it 50 or --

DR. BROWNAWELL:
It's a 100 for the mixtures, is that correct, Martin?

MR. TRENT:
That's correct.

CHAIRMAN BISHOP:
And in Wisconsin or Europe who use five.

MR. TRENT:
Five Europe.

DR. BROWNAWELL:
No, Wisconsin uses point 5.

CHAIRMAN BISHOP:
And what is Europe?

DR. BROWNAWELL:
I'm sorry. The EEU use point 5. Wisconsin is a specific case of atrazine, which is very important {corn} herbicide which we also detect in areas of New York. I don't know about Long Island and there's two or three important metabolites and instead of just regulating atrazine they regulate it as a sum of atrazine and it's metabolites and the total limit is three or four --

MR. TRENT:
Parts per billion. I believe the total limit is four.

DR. BROWNAWELL:
Four parts per billion.

CHAIRMAN BISHOP:
Okay. Just one last question, the precautionary principle I understand it's informed by prudence and you don't want to error on the side of risking public health, but what triggers in EU for example an application of that principle? There has to be some science behind it before they say well we better apply the precautionary principle to this.

DR. BROWNAWELL:
I've been wondering the same thing over the last couple of years actually and it doesn't just apply to pesticides it applies to a whole range of industrial chemicals. Basically, Europe has decided to take chemicals out of the drinking water period.

CHAIRMAN BISHOP:
Okay.

CHAIRMAN FOLEY:
Thank you. Mr. Brownawell you mentioned that you think there should be some kind of gathering of folks to see what they do in other states, State Health, County Health --

SPEAKER:
The world.

CHAIRMAN FOLEY:
The world also, but he mentioned just a few moments ago that to have both the County and State Health Departments convene some meetings with other states. Can that be done right now without having to go through a whole let say a semblance of a formal meeting? Why can't the Health Department for instances if not the County certainly the State Health Department call the counterparts throughout the country and find out, you know, how they're handling these things?

DR. BROWNAWELL:
Of course that can be done; it's just sometimes it's more effective to get people together in order, you know, it's you're calling around to colleagues and to people in like positions around the country the person who's integrating the information is I won't say in a vacuum, but is, you know, integrating dispirit pieces of information by his self or herself and the --

CHAIRMAN FOLEY:
And the better approach is --

DR. BROWNAWELL:
Well, I don't know if it's better, but you have a different you have potentially a different outcome by getting a group of people together that have different philosophies and have taken different approaches and educating each other why they've taken the position that they have in not just an informative session that you would get by email, but in a constructive discourse. So it's a wild idea that I throw out; I'm not necessarily suggesting it, but I guess I'm suggesting considering it.

CHAIRMAN FOLEY:
Thank you.

CHAIRMAN BISHOP:
Thank you very much. Ginny?

LEGISLATOR FIELDS:
No.

CHAIRMAN BISHOP:
I appreciate your coming.

CHAIRMAN FOLEY:
Thank you Mr. Brownawell, it's very good.

CHAIRMAN BISHOP:
All right. We have three cards if you'd like you could come up together as a panel because I think you're all like minded and familiar with each other. Debra O'Kane from the North Fork Environmental Council who has published articles on this topic. Chris O'Connor from the Long Island Neighborhood Network who for years has worked on this issue and as has this organization and Robert DeLuca from Group for the South Fork.

MR. DELUCA:
What order?

CHAIRMAN BISHOP:
No particular order.

MR. DELUCA:
Okay. Thank you very much, Bob DeLuca, President, Group for the South Fork. Let me thank Legislator Bishop, Legislator Foley and of course Legislator Fields and our other esteem colleagues who may or may not be back. But thank you for holding this hearing on what I think is an issue certainly if you're in my neck of the woods where one well out of two wells has a contamination problem. I think this issue is rapidly rising to the top of the public agenda. I will tell you that my organization which is now in it's 30th year had its beginning largely around the issue of temic contamination; and so I can also share with you that back in those days one great concerns was that we did not suspect that we knew all that was in the groundwater around us and were it not for the Suffolk County Health Department in the many years of work that emerged out of that initial temic investigation we would not have the caliber of laboratory capabilities. We would probably not even have the program that provides us with the information that we're now talking about. And I make not of that because in your role as legislators that program as you know is not a mandated program. To

this day that program hangs in the balance and those of us who watched the budget process sometime watch with great concern hoping that that will continue to be a major emphasis of what the County Health Department is able to provide us with. Now with that being said I just have a couple of responses first and then I have a very brief couple of comments. I do appreciate that they'll be another legislative hearing out closer to home and I'll try to restrict my comments for the purpose of time, but they're a couple of things that came up which caught my interest.

