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PUBLIC HEARING

before

ASSEMBLY COMMITTEE ON CONSERVATION, NATURAL RESOURCES AND ENERGY

Testimony on New Jersey's Water Supply Infrastructure

August 31, 1988
Room 403
State House Annex
Trenton, New Jersey

MEMBERS OF COMMITTEE PRESENT:

Assemblywoman Maureen B. Ogden, Chairperson
Assemblyman Joseph M. Kyrillos, Jr., Vice Chairman
Assemblyman Frank A. LoBiondo
Assemblyman David C. Kronick
Assemblyman Gerard C. Naples

ALSO PRESENT:

Raymond E. Cantor
Office of Legislative Services
Aide, Assembly Committee on Conservation,
Natural Resources and Energy

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New Jersey State Legislature
ASSEMBLY COMMITTEE ON CONSERVATION,
NATURAL RESOURCES AND ENERGY

MAUREEN OGDEN
Chairperson
JOSEPH M. KYRILLOS, JR.
Vice-Chairman
FRANK A. LOBIONDO
DAVID C. KRONICK
GERARD C. NAPLES

STATE HOUSE ANNEX, CN-068
TRENTON, NEW JERSEY 08625
TELEPHONE: (609) 292-7676

R E V I S E D A G E N D A

NOTICE OF A PUBLIC HEARING AND COMMITTEE MEETING

August 26, 1988

The Assembly Committee on Conservation, Natural Resources, and Energy will hold a public hearing on Wednesday, August, 31, 1988 at 10:00 in Room 403, State House Annex, Trenton, New Jersey.

The purpose of the hearing is to gather information and testimony on New Jersey's water supply infrastructure, the ability of our water systems and resources to meet future demands for water especially in times of low precipitation and high temperatures, legal and institutional impediments to an adequate supply of water, and the relationship between development and the ability to provide adequate supplies of water.

Prior to the start of the public hearing the committee will hold a committee meeting to discuss:

- A-2808 Establishes a Clean Shore Beach Fund; \$2,000,000.
Moran
- S-2291 Establishes a N.J. Clean Shore Beach Fund.
Connors

Anyone wishing to testify should contact Raymond E. Cantor, Aide to the Committee at (609) 292-7676.

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ASSEMBLYWOMAN MAUREEN B. OGDEN (Chairperson): At this time, I would like to open the public hearing. I am really pleased that all five members of the Committee are here. I think it is a tribute to the members of the Committee that this is such an important subject, to have all five members here in the last week of August -- almost the end of the summer.

ASSEMBLYMAN NAPLES: The last day of August.

ASSEMBLYWOMAN OGDEN: The last day of August, right, the last week of the summer. I really thank all of you for being here. I am also very appreciative -- and I know I speak for the other members of the Committee -- that there are so many people here -- individuals, public agencies, organizations, and elected officials. I think the reason, in spite of the time of the year, is because this is such an important subject, the question of water supply. We all know it is an issue that is actually vital to us, that potable water sustains all life. It is a precious commodity that really needs to be aggressively protected. Human activities, as we have certainly found out in the State of New Jersey, can affect its quality and quantity in ways that we did not anticipate in the past. I am sure the same thing will happen in the future.

So, it is my feeling that we must err, if at all, on the side of protection. Clearly, in saying this I do not want to infer that many individuals who are here in this room to testify today have not been active in planning for current water use and future water use. We are all familiar with this. The members of the Committee have read the State Water Supply Master Plan and its various supplements. Our interest today, particularly with DEP, will be, how have those projections worked out? What you planned for, going back to 1981, 1982-- Has it come to pass? Were some of the projections off and, if so, how and why? What we are really interested in learning now, is what DEP and various other levels of government and other agencies and individuals

involved are doing for the time between now and the year 2000, and probably beyond?

The State Water Supply Master Plan talked about going from 1985 to 2020. Since that time frame has already been set up, it is probably a good one to adhere to. But in the Master Plan itself, it said that water needs are expected to grow by some 250 million gallons a day between 1980 and 2020, and development of new sources of supply will remain the principal means of satisfying needs in the 1985 to 2020 period.

Some of the questions I hope various individuals will touch on today are: What are these new sources going to be? Tocks Island has been recommended, I think, by at least one group that is here today. There was an editorial in The Star-Ledger about that yesterday. It is something that has been debated very heatedly in the past, and it seems to be coming up again. There is the question of the Pinelands, whether that water is there in perpetuity for those in the Pinelands, and just to be used for others in emergency situations or, as some others have proposed, we should start taking water from the Pinelands?

As an alternative to new sources, how actively are we going forward in terms of conservation, both at the residential and the industrial levels? Are we taking all the necessary steps we should now to protect aquifers and watersheds? Is water supply a key component when land use decisions are enacted at various levels of government?

The last question, I think, for all of us is: Are legislative initiatives needed now to protect the water supply for future users?

With this overall framework, I would like to start calling the witnesses. We have almost 30 people signed up. Therefore, since many of you will have prepared statements, would you please summarize them, and go for no longer than five minutes, because I know that with certain individuals, there

will be questions we have? For everyone else, would you please try to keep your remarks to five minutes. We have three elected officials, who have all stated that they need to leave here by 11 o'clock. So, I would like to begin with them. The first is the County Executive of the county we're in, Mercer County, Bill Mathesius.

C O U N T Y E X E C. B I L L M A T H E S I U S, E S Q.:
Thank you, Madam Chairman. Good morning to the Committee. I appreciate the opportunity to speak, and the courtesy afforded to me by Chairwoman Ogden.

My observations relate to what I perceive as Mercer County Executive. The water system is the least appreciated system we have before us. It is a matter, I think, of faucet mentality. When people go to the faucet and turn it on, generally potable water comes out. However, that condition is not absolute, and there have been many, many circumstances where the faucet has been turned on and, for one reason or another, nonpotable water has been produced, or no water at all.

I speak not only from my experience as an attorney who initially represented people in Jackson Township who had a polluted water supply from the dumping of garbage and toxic materials, and had to have 55-gallon drums delivered to their doorsteps every day to bathe and to drink, but as in my current position as witnessing a disruption of supply in the Princeton area and in Central New Jersey, as a complication of the distribution system. Contrary to popular belief, everybody in Princeton does not drink Perrier or San Pellegrino, and consequently they would like, when they turn on their faucets, to have drinkable -- potable water. I believe that is almost an inherent right of living in New Jersey, and would hope that that would stay that way.

Clearly, Madam Chairman and Committee, it is essential that we recognize that major water supply problems exist, particularly in the southern part of the State, but less so in

Mercer County. But the experience we have had in Mercer County, particularly in the Princetons, concerns me as a matter of the distribution of water, and how that relates to the overall picture of water supply. I can liken it to the awareness that has suddenly come upon Central New Jersey as a factor of the expeditential growth. Water trails some distance behind traffic in terms of bringing our attention quickly to a problem. When you sit in a traffic jam, you understand that the road supply and the question of distribution can be -- that parallels can be drawn.

Similarly, as more and more problems crop up with the availability of potable water -- drinkable water -- we will become more and more aware. That is why it is essential, and I endorse the observations of Chairwoman Ogden when she opened the discussion, that we must now become aware and take action respecting the implicit implications of growth. I would only add and supplement my concerns with those of Assemblywoman Ogden, when she says, how do we meet the demand that is sure to follow? I say we must, at this point in time -- if we are not too late already -- deal with it from both ends of the problem. That is to say, we can anticipate a demand, and if our projections are correct, we will have, doing nothing else, 1.3 million more people to accommodate in the year 2005, than we have today.

Now, there are two ways to deal with that: Figure how we can accommodate those people with traffic, with homes, with water, with all of the infrastructure problems that are manifested and obvious to us, or deal with the control at the other end and limit, to a greater extent, the ability of 1.3 million people to come into the State, without infrastructure improvements. That is to say, an assessment must be made of how much capacity New Jersey and its land can bear. It is a capacity question in the same sense as roads, in the same sense as homes, in the same sense as waste disposal, in the same

sense as toxic material handling. It is a question of capacity. We currently have the capacity to deliver water, in Central New Jersey and in Mercer County particularly. We do have the availability of water, particularly in our Spruce Run and Round Valley availability. We see for the foreseeable future that we will have availability, but we must address the ability of our land -- Mercer County, the State of New Jersey -- to deal with 1.3 or 1.5 million people, or 900,000 people, or 700,000 people. It is a question of capacity, and it is quite correct that this Committee begin that assessment, which is already too late and too long overdue.

I am mindful of the admonition of the Chairwomen, and I would like to limit my remarks. But I do believe that Mercer County has, for the foreseeable future -- and I don't know if foreseeable future means a day or a week, frankly, particularly with our current circumstances in Mercer County -- but for the foreseeable future in terms of years, we do have sufficient water available to us with our reservoir system, with the Delaware and Raritan Canal, Spruce Run, Round Valley. I think we have sufficient water, inasmuch as they have sold, to my understanding, 155 million gallons a day, which leaves unsubscribed 70 million gallons a day. That will be absorbed, if we do nothing more.

So I say again, my emphasis is as a member of the State Planning Commission. The anticipated influx of people, given no action by the State, and the trend being allowed to continue on its trendful way, we will have much better than a million people entering New Jersey, who will have to be accommodated, either in a haphazard fashion, by the "Los Angelesization" of Mercer County and New Jersey, or in a somewhat controlled circumstance, whereby through zoning, through the combined efforts of all of the people such as yourselves -- the legislators, the Governor -- plan for the future and be able to deal with the capacity we do have, for a liveable State of New Jersey.

We are the most densely populated State in the United States. There are limits to the capacity. My endorsement, my portfolio, my charter to you, is to please bear in mind that there is a capacity element that must be addressed, not only by dealing with the people who will be here, but by limiting, to a certain extent, the ability of our community to grow not beyond its own potential.

With those general statements, I would be happy to answer any questions anyone might have on this issue.

ASSEMBLYWOMAN OGDEN: Do the members of the Committee have any questions? (no response) Thank you very much.

ASSEMBLYMAN NAPLES: Thank you, Bill.

COUNTY EXECUTIVE MATHESIUS: Thank you very much. I appreciate the opportunity.

ASSEMBLYWOMAN OGDEN: We appreciate your coming.

Next on the list is the Mayor of Princeton Township, Cathleen Litvack.

MAYOR BARBARA BOGGS SIGMUND: I brought Mayor Litvack with me.

ASSEMBLYWOMAN OGDEN: And Princeton Borough. Princeton is well-represented here today.

MAYOR SIGMUND: Madam Chairwoman, thank you very much for giving us this opportunity. We wanted to talk to you a little bit more. By the way, the preferred bottled water in Princeton is Deer Park, by latest actual count.

ASSEMBLYWOMAN OGDEN: This is Mayor Barbara Sigmund, of Princeton Borough.

MAYOR SIGMUND: We would very much like to put some flesh on the bones that the County Executive just presented to you about the specific problem that existed in Princeton this summer, and to make some suggestions about some remedial legislation, if we may do that.

I think it is fair to say that both Mayor Litvack and I suffered from a rude awakening this summer during the week of

June 22 to June 29, in particular, as to the inadequacy of the water distribution system in Princeton, not only during peak use times, but also during normal usage times, number one. Number two, we began to understand the relationship of that inadequacy to the development pattern in the Route 1 Corridor. Number three, we do have some suggestions for remedial legislation, because of the experience we had in Princeton this summer.

First of all, the water supply system, as Bill Mathesius told you, is sufficient in the area. The Elizabethtown Water Company put it in the following way. They said: "There is no problem with the supply. There is simply a problem in getting it from point "A" to point "B." We were literally at point "B" this summer. Let me describe for you the week I am talking about. As you know, it is small comfort that it is there at point "A," if you are at point "B" and it can't get to you.

We were in a situation in which, on the morning of June 22, the phone began to ring constantly at Borough Hall because there was literally no water for drinking purposes, for sanitary purposes and, as it turned out, as the day wore on, for fire fighting purposes in the buildings all along Nassau Street.

Princeton Borough has a population density of 6400 people per square mile. It is the most densely populated section of the water distribution service area that we are a part of in the Elizabethtown system. As you know, the buildings are also densely populated, so to speak, in that particular area. They are at 200 feet of elevation, and then several of them are five stories high, so you go up to 240 feet of elevation. The water simply could not get to those buildings along that ridge. As the day wore on, it became very clear that this problem was isolated in the service area to those locations along the ridge, primarily, in Princeton

Borough and parts of Princeton Township, because we are linked into a system that also services the low-lying municipalities in the Route 1 Corridor. So, gravity did its bit, and as the peak pressure became great during this period of unexpected early drought in June, sprinklers were on all over the system, etc., etc., and the water literally drained from the ridge to the low-lying municipalities, which, of course, are the ones that are experiencing the heavy development patterns.

As I say, we learned about the fragility of the system during peak periods. We learned about its relationship to the development pattern. We will say that our neighbors and Elizabethtown worked with us in order to ensure that the water usage in the rest of the system was cut down, and we are very grateful for that. But the systemic problem remains, because probably the most startling revelation to the governing bodies during this whole process, was that even when the system is normal, it is not nearly good enough. Even during normal times, the pressure and the flows at our fire hydrants, along Nassau Street in particular, which, of course, is where we have the most densely populated area, are much too low for fire safety purposes by any national standards that have been set up anywhere.

Of course, during any kind of a peak period, we are at risk again that we would have the same kinds of problems in the sanitary systems and the water distribution systems and the drinking systems as we experienced this summer.

So, what to do? First of all, Elizabethtown has been extremely responsible and cooperative in remedying the problem as quickly as possible, insofar as they know how to do it and we know how to do it. I stress that insofar as we know, because this is what I would like to get to in a minute. When this problem first occurred, Elizabethtown said that they had not expected these kinds of pressures until 1992. In other words, all the predictions we make in our various systems in

order to accommodate different kinds of developments and infrastructure systems had predicted that, according to their models, this kind of a peak pressure would not occur until 1992. 1992 obviously came our years early, and we were left high and dry. A new meaning was given to that phrase this summer in Princeton, New Jersey. Those of us on the ridge were left high and dry because of the water distribution system.

So, right now as we sit here, the streets in Princeton are all torn up again. We are having to go all through that kind of a trauma. In order to improve the piping system within the town itself, Elizabethtown is also completing a system that goes around Princeton into the low-lying municipalities, and they want to build a new 60-inch main from the reservoir itself down into the system. All of that is wonderful and we are grateful for it. We think it should go forward. Obviously, it didn't go forward soon enough. The development happened before the infrastructure improvements took place. That is really what Bill Mathesius was talking about a little while ago. This is the pattern in our State in all kinds of relationships between the development that is allowed to take place and the infrastructure that simply isn't in place, when the development does take place.

What we suffered from in Princeton this summer could be a warning to municipalities all over the State. We simply cannot allow this pattern to continue in which we develop first and try to play catch-up ball with all factors of the infrastructure later.

The other things we have discovered that we would like specifically to mention to you about remedial legislation are the following: The Safe Drinking Water Act only requires a PSI of 20 -- 20 PSI -- at the ground level all over the State. It does not really address enough safe pressure and flows because, of course, that is what you really need when you are talking about fire fighting -- for fire fighting purposes. I am told

that the national standard is that you should not go below 60 PSIs at the ground level -- at the hydrant level -- for towns as densely populated as Princeton Borough. Typically, we are still at -- we will pass these reports out to you -- half of that, or less than half of that along Nassau Street. So, we would ask you please to address that legislatively.

The other piece of the puzzle that relates to the whole infrastructure question, again, the information we have from the water supply people at DEP, is, there is no kind of normal review of individual development applications at the DEP level, in order to ensure, a) that the water will be distributed to new developments, and b) that it will not impact negatively on existing customers and development, unless capital improvements of \$150,000 or more have to be made in order to accommodate the water distribution system to a new development.