Legislator Bishop, I think you mentioned about the conflict with DEC, why is the Department of Environmental Conservation for some reason at odds with the Suffolk County Health Department who's basically been doing pesticide work out here since the mid 1970's and frankly if you look at the numbers I don't know what there is to be debated. But I will only say and I can say this because I don't represent a government agency that I think it is time for the County Legislature to call upon the DEC to sit in this chair and explain to you why it is that this data has not been released for six months and why it is that there is any controversy related to the fact that in my neck of the woods one well in two is got pesticides. I would humbly suggest that the problem is the State realizes that information that there is a subsequent obligation to do something about that information. And perhaps that might have something do with the reticence about what information they're prepared to agree with and I thank the Health Department for its efforts to get that information out.

Now secondly, and this was really for Legislator Caracciolo, but there is this issue about when it was appropriate public policy to actually do something beyond what we're all ready doing and I think this also came to Legislator Bishop's point with the prior speaker a little bit about, you know, the preventative action and when is it time. The issue of BNL came up and one of the things that I will tell you there being involved in that is that when there was a reasonable certainty of a problem there became an initiative of action that the government level which was the installation of public water mains on the outside chance that something was going to happen and while I'm not an attorney typical negligence law and what I know about it tells me that if I don't know that there's a crack in my sidewalk and somebody falls over it I don't have a big problem. If I know there's crack in my sidewalk and I've done nothing about it I have a bigger problem. So I think one of the issues facing government agencies and legislative bodies is as this data come in there is an increasing value on taking assertive affirmative action to address it because ultimately when one well in two is got pesticide contamination somebody is going to begin to look at the higher authorities and say, what are you doing to help us out and I'm hopeful that there are many things that we can do.

The issue with maximum contaminate levels, the only point I would like to make about that Legislator Caracciolo suggest that, you know, they're only 350 wells in excess of the maximum contaminate levels and maybe the map looked a little more frightening than it ought to be. I would suggest that those, you know, MCI's in concert with other synergistic effects of pesticides in that same water aren't -- the consequences are not well understood and what typically is the case is that the more we understand the worse the effects usually are. Very few standards get more liberal most of them get restricted so the fact that it may only be 350 wells that are in excess of the maximum contaminate levels I don't think provides me with much comfort and certainly like I say in my neck of the woods with 400 or 50% of the last well sampling came up with positive hits that's of concern.

Two final points, the County has invested for the past 25 years or more millions of dollars in the protection of the East End environment. Peconic Estuary Program is a major example of that. Mr. Trent's presentation was startling with respect to the knowledge that these pesticides are now showing up in that estuary and I think that is something of great concern. The County has also invested wisely in the protection of farmland; farmland is a principle part of the resource base on eastern Long Island, a vital part of the economy and I would suggest that the agricultural use of pesticides is something that the legislature must help the agricultural community deal with more affirmatively. We need to keep farming on the East End; we need to farmland and open space on the East End, but we need to manage that resource better or none of us will share in the bounty that comes off of that land in the long term and also the bounty that's harvested from the Peconic Bay Estuary.