The Water Supply Division also tells us that they do not have the kind of sophisticated computers available to water companies, in order to do this kind of predictive work we are talking about; in other words, how much development will need "X" amount of piping, etc., etc. So, we would make that plea as well, that certainly there would be a thorough review by this Committee. I know that you, in particular, Assemblywoman Ogden, have taken a real and continuing earnest and serious look at water problems in this State. At the time that it really counts, that is at the approval level of individual applications for development in individual municipalities, there has to be a more serious and thorough review of the water distribution system by DEP, just as there is for sewer treatment applications. It gets triggered at much too high a level.

So, with those suggestions, we thank you for allowing us to come before you today.

ASSEMBLYWOMAN OGDEN: Are there additional comments, Mayor Litvack, that you would like to make?

M A Y O R C A T H L E E N R. L I T V A C K: I have a few comments to make, I think quickly, just to summarize the seriousness of the events of the week of June 22, when we had air flowing through hydrants, rather than water, over a period of two days. This was at a time when the Summer Special Olympics for the entire State of New Jersey were held at Princeton University. They were almost canceled. The university had to bring in water tank trucks to assure the safety of the disabled children and their companions, who were living on the campus. There were several thousand of them there. There were also summer school students at the Hun School, which was in the area of Princeton Township most severely affected by the diminished pressure and diminished water flows. They, too, were in danger.

There is clearly a systemic problem. We are addressing it at the local level, thanks to the cooperation of Elizabethtown, which is improving the distribution system within Princeton. That will improve, or should improve, we hope, to some extent, the immediate problem in town. However, it does not address the underlying more serious problem; that is, water distribution throughout the entire, what is called the "319 pressure system," which Barbara alluded to earlier. This is a system in which the Princetons are the high ground, and parts of Montgomery, Lawrence, and South Brunswick, West Windsor, and Plainsboro are the lower ground.

I think one should also address--

ASSEMBLYWOMAN OGDEN: I understand that high ground is only 200 feet.

MAYOR LITVACK: Well--

MAYOR SIGMUND: The low ground is 60 feet.

MAYOR LITVACK: --the low ground is 60 and, as we all know, things do like to flow downhill.

I think certainly we should all address the question of expanding franchise and contract areas before the needs of

the current franchise areas have been satisfied, and hope that at the State level you will, indeed, address the question of necessary legislation on fire flows; that is, establish standards for gallons per minute, and I think a higher PSI standard as well, because it has become clear that the standards required for safe drinking water are, I believe, far too low for fire flow standards for fire fighting.

We, on the local level, are beginning to institute our own review procedures for development applications. Our fire inspectors will be working with our engineers to establish those, so that working with the Elizabethtown Water Company, we can avoid what has happened recently in one of the newer developments in Princeton; that is, in new homes, there is an inadequate water supply. We cannot, in some cases, use water on the second floor if someone has turned on a tap or flushed a toilet on the first floor. That, I think, is not acceptable, and we must find a solution so that those of us who are already here are satisfied that we can be protected, and be supplied with what we would all consider a normal supply of drinking water and internal water for domestic use.

MAYOR SIGMUND: We made some Third World countries look all right this summer. Let's just put it that way.

In relationship to what Mayor Litvack just said about extending franchises while existing customers are suffering, is there any power within the Legislature, or within this Committee, to declare, in effect, a moratorium legislatively, unless and until water can be supplied under the law of New Jersey to existing customers? Can there be a moratorium on hookups to major developments unless and until there is an adequate water supply, or a distribution system to existing customers?

ASSEMBLYWOMAN OGDEN: I don't know the answer to that off the top of my head, but we will certainly look into it.

ASSEMBLYMAN NAPLES: I think we should run that by Legislative Services. I would feel more comfortable.

MAYOR LITVACK: I think the point Barbara made earlier about the cooperation we received from the surrounding municipalities makes it clear that the problem is, indeed regional, and extends far beyond the borders of any one particular town. Consequently, it must be addressed, at a minimum, on a regional basis, but I think there are questions that are more far-reaching than that, and they can only be solved at the State level.

MAYOR SIGMUND: Right.

MAYOR LITVACK: We appreciate your taking the time, in this Committee, to hear us. Thank you.

ASSEMBLYWOMAN OGDEN: Are there any questions or comments from Committee members? (no response) We certainly appreciate your coming here and graphically telling us about the problems you have in Princeton.

ASSEMBLYMAN NAPLES: A lot of food for thought, no pun intended of any sort.

MAYOR LITVACK: We should have brought a water sample. You would have loved it.

ASSEMBLYMAN NAPLES: I remember very vividly the water crisis in Trenton in 1975. For a period of five days, a lot of areas, not only in Trenton, but in Mercer County generally, were without water in very, very hot weather, right about this time, by the way. It was September 1, if my memory serves me correctly. It could happen again, and we cannot be unmindful of this problem.

ASSEMBLYWOMAN OGDEN: Thank you very much for coming.

MAYOR LITVACK: Thank you.

MAYOR SIGMUND: Thank you.

ASSEMBLYWOMAN OGDEN: We have one other Mayor who also has a time constraint, Mayor Hermia Lechner, from Clinton Township.

ASSEMBLYMAN NAPLES: You have an Assemblyman with a time constraint, too.

ASSEMBLYWOMAN OGDEN: Mayor Lechner?

MAYOR HERMIA LECHNER: I am Hermia Lechner. I am the Mayor of Clinton Township. My locality is in the middle of watershed protection. That is the thing I have been interested in for many, many years. We are adjacent to the Round Valley. Spruce Run Reservoir is a part of that valley. So, I am particularly interested in the problem of non-point pollution that we have to deal with. It comes very close to home in a developing area.

I would like to point out that historically, for at least a few million years, if not longer, the earth itself has been managing the purification of our water, and has done a very good job of it, and it is our best reservoir. I would like to point out that perhaps the best thing we can do is to cooperate with it to the greatest extent possible, and use the system. In doing that, it means that non-point pollution is one of the areas that we should be addressing most vehemently.

General Whipple has done a great deal of good work in this area. However, the implementation of that is lacking. He could have more support throughout the State in implementing the non-point source prevention. It should happen particularly in the developing areas, which are the watershed areas, where we can prevent this sort of thing from happening.

Listening to the two Mayors talk about Princeton, and their problems there, I think this is true in every locality. The basis of planning zoning in any of our outlying municipalities should be on, where is the water coming from? How do we use it? And, how do we dispose of it after we have used it? If that question is not asked in relation to all major developments that come into a community, you are going to overdevelop and get ahead of the infrastructure. No

application for development should be considered unless that question is first answered.

The 208 planning that is going forward now under DEP with all municipalities is one of the tools that can be used in that way. That is another program that should be supported. Reuse of water-- We have water sufficient. It is a matter of distribution and how we use it. Here again, in your developing municipalities, there is ample opportunity to provide for the reuse of water. If it has to be treated to a degree-- A stream can take it for potable water. Certainly, there should be consideration as to how it can be reused or put back into the ground, using the earth itself as your purifier.

We now have wetland legislation on board. It should be used to its fullest extent. We are going to have mitigation, and instead of going out and building wetlands willy-nilly for no reason at all, I think we should consider those wetlands as being used as innovative supplements to water treatment. There is technology available. Lots has been done in that line. I would like to see New Jersey move forward with that, and tie any mitigation of wetlands to the treatment of water.

Those are the things that I come upon as being practical things that can be done within the present structure of the State. The State Planning Commission needs all the support it can get along this line and input into that cross-acceptance plan that is related to the water resource. Without good water, we are not going to have economic development. It can be a limiting factor. If we manage it properly and ask the right questions during development, we should be able to manage our water and protect our watersheds. I think that is important.

One thing that has disturbed me is getting rid of some of our watershed lands. The BPU has instructed some water companies to part with their lands. I would be very much

opposed to this for many, many reasons. One, those lands were put on board to protect those reservoirs and protect those water supplies. Some of those lands were acquired through condemnation. Private lands were taken. And now to say to sell those as a profit, I think is completely wrong. I believe the Legislature should look at that situation to see what can be done. If the water companies need help, those lands have a public purpose, as well as a private purpose, and perhaps we should look at them through the basis of real estate tax, or something of that sort, to not part with those lands for development, which then adds to the threat of those reservoirs or those water systems.

Thank you very much. Are there any questions?

ASSEMBLYWOMAN OGDEN: Any questions from the members of the Committee? (no response) So, you would basically disagree then with those who say you can safely part with the watershed lands, because the engineering technology exists to purify the water so that it is potable?

MAYOR LECHNER: I suppose you can purify it. Technically, you may be able to do it, but I don't want to drink the stuff. The cost of it is another thing. The earth system is for free. Why not use what is free? I just think it is stupid and, to put it mildly, obscene, to let water get dirty because you have the technology to clean it up. I think that is the wrong way to approach anything. I would be very much opposed to it.

Thank you.

ASSEMBLYWOMAN OGDEN: Thank you very much.

Now, to go to the agencies, we do have someone from the Federal EPA, Walter Andrews, who is Chief, Drinking/Ground Water Protection Branch. Is Mr. Andrews here? (affirmative response from audience) Mr. Andrews, I see your testimony is fairly lengthy. We all have copies, and we will have an opportunity to read it. If you would please summarize it, we would appreciate it.

W A L T E R E. A N D R E W S: Thank you, Madam Chairman. I appreciate the opportunity to testify before you today. Being from the Environmental Protection Agency, I certainly don't represent any particular area. We have to be concerned about the whole region. But here today, I want to concentrate on New Jersey, to the extent that the quantity of your water will be affected by your ability to provide the quality. I can perhaps give you EPA's perspective on that. I certainly will not be addressing the resource issue per se.

As you know, Congress, in 1986, very emphatically laid out for EPA what it expected it to do in terms of providing safe drinking water to the nation. That means that they gave us a schedule for developing additional standards, or MCLs, as we know them, over the next four or five years. Right now, we are operating with-- Well, we had 25; as of '87, we got eight more; and by 1990, we should have a total of 83 MCLs in place. Then we have to promulgate at least 25 more, perhaps through 1995.

What that means is that in order to provide safe drinking water, there will be additional MCLs to be regulated, and there will be additional costs associated with that. The particular treatment technique, or MCL that you will be concerned about most, that would perhaps have the biggest impact on New Jersey-- We refer to them as the surface water treatment rules. Some people just refer to them as mandatory filtration. I understand that New Jersey has about 50% of its drinking water coming from surface water supplies. You have before you there a chart showing how many of the surface water supplies exist in New York, New Jersey, Puerto Rico, and the Virgin Islands.

New Jersey, of course, has 59 surface water supplies, and only four of them are unfiltered, which is very good, less than 5%. The national average is much, much higher. So the impact, in terms of mandatory filtration, or surface water filtration, will be minimal on New Jersey.

In addition, when we talk about filtration, the regulation that is coming out -- that will be proposed -- says that, all surface water supplies have to meet very stringent criteria in order not to filter. That would be almost like getting a camel through the eye of a needle. It is going to be very, very tough to meet that. So, essentially, everybody, especially in New Jersey, will have to filter at some point.

In addition, all groundwater supplies must be disinfected. I think perhaps most of them are now, but there certainly won't be any future supplies that will be allowed to be served to the public without going through some type of disinfection.

Those particular supplies in New Jersey, as you notice-- Newark is one of them, but Newark is under construction. Hopefully within a very few years, that particular water supply will be being filtered and disinfected. The other one is the New Jersey American Water Company's Belvidere System. I think you used to refer to it as Buckhorn, which serves about 2500 people. That is a small system. It is presently not filtered.

In addition, there is the Newton Water and Sewer Utility, serving about 8000 people, which is not filtered. And one other one, Sussex Water Department, serving about 2200 people, which is not filtered.

The general cost that EPA works with is about a million dollars per one million gallons per day capacity. I guess you would call it capital costs, or operating costs and capital costs to provide filtered water.

I think most of you know the reason for filtration is based on the fact that we are concerned about viruses, Giardia, Legionella, and some other parameters. The only sure way, the most effective way of providing safe water, making it free of these particular contaminants, is to filter it. We use the term filtering when we are talking about slow sand filter and

diatomaceous earth filtration. However, there are other methods. Generally, we are talking about slow sand filtration.

I think in summary what I would say is, we can be very concerned about providing water, but if that water is not safe, it cannot be provided. This is going to be an additional cost to the industry if the quantity of that water, and the quality of that water are not up to EPA standards. Also, those particular standards, of course, have been adopted by the State. In the case of volatile organics, New Jersey has the A-280 program which, in some cases, is more stringent. They are allowed to be more stringent. It is more stringent than EPA's. So, to that extent, maybe there would be additional costs which the State DEP can address.

Thank you very much.

ASSEMBLYWOMAN OGDEN: Basically, Mr. Andrews, you're saying EPA is dealing with standards, and leaving it to the states to deal with actual water supply and regional management. You are not involved in supplying grants or low-interest loans or anything of that sort for construction or new facilities.

MR. ANDREWS: Yeah. EPA does not provide grants for construction. However, there are other government agencies that do. But EPA does not, that is correct.

ASSEMBLYWOMAN OGDEN: Are there any other questions from the Committee members? (no response) Thank you very much. We appreciate your coming.

Is Rocco Ricci here, Executive Director, New Jersey Water Supply Authority? (affirmative response) Chris Daggett's not here, is he? No, I don't think so. I don't see him.

R O C C O D. R I C C I: Good morning.

ASSEMBLYWOMAN OGDEN: Good morning.

MR. RICCI: The subject of this hearing is certainly timely, in view of the droughts we have experienced over the

past decade or so, in particular the concern over the low precipitation in the last spring and early summer. I think New Jersey has a very fine story to tell in terms of taking the correct steps since 1980 to provide an adequate water supply for its citizens. But I think it is also important, in rendering that judgment, that water supply should not be a limiting factor for carefully planned development in this State. Just as the Mayors of Princeton and Princeton Township indicated a few moments ago, water supply is, indeed, a regional concern, and it has to be dealt with on a regional basis. One simply has to look at the groundwater aquifers, which provide about 50% of the supply for our citizens, to recognize just how regional these supplies are.

As an example, we know that the recharge areas -- the areas which form the conduit for replenishment of the major underground aquifers, or sources of supply -- run somewhere between the Route 1 and 130 Corridor. That is, the four major aquifers up in Middlesex and Monmouth and Ocean Counties are between Route 1 and Route 130. Then the aquifers actually used from that point all the way to the coast.

One of the regional concerns that has to be dealt with far more effectively than it has been dealt with to date, is to know exactly where those recharge areas are, and what we are doing to ourselves in terms of the development that is taking place right now in the Route 1 and Route 130 Corridor. The underground aquifers are, in fact, analogous to a savings account. In this case, the equity is the water supply. If we do things which prevent the water from getting into the water bank -- the underground aquifers -- then we indeed upset a lot of the basic assumptions that have been used by DEP to date to judge how much water can be taken from the four major aquifers serving Middlesex, Monmouth, and Ocean Counties.

I believe one of the mechanisms to start dealing with the regional impact is the State Planning Commission's

efforts. However, there is a concern that I have personally, as a result of my participation in the committee of that Commission dealing with water supply and environmental issues, which is, there seems to be about a 10-year period between now and when it is expected that the Planning Commission's recommendations would become fully effective. The question that has to be addressed, and addressed quickly, is, what are we doing to ourselves between now and 10 years from now, in terms of precommitting ourselves to the impacts -- probably adverse impacts -- on the recharge areas in particular?

Now, just a couple of quick thoughts. I know you would like me to limit this to five minutes. That is difficult for me, by the way. The fact is, the droughts we have experienced over the past 20 years in California and in the Northeast, should provide ample evidence of the economic value of adequate water supplies. The droughts that New Jersey experienced in the '60s and in 1980, '81, and '85, as well as the failure of the Trenton system in 1975 -- which was mentioned just a few moments ago, and which I, personally, spent a week working on at that time -- can certainly provide valuable information about the potential economic impacts on the industrial and commercial activities of our State, and also the people who work for these business establishments.

There is also great cost to government, and also there is certainly a threat to the general health and safety of our society, which is so heavily dependent upon a reliable, adequate, and safe drinking water supply.