The end game I think is something like this; there's two typical ways that these things get dealt with. The traditional model is that we debate endlessly about what the MCL should be and what these specific part per billion part per quadrillion should be in order for us to feel good about having contaminates in our drinking water. Most people don't feel good about having parts per anything of contamination in their drinking water and I think that the agency debates are just a very good example of that, you know, DEC and the Health Department it just seems to go on forever. I think we are definitely at a point where it's time to do something and I would again humbly suggest that there's a better model and that model revolves around public education and massive public education about getting your well tested and sampled. The information that comes from that sampling process in any assistance the County can provide gives people a real energy about making change. The other thing from the legislative standpoint is many of the products that are used on homes and golf courses and all these things are ecstatic products. These are products, you know, we've gotten use to whacking a golf ball around on a bright green fairway in a climate which is not Scotland and we can change that. The ideal that my kid might be drinking something which is poisonous so that somebody can have a green fairway or a green lawn causes me to pause a little bit and the more we know about these products the more we know that when you evaluate it across the board much of this use is ecstatic and we should seek to do whatever we can to limit the states basically to allow greater regulation at the local level. And I guess finally, along the lines of some sought of ban I think that is also something that we and the others would support. So I would conclude with those remarks and thank you very much for your time, patience and look forward to seeing you out in Riverhead.

CHAIRMAN BISHOP:
Thank you. Before I more down the line I just want to point out Legislator Caracciolo mentioned the County's initiative last year to attend to our own with organics and not rely so heavily on pesticides. But something else that we did two years ago which is just coming into affect now is that we as a compromise with the Landscape Association have a program now through Cornell where we teach landscaper during the off season organic alternatives to pesticide for the homeowner. And more than 200 landscapers went through that program this off season and we do have to do a better job of publicizing that cause it up to the homeowner to use -- to ask their landscaper whether they have the ability to use organic alternatives and to pursue that. Chris.

MR. O'CONNOR:
Thank you. I would like to thank both Chairs for having this hearing. Just to follow up quickly on your comment about educating the homeowner. The Neighborhood Network along with the Group for the South Fork and the North Fork Environmental Council are sponsoring workshops throughout the County on organic alternatives. We are showing homeowners how they can go through an organic program and bring their lawns to organics. We are also publishing lists of landscapers that use total organics as opposed to chemical pesticides and we would hope the County Legislator's would join us in this process by attending these seminars and also learning about how they can bring organics throughout Suffolk County.

CHAIRMAN BISHOP:
If we supplied you the list of the landscapers that went through the program you'll publish that in your documents as well?

MR. O'CONNOR:
Yes.

CHAIRMAN BISHOP:
Good, excellent.

MR. O'CONNOR:
I just also like to take the time where some of the things that were coming out of Martin Trent's presentation. One of the things that concerns me and it goes back to lawn care products that of the two sites that he had monitored the Holtsville site and the Yaphank site, both contained pesticides, residuals and were found in private wells. I really think that we have to do better monitoring here in the County and the DEC has to do better monitoring of

these lawn care and landscapers who use chemical pesticides because if they are sloppy they are allowing pesticides going into our drinking well and we can have considerable problems. I'm also concerned about this report. This report has been around for six months; there's been back and forth {Montarand and Cool} did a draft report I'm sure the DEC is calling it a draft report. I'm concerned that this is being held up, you know, for politics for the reasons of politics. I mean, it's an election year the administration does not want to be looking bad; does not have to find millions of dollars of extra money to spend on our health if they can avoid it and I'm afraid that we're being bean counted. I mean, there are thousands of people whose private wells could or could not be contaminated. They don't know and I think it's our job to make sure that that happens and it's your job to bring the DEC here because as Bob had said there's an empty chair here and the DEC should be here answering your questions and responding to your concerns.

CHAIRMAN BISHOP:
They'll again be invited to the next hearing. Thank you, Chris. Debra O'Kane.

MS. O'KANE:
Hi.

CHAIRMAN BISHOP:
Hi.

MS. O'KANE:
I guess I'm on cleanup here.

CHAIRMAN BISHOP:
And you were the first one here.

MS. O'KANE:
Thank you very, very much for holding these hearings today. I think that they have been very informative for us and I have many questions myself; I guess we'll have the opportunity at some point to ask perhaps the individually the answer to these questions. I hail from Southold Town and I live in Orient Point; we rely on a private well for our water in my home. I have chosen even though I have had my water tested to drink water that is bottled and purchased from the supermarket. We're exposed in many, many ways out on the East End to pesticides from many avenues not only from our drinking water, but from drift from farm fields. Out in Orient Point we have the notorious Orient Mosquito Control District that uses scourge regularly in the summer time. Once again I'm very happy that you called this public hearing and delighted to hear that you'll be extending this and keeping this hearing open and hopefully we can do some outreach for you in Riverhead to, you know, get people out to that hearing and make sure that the public knows about that.