It seems to me that when you evaluate the water supply picture in the State of New Jersey -- or anywhere else -- that you have to consider three basic components of the supply; that is, the source of the supply, whether it is from the surface supply, generally in this area associated with a system of reservoirs, or a groundwater supply, or both. You have to consider secondly the treatment facilities, and the

distribution system. They are the three major components. You heard from the Mayors of Princeton and Princeton Township about some of the problems of allowing -- and this is certainly not the way it should happen -- development to take place without considering the impacts on the distribution system. Rather, in my judgment, the local decision-making on individual developments should first require an analysis by the proposed developer of what the water supply implications are. Each township and county, or both, should be prepared to analyze these proposals themselves, and to judge whether or not the proposed developments can proceed. The bigger picture, of course, would involve the regional impacts on major transmission piping, major regional treatment facilities, and ultimately, the source of the supply, that is the reservoir systems, if it happens to be a surface supply, or the adequacy of the underground aquifers, if it happens to be a groundwater supply.

With those general comments, I would like to quickly address those responsibilities and plans of the New Jersey Water Supply Authority in developing and managing existing and new surface water supplies to meet the existing and future needs of the areas we service. We were created in 1981. We currently operate two major reservoirs, which have already been addressed by others -- the Spruce Run Reservoir, which is 11 billion gallons of capacity, and the Round Valley Reservoir, which is a 55 billion gallon -- a 55 billion gallon -- we certainly lost a lot of water there, didn't we? -- a 55 billion gallon capacity, both of which are located in Hunterdon County, and Mayor Lechner is one of our favorite mayors, and one of our neighbors.

We also operate the Delaware and Raritan Canal, which is a 60-mile conduit which traverses from Bulls Island on the Delaware River down through Trenton and across the State through Princeton over to New Brunswick. The safe capacity of

this system is 225 million gallons a day. Of great significance is the fact that we deliver this supply to several major publicly owned and invested to own utilities for their treatment and their distribution to the customers. The service area encompasses some 1,200,000 people in growing Central New Jersey, which we are all quite familiar with.

In the initial years of the Authority -- that is, the first six years -- we spent a considerable amount of money to improve the reliability of the entire system. We spent \$20 million dredging the Delaware and Raritan Canal, and an additional \$10 million on other system improvements. Right now, in fact, I am about to go to the final financing meeting to raise another \$30 million in capital to make investments in the next five years of our capital improvement program.

Our same financial approaches, working together with the State of New Jersey, have enabled us to move forward with the new \$80 million Manasquan Reservoir System in Monmouth County. Also, we are designing and constructing a four-million-gallon-a-day treatment plant for five municipalities in southern Monmouth County, which must reduce their use of the groundwater supply because of the directives of the State of New Jersey.

We believe that with proper planning and investments, additional supplies can be furnished from the New Jersey Water Supply Authority's Raritan Basin System -- the two reservoirs and the canal. We currently have an unsold capacity of about 75 million gallons a day. But perhaps of even greater significance in terms of the future, there are several facilities for which the land is already in State ownership, which can develop an additional 100 million gallons a day. Essentially, this is the confluence reservoir, that was part of the Raritan Basin System, the Six-Mile Run Reservoir, which is adjacent to the canal, and there is also the ability to raise Round Valley Reservoir by an additional 25 feet, all of which,

if they were to proceed, could develop, as I said, another 100 million gallons a day.

DEP has recently initiated the planning efforts to establish the future needs of these growing areas -- the Route 1 Corridor, Route 130, the Route 78-287 Corridor, and also the Route 9 Corridor.

ASSEMBLYWOMAN OGDEN: So you would see those, Mr. Ricci, as the new sources of supply that the State Planning Commission talked about -- those three that you just mentioned?

MR. RICCI: Well, I know the State Planning Commission--

ASSEMBLYWOMAN OGDEN: Not the Planning Commission, the Water Supply Master Plan.

MR. RICCI: Yes, that is correct. Those are potential projects. AT DEP, it is called the Eastern Raritan Basin Study. They have a team of consultants under contract right now. They are judging what the needs are, the timing of the needs, what the available projects are, and these happen to be three of them they are investigating. They are also investigating the possible use of the quarry area outside of the Princeton area somewhere, which would possibly be an alternative to the Six-Mile Run Reservoir.

One thing to keep in mind, by the way, Madam Chairman, is, major water supply projects, that is developing the source of supply, such as reservoirs, at the minimum take seven years. That is really fast track. The Manasquan Project, which I will discuss briefly in a moment, was started by the Authority, that is the feasibility studies and environmental studies, in 1983. It is under construction now. I can assure you that that is a fast track. The project is scheduled to be completed in 1990. Ten years is probably a more realistic schedule to get through the various environmental studies and the financing and everything else. That is why planning is so very important, planning that is not after the fact, but before the fact.

Other areas of New Jersey are feeling intense growth pressures, namely the Camden and the Atlantic City regions, Monmouth County, and the northern part of Ocean County. Unlike the northeastern part of the State, where the primary source of supply is from surface water, these areas are heavily dependent upon groundwater supplies. Now, overuse of these groundwaters, especially in the Camden region, including Gloucester County, eastern Middlesex, Monmouth, and northern Ocean County, has resulted in severe declines in these aquifers -- the underground soil formations that provide the supply. Now, these lowered levels have created what DEP has referred to as "critical conditions."

Withdrawing, a very simple premise, and this goes back to my bank account analogy before-- Withdrawing quantities which are greater than the amount which is added by rainfall replenishment has to be curtailed before we destroy these resources. The State -- the DEP -- has mandated, in the case of Monmouth County and eastern Middlesex, as part of critical area number one, that the existing users reduce their use of the groundwaters by either 40% or 50%, using 1983 as the base year. Now, two things are happening. Number one, you have to replace that supply. Secondly, one has to deal with the development that is already taking place, and is continuing to take place.

The Manasquan Reservoir System, which was, in fact, referenced as an immediate action project in the statewide Water Supply Master Plan, is that alternative source of supply for most of Monmouth County, and possibly in the future, for northern Ocean County. One has to keep in mind that 60% of the existing supply in this area currently comes from groundwater. The Authority's Manasquan Reservoir System, when it is completed in 1990, will, in fact, provide the area with an additional dependable surface water supply of 30 million gallons a day. This will serve as a replacement for the

existing groundwater supplies, and also for the increased needs of the area through the 1990s which result from development.

I might also say that we fully expect, working with DEP, that at sometime in the '90s, we would be a lot smarter and able to conjunctively, that is, use together, both surface and groundwaters. With that scheme, our consultants indicate there is a high potential, without impacting the environment and the resources -- a high potential that instead of 30 million gallons a day, the system, using groundwaters conjunctively, would be capable of producing as much as 40 to 45 million gallons a day, which would be very important in terms of taking care of the needs beyond the year 2000 in that area.

We believe that the protection of these valued groundwater resources in Monmouth County and in northern Ocean County mandate that we complete our project on schedule. At the moment, it is still on schedule. It is about 45% complete, and we fully expect to begin delivering water in mid-1990.

Now, just a couple of quick comments on some other parts of the State. Great strides have been taken up in the northeastern part of the State by the completion of Monksville Supply, which is a creative venture between the North Jersey District Water Supply Commission and the Hackensack Water Company. In addition, the work the Authority has completed on the canal has restored a conduit which, at one point, because of lack of prior maintenance, was delivering, at this time of the year, as little as four million to eight million gallons a day. It has been restored, and today we are delivering 100 million gallons a day.

The Manasquan Reservoir System is also an important part of the whole picture. DEP, as you will hear, I am sure, later, has completed a number of very important studies to take care of other parts of the State. That is why when I started, my supposed to be brief remarks, I said that I firmly believe,

in my own professional judgment, that New Jersey can be proud of the steps it has taken to move forward to provide a reliable and dependable and safe drinking water supply.

One last thing must also be said: Providing new supplies, providing adequate distribution systems, so that you don't have the horror stories you heard before, providing supplies that will meet all of the ever-increasing, more stringent standards of purity, which we need, all come at a price. We will all have to get used to the idea that to date, water has been underpriced, and that the price tag in the future will be significantly higher for all of us.

I'm sorry that I went a little bit over the five minutes. I would be happy to answer any questions.

ASSEMBLYWOMAN OGDEN: Are there any questions or comments?

ASSEMBLYMAN KYRILLOS: Yes, Madam Chairman. Mr. Ricci, I represent that northern Monmouth County-eastern Middlesex region you talked about a little bit. I guess the Old Bridge Aquifer needs to be cut down in its uses by 40%.

MR. RICCI: Three of them are 50%, and I think the Old Bridge is the 40%.

ASSEMBLYMAN KYRILLOS: Is the timing of that mandate-- Is that linked to the completion of the Manasquan River Reservoir project?

MR. RICCI: Yes, unless there is some alternative supply that is immediately available. DEP, in that case, would require an earlier reduction. But basically, the answer to your question is, it will await the completion of the Manasquan System in 1990.

ASSEMBLYMAN KYRILLOS: Which is scheduled for mid-1990.

MR. RICCI: Yes, mid-1990.

ASSEMBLYWOMAN OGDEN: Thank you very much. I appreciate your being here.

Next I would like to call the representative from the New Jersey Board of Public Utilities, Melissa Margetts.

M E L I S S A M A R G E T T S: Good morning. I am from the Board of Public Utilities. I brought along Paul Giancaterino -- I'll only say that once -- who is our principal engineer from the Division of Water and Sewer. He has been working a lot on the watershed case that the Board is now hearing.

I am just going to quickly outline some of the problems the Board sees in its capacity to carry out its function as the regulatory agency. First, of course, is the watershed protection property. That is an issue that is now being looked at before the Board. DEP and the Board are trying to come to some resolution on developing guidelines for that transfer property, or not to transfer.

With regard to main extensions, last year DEP proposed some main extension policy that would basically require all people to hook up to a water supply source. Now the problem occurs when you don't know who is going to bear the costs for those main extensions. Should the new citizens pay for those main extensions? Should the existing customers, or should the water company itself, or even the shareholders? Maybe a division of those costs might be a way to do it. You know, something like that would certainly be a good issue for the Legislature to look at, as far as who should be bearing these costs, or sharing these costs.

We also have a problem with the contamination of well water. Senator Russo's bill -- S-123 -- would require that before homes could be sold, you would have to test for contaminated waters. This can be a very serious problem if, as more homes are discovered to have contaminated waters-- What is going to happen? Who is going to pay to clean up the water or to connect those people into new water sources?

With the enactment of the Safe Drinking Water Act, we found that the preliminary studies performed on a national, State, or local basis, indicated that large capital expenditures and changes in operations would be necessary in

order to comply with this Act. We question whether the utilities which are already not financially viable will be able to attract the capital in order to perform the necessary capital investments, or improvements?

One of the solutions is to prepare a detailed analysis to review and consider the possibility of proposing legislation whereby funds could be made available on a Federal or a State basis to allow funds for small water utilities, in order to construct these, or make these changes. Even if the legislation were successful, the Board is concerned because if the funds are given, or appropriated, they may not be nearly enough to cover the costs of all of the environmentally mandated capital expenditures.

In anticipation of this shortfall, BPU will be reviewing the possibility of implementing a plan to group a number of small water companies to approach a financial institution to get the needed funding. We also expect to approach a number of the larger utilities -- the water utilities -- to see if they would be interested in loaning the funds to these smaller water companies, or asking them to at least lend their expertise.

Probably the biggest problem the Board has facing it right now, aside from watershed, is the viability of the small water companies. This is a very serious problem. I think the Mayors have alluded to that, and the County Executive, as well, in stating that the development is occurring before the infrastructure is there. This has been a very serious problem for years. I think it is really just coming to a head now, with all the condominium developments that have been just exploding around the State in the past couple of years. The developers set up-- If they can't get hooked up into a main source of water supply, then they just set up shop, create their own water supply company. As soon as the problems start occurring, they kind of walk out on that situation. That is a

problem for the Board and for the consumers, because until they start having problems with dirty water, pipes breaking, or not enough water pressure, we don't hear from them. We don't know they exist. Then, all of a sudden, we find out they exist, and we have no authority over them. So, what do we do?

One of the things we have done is--

ASSEMBLYWOMAN OGDEN: They have to have a minimum number of customers, don't they? A thousand, is it?

MS. MARGETTS: Well, to come under our regulation.

ASSEMBLYWOMAN OGDEN: Oh, but they can just set up and go into business without having 1000.

MS. MARGETTS: Oh, sure.

ASSEMBLYWOMAN OGDEN: I see, okay.

MS. MARGETTS: We are the last step in the chain, as far as getting approval. In fact, that is one of the things I wanted to mention. We have been preparing letters to send to all the mayors, with copies to all of the planning boards, outlining the Board's laws and rules and regulations regarding municipal consent, stock issuance, and the initial tariff. A lot of them are very unfamiliar with this process, and have no idea that it exists. This letter will be sent annually to ensure that if there are changes in the municipal administration, they will be informed.

DEP has been working with the Board. We now have a change in the policy where DEP's Division of Water Resources conditions its final approval-- Its final approval is contingent upon the company getting the Board's municipal consent approval prior to that.

We are also working at DEP to develop new regulations, or to seek legislation to eliminate the small water company phenomena. In 1977, the Board established a Small Water Company Task Force to look into the problem. We have been meeting regularly, trying to develop strategies to help these small water companies, most of them in financial disrepair.

which eventually go into bankruptcy. That is another aspect of that phenomena. A lot more of these companies, rather than trying to work out the problems, just go into bankruptcy. We have something now in place called the Small Water Company Takeover Act. This is to try again to work with the small water companies, to see if we can't get them to maybe merge with some of the larger companies, or get the larger companies to take over their operations, to avoid that prospect.

I could go into a lot of other things, but I think for now that will be all. Are there any questions?

ASSEMBLYWOMAN OGDEN: Questions?

ASSEMBLYMAN KYRILLOS: Yes, Madam Chairman. Melissa, are you familiar with the problems in Monmouth County this past summer with the New Jersey American Water Company and whatnot? They, I would think, are considered a small water company. Is it within your purview to have looked into their infrastructure planning? My understanding was that it wasn't a problem of supply this summer, but the ability to get that water to people during a critical month or so.

P A U L G I A N C A T E R I N O: You're right, it was a problem of moving the water around. We are looking into that. That is something that Jeanne Fox, the Director, has told the engineers to, you know, get into -- look into more.

MS. MARGETTS: I believe there was a small task force formed with the Board and the water companies as well, because these problems didn't seem to be so much this summer. The news we were getting was not that there wasn't the supply, but rather the distribution problem. I think that is what the water companies and the Board are now working together on, to try to figure out a way to stop that from recurring.

ASSEMBLYMAN KYRILLOS: My understanding was that Christine Whitman had paid a visit to New Jersey American. I don't know if that is so or not.

MS. MARGETTS: It's possible.

ASSEMBLYMAN KYRILLOS: If there is a summary report, or some findings or conclusions you could share with me, I would appreciate whatever you have, or will have.

MS. MARGETTS: I could look into it and see, sure.

ASSEMBLYMAN KYRILLOS: Thank you.

ASSEMBLYWOMAN OGDEN: Is the Board involved at all in encouraging conservation through pricing, mode management, etc.?

MS. MARGETTS: We are always trying to encourage conservation in all of our utilities.

ASSEMBLYWOMAN OGDEN: Do those who use the most still pay less per gallon?

MS. MARGETTS: I am not sure what the pricing structure is.

ASSEMBLYWOMAN OGDEN: Is it, like, the bulk rate?

MR. GIANCATERINO: We are doing two things. Number one, we are requiring all of our companies to meter. There are still some customers who are not metered. So, we are requiring metering, or at least attempting to. On some of the smaller systems, it is kind of difficult, but they are such small users, sometimes it is not worth it.

We also-- I don't work for the tariffs, but I know they are working on getting away from that type of pricing system. Most of the systems, I don't think have that pricing system. They have some misnomers, though, where the industrial customers may still pay less. So, that is still a problem. Unfortunately, what they found is, if you try to price-- You'll price them out of the market. They will go and drill their own wells, if you start making it so expensive. So, they do try, but it's difficult.