There are three recommendations that I would like to make here. We talked about public education; Ginny has asked the Health Department if there was any effort to do widespread public education and let people know that there are risks that there are definitely risks when it comes to relying on water from private wells and Mr. Trent responded that, no, there has not been an organized effort on the part of the Health Department. We as an organization have been doing this for a number of years as Chris O'Connor mentioned; we have some workshops scheduled. We also have Martin Trent speaking at two of our workshops on the North Fork, one on April 11th and one on April 13th and I'd be happy to send you this information; hopefully, some of the Legislators can join us. But I do think, you know, I have been doing -- the North Fork Environmental Council has been doing public education for many years. I think the Health Department needs to step up to the plate and make sure that people understand that the Health Department is providing this service and that perhaps if there are people at risk in their homes perhaps young children, infants, pregnant women, the elderly, the immune compromised that they may think about going ahead and really pursuing getting their water tested and finding out what the results are so that if they have to use other means either filtration system or relying on bottled water that they should be going ahead and doing that.

Another recommendation I would like to make is for the County to put as much pressure on the DEC to continue with the systematic testing of the wells. I know that, you know, this program has been in place for several years; the DEC suspended their funding for at least a year now. It needs to continue, so we need to make sure that funding is still in place whether it's from the State or from another source. Ginny, you had asked about grant money and I had asked Martin Trent that same question a year or so ago and that seems to be a dead end. I don't know, maybe there are other areas that haven't been looked at, but I think the money seems to come from somewhere.

The third recommendation that I would like to make is that there should be funding going toward research. Research into this synergistic and the aggregate affects of pesticides in drinking water as we've learned, you know, it's not only one particular pesticide, but there are detections of multiple compounds in people's wells and in Southold Town I've gotten some statistics from Martin Trent's specifically related to Southold Town. And in Southold Town it's -- the figures are 60 over 60% over one out of every two wells tested have displayed pesticides detection and over 40 almost 50%, 49% have displayed multiple detects and 20% of those wells tested in Southold Town have displayed detects of five or more pesticides. So once again, I think it's very, very important we has the State Health Department wherever we can look into; one research being done as to what the end result is when it comes to multiple detects of pesticides in our drinking water. And you know there's been a lot of talk about standards here, non-specific standards assigned to certain pesticides, specific assigned to certain pesticides. How are these standards established? It's my understanding that for the most part standards are established based on what it would take to make a normal healthy 150, 160 pound male sick or what it would take to affect, you know, someone who's normal a normal healthy adult. The standards are not set for children, there not set for infants, there not set for elderly and I think that's another area that needs to be looked into. So thank you once again for holding this hearing and inviting us here today and look forward to continuing this process.

CHAIRMAN FOLEY:
Thank you. Thanks very much. Is there anyone else who would like to come forward? Hearing none we will not adjourn today's meeting we will recess this meeting until a date certain in the future, which we intend in middle to late May. Prior to that the minutes of this meeting will be transcribed into written form so that all who are present here today and in particular who have filled out cards the minutes of today's meeting will be available with several weeks time I would imagine. Once we all review those minutes those help us frame other questions and what I take away from today also from the three who were here at the moment is the fact that they'll be other groups along with yourselves who will be attending the next meeting so we can continue this dialogue and continue to challenge those institutions be they of the County, State or Federal level that need to bring their resources to bear on this issue; cause this is an involving issue public health/public environment issue that today's really only the embarkation point on a trip that's going to take us far and wide to try and come to grips with a problem that is only growing. So again, I like to thank you all for attending and look forward to -- we all look forward to seeing you again at our next meeting. So motion to recess today's meeting. All in favor? Opposed? Meeting is recessed. Thank you.

MEETING WAS RECESSED AT 3:28 P.M