ASSEMBLYWOMAN OGDEN: Yes?

ASSEMBLYMAN KRONICK: Do you feel you need additional statutory authorization to assist you in your efforts to help these smaller companies?

MS. MARGETTS: Definitely. The more authorization, the more funding, to be honest, which everyone is always screaming, of course. Our staff right now-- Garbage has taken the lead as far as what the Board has been up to, but the water companies are having a very serious problem right now. Theirs is probably almost as serious as the garbage crisis, or it may become a problem like that. We do need to find out more -- have more guidelines put upon us as to what we can or cannot do with, for instance, developing a policy, or a legislative action that would give us some insight as to how to proceed with main extensions. That is not something we have any control over right now. We cannot order-- The towns could conceivably order consumers to hook up to the water supply source, but we can't order them to do that. It's just not there.

We also have a problem with connection fees, because the municipal utilities authorities do charge connection fees, but we don't allow the private water companies that we regulate to charge connection fees. That is another, shall we say, discrepancy in the law. There are a lot of things that could be done that might help us.

ASSEMBLYMAN KRONICK: Do you think the small water companies, especially those that are created as part of a development complex, should be prevented from coming into existence? If so, what would take their place, in your mind?

MS. MARGETTS: We would love to stop it, to a certain extent. Ideally speaking, you would like to see every consumer able, when they move into a home, to have an immediate water hookup, but a lot of times, due to maybe the size of the development, or its distance from a major water supply source, it is just not financially economical to do that kind of a thing; to move the pipes or to do the main extensions all the way up to that small development, where you might have 10 homes. So, you know, ideally, yes, we would like to see fewer

or none at all of the small water companies, because they are just-- The capital investment and improvements and maintenance, etc. that have to be carried out, cannot really be carried out by the small water companies. They don't have the capital investment.

ASSEMBLYMAN KRONICK: So, what should replace that?

MS. MARGETTS: Well, probably some more-- If we had more of a policy toward main extensions whereby the water companies would be required to hook up customers, with guidelines as to how to do that with splitting the costs. That might be one way in which to do it. Do you have any recommendations, Paul?

MR. GIANCATERINO: Well, it's a real policy question. If an individual owns a parcel of land, let's say 100 acres, and he wants to put 20 houses or 40 houses, but he is not close enough to a large system, he will end up putting in maybe a small central system. These are the systems that today are, you know-- The ones that were built 20 years ago-- Those are the small systems we are having problems with. In many cases, the developer dies, and leaves this water system to the widow. Nobody wants to chase somebody around like that, but you have to, because these 40 people are depending on the water.

Unfortunately, I think if someone has a piece of property, he has a right to develop it. I think it would be a little tough to tell someone, "No, you have to wait for 10 years, until someone comes along and extends, you know, the large system." It may just not be financially feasible.

ASSEMBLYWOMAN OGDEN: But then there is also the question of, what is the ultimate cost? Maybe it is going to cost more to wait a bit, at least for the developer.

MS. MARGETTS: Right.

MR. GIANCATERINO: It's a very large policy question.

ASSEMBLYWOMAN OGDEN: But in the long run, for the people who end up being left with no water supply--

MS. MARGETTS: That is the position we get put into.

ASSEMBLYWOMAN OGDEN: That is an even greater problem.

ASSEMBLYMAN KRONICK: Is there a possibility that individual wells would be the answer?

MR. GIANCATERINO: It is a possibility, but I think you can see with this new bill that Senator Russo has, a lot of individual wells are polluted, and people don't know it because they are not tested. If you have a private well, you probably never even tested it for these exotic chemicals that they want you to test for. It would probably cost you a couple of thousand dollars, and most people are not doing it. Quite a few developments are done with individual wells.

ASSEMBLYWOMAN OGDEN: Thank you very much.

MS. MARGETTS: Thank you.

ASSEMBLYWOMAN OGDEN: Next I would like to call Dean Noll, Chief Engineer of the North Jersey District Water Supply Commission.

D E A N C. N O L L: Thank you, Madam Chairman. Members of the Committee: I am Dean Noll, Chief Engineer of the North Jersey District Water Supply Commission. I would just like to point out a few things.

New Jersey is blessed with an average rainfall of 45 inches annually, which is double the national average. We are bordered on the east by the Hudson River, on the west by the Delaware, we have numerous internal rivers, good reservoir sites in the northern part of the State, and major groundwater capabilities in the south. Yet we have been constantly plagued with water shortages throughout the past three decades. This summer, however, there were no restrictions on the one and a half million consumers in the areas served by the North Jersey District Water Supply Commission and the Hackensack Water Company because of the financial commitments made by the municipalities represented by the Commission, and the financial commitment made by the water companies' Board of Directors,

which together created the Wanaque South Project, which provides an additional 80 million gallons a day of new water supply to northern New Jersey.

This project consists of pumping stations, pipe lines, and the Monksville Reservoir. This volume of water will eliminate not only the overdrafting of our water resources, which has been prevalent since the early '60s, but the Wanaque South Project should also provide for our supply until the year 2010.

Unfortunately, even now, it is a constant battle to protect our water supply reservoirs from incursions by those who wish to put them to other uses. These other uses, of course, will diminish our water resources. Assembly Bill 1912, recently passed by a single vote, proposed that the Wanaque Reservoir and the newly created Monksville Reservoir be capped at no more than 95% of its capacity to provide for flood control. This results in a loss of storage equivalent to 25% of the capacity of the newly completed Monksville Reservoir, and equates to a decrease in safe yield of 3.3 million gallons a day. This sounds like a small amount, but when you realize it is the equivalent supply for a town of over 40,000 people, it takes on a different proportion. Even if this volume taken for flood control is paid for at replacement value, it may represent an irreplaceable loss to the water resources of the State. Water supply reservoirs cannot just be built anywhere, but require many special conditions. You have to have an impervious valley, a dam site that can be made water tight, a source of water, all close enough to the area of need to make it economically feasible to develop it. The site must be substantially free of sources of pollution, homes, industry, major roadways, historical and archaeological sites, wetlands, endangered species and their habitats.

Needless to say, the most desirable, productive, and economical sites have already been developed. The reservoirs

we build and the water supplies they create must be kept available not only for the present, but for future generations. Wanaque South should take us to the year 2010, but this is only 22 years away and, while Rocco Ricci felt we may be able to do something in seven years, I haven't seen it yet. It takes more than the 22 years we have available to us for the life of the extensions of the Wanaque South Project to be able to go ahead with the conception, design, and construction of a major project.

Therefore, we should be starting even now on our next major project if we want to avoid another cycle of overdrafts, shortages, and those long-term restrictions that are so devastating to our economy and our ability to attract industry and jobs to the State of New Jersey.

Where do we go from here? New Jersey is evaluating some reservoir sites in the central part of the State, but we must not overlook the Delaware River and Tocks Island, which is currently an authorized project. It is my understanding that this authorization will run out next year unless steps are taken to keep it alive. We simply cannot allow a project like Tocks Island and the use of the Delaware River to die. New Jersey is going to continue to expand, whether we like it or not. Its population will grow and jobs must be provided, which means that we must attract business and industry, and it cannot be done without providing the water resources to meet these expansions.

Thank you.

ASSEMBLYWOMAN OGDEN: Questions? (no response) Mr. Noll, you have, I think, quite a few thousand acres that belong to the North Jersey District Water Supply Commission.

MR. NOLL: That's right, about 6500.

ASSEMBLYWOMAN OGDEN: Sixty-five hundred. Do you find that these acres are integral to the process of protecting the water supply that you manage?

MR. NOLL: We have a very unusual arrangement with the State of New Jersey. When Bob Roe was Commissioner of Conservation and Economic Development, the Commission entered into an agreement to allow us to construct the Monksville Reservoir on lands that were bought under Green Acres. The second part of that agreement provides that we hold in perpetuity, unless we get permission from the State to release any of our existing land holdings. So, whether we would find that there is an individual parcel that we could get rid of or not, we are tied into this other agreement that was entered into back in the 1960s.

Forgetting that agreement, there are certain areas that we could never get rid of because they drain so closely into our reservoir. There are other areas which may be on the back side of mountains which have a much longer drainage route to get into the reservoir, which could be released either for development or for some type of recreation, be it skiing or golf courses.

We have purchased land in the past along streams which feed directly into the reservoir, and again those we certainly would never want to get rid of. We are also blessed in that Wanaque is surrounded not only by land that we own, but by active State parks and by undeveloped State parks. So, we do have a considerable buffer around the reservoir.

ASSEMBLYWOMAN OGDEN: Yes, Dave?

ASSEMBLYMAN KRONICK: Mr. Noll, are you familiar with the Hudson River Diversion Project?

MR. NOLL: The one that the Corps of Engineers proposed quite a few years ago?

ASSEMBLYMAN KRONICK: Yes.

MR. NOLL: Yes, I am, to a limited degree.

ASSEMBLYMAN KRONICK: Do you think we would need to develop this source?

MR. NOLL: This source would be much more difficult to develop, as I see it, because not only would we require the cooperation of New York City and New York State, and therefore we would not be our own masters, but it is such a massive project, and such an extremely expensive project. Not that Tocks Island is not, but it is not going to come about until New York City needs a very large volume of water that they can't produce either by metering in the City or by other types of conservation. So, I do not see that coming about as much of a savior for the State of New Jersey.

ASSEMBLYWOMAN OGDEN: Thank you very much.

MR. NOLL: Thank you.

ASSEMBLYWOMAN OGDEN: Next I would like to call Terry Moore, Executive Director of the Pinelands Commission.

T E R R E N C E D. M O O R E: Thank you, Mrs. Ogden. First, I would like to express my appreciation to the Committee for its invitation to testify today regarding water supply issues in New Jersey. This Committee has chosen a topic of importance, one that should remain a primary concern to the Legislature in years to come.

If the Chair will permit, I wish to confine my remarks to two areas of concern: The relationship of water supply to development, or better stated, the future growth of the State of New Jersey; and the need for a better understanding of the environmental implications of water supply, a topic not always addressed in our decisions to bring water from a source to its point of use.

I should also advise the Committee that certain of my remarks do not necessarily reflect the views of the Commission I serve, since they are addressed to issues somewhat beyond the jurisdiction of that agency. I hope you will receive those comments as merely the thoughts of an individual born and raised in this State, who has lived in both its northern and southern portions, and who has a great interest in its affairs generally, particularly the use of its land.

We in New Jersey have recently reached an understanding that there are, indeed, certain natural determinants to be considered as we continue our growth and development. Our relatively new-found knowledge is based on a difficult and costly education. Indeed, in many areas, we continue to pay dearly for our mistakes along the way.

Today in New Jersey, we are involved in an important debate regarding the future development and redevelopment of our State. It is appropriate and timely to include in that discussion the availability of efficient and economical water supplies as a factor in determining the location and intensity of future growth. It is no longer appropriate for New Jersey to await what may be the future designations of Critical Areas Three, Four, and Five, because we have allowed development to outpace the safe yield of our water supply systems, and then to scurry about defining alternative solutions. It is also appropriate to bring that concern to our local jurisdictions, since it is their role traditionally in this State to generate and administer the local plans and ordinances which represent, in total, our planned growth capacity.

Currently, the Municipal Land Use Law addresses the issue of water supply in relation to the development of local master plans. I have had the privilege over the last nine years and, indeed, some time before that, of reviewing many local master plans within the State of New Jersey. Often, one discovers that the analysis of water supply really boils down, if you will forgive my phrase, to: "We are served by the XYZ water company, and they have assured us that adequate supplies will exist." Another variation tends to state: "The township MUA operates six wells, and will need three more to serve our future growth."

I would suggest that we have come to recognize the issue of water supply today as one which certainly requires a State concern. It is a topic which should be carefully

addressed in our planning for future growth at all levels of government. Plans for such growth should contain a clear demonstration that adequate water supplies will exist, and such analysis should be reviewed and concurred with by the Department of Environmental Protection. The Department, itself, should be charged with the responsibility that ensures that plans and the zoned capacities of implementing ordinances can be served by present and proposed sources of water supply at the local, regional, and State level. It seems logical to this observer that such a system would encourage growth in suitable locations, and lessen the need for the game of "catch-up" that we, indeed, have allowed ourselves to play.

The other issue that we have at times neglected is the related environmental impacts of our quest to quench our thirst. We are turning our attention to well siting criteria that will in the future protect the public health, but we are not pursuing similar criteria to protect the ecology of the region in which such systems will be developed. This is not to suggest that the latter impacts, if known, should in every case override the water supply decision. It would, however, allow us to know what the real and lasting costs of such decisions would be for the State of New Jersey.

Let me just provide a simple example. Assemblywoman Ogden and members of this Committee toiled at great length, and with no small amount of difficulty, to equip the State with legislation to protect our freshwater wetlands from the adverse impacts of development. Today, however, it is quite feasible to sink a water supply well some distance from a given wetland, and impact that resource in a manner far more consequential than merely the development of a few single-family dwellings. Presently, we have no real systems in place to evaluate such impacts on a site specific basis, and certainly no way to judge our cumulative decisions as they may relate to the future viability of our ecological resources which may otherwise be protected by State policy and regulation.

The Pinelands Commission, in cooperation with a variety of other agencies, is beginning to take the first steps in this, to date, unexplored field. I am submitting for the Committee's review the adopted policy of the Pinelands Commission regarding the use of the Cohansey and Kirkwood Aquifers for water supply purposes. In summary, it proposes that no water supply decisions should be contemplated regarding these formations until an analysis has been performed of the potential impacts of withdrawal on the ecology of the Pinelands National Reserve. Those familiar with the Pinelands -- and I want to take note of Assemblyman LoBiondo, who represents a very lovely portion of that region -- know of the undeniable relationship between its groundwater resources and the fragile ecology of the region protected by both Federal and State legislation. It would appear to the Commission I serve that, as in the example of the wetlands, it is not quite logical to develop acquisition and regulatory programs to protect this internationally significant resource, while risking a larger impact due to a water supply decision that may lack the knowledge of true impacts.

I should note also that Assemblywoman Ogden sponsored legislation which was reported out of this Committee, but not yet enacted, that would have provided the basis for a cooperative analysis by the Department of Environmental Protection and the Commission of this subject. Lacking the enactment of that legislation, a joint committee has been formed representing the Pinelands Commission, the USGS, DEP, Rutgers, and the National Park Service. That group is nearing the completion of a proposal aimed at providing the necessary knowledge for the framework to answer the questions, so that appropriate decisions may be made in the future.

Water supply, of course, is not the only issue of concern to the Pinelands Commission. Within our region, local supplies of water are often transported as sewage effluent and

never recharged to the system. The Commission recently reviewed a proposal by the Camden County Utilities Authority to sewer three communities in the Pinelands, and to treat the effluent originating from local wells at its Delaware River Plant. Our analysis of that proposal indicated that stream flows to the Wharton State Forest would be impacted significantly. Indeed, some might even dry up. We reached the conclusion, after that research, that the project should be scaled down considerably, that a monitoring program be included to measure stream flows over a longer period of time, and that, indeed, alternate water supply facilities be planned by the CCMUA and the communities to offset the future potential impacts of those streams.

I think it is interesting to discover that the CCMUA embraced the result of that determination. Of perhaps even greater significance, particularly for those who know the somewhat controversial nature of the program that I happen to be involved in, the three municipalities have agreed to the need and, indeed, are proceeding to reduce their growth capacities by 25%. That determination by the Commission is leading to additional assessments in other locations in the Pinelands. Without seeking the answers, a decision might otherwise have resulted in a very significant long-term adverse impact on Wharton State Forest and the preservation area of the New Jersey Pinelands in which it is located.

In conclusion, I would submit only that more needs to be done to ensure that our future growth is located in areas best suited because of existing or more easily expanded infrastructure of which, of course, water supply is a part. I would also strongly urge, because I think it is an unknown answer that we are not investigating, that we set about the task of providing the framework for a much better understanding of the individual and cumulative impacts of our water supply decisions on the resources that we in New Jersey happen to value very, very much.

Thank you.

ASSEMBLYWOMAN OGDEN: Thank you. Any questions? (no response) I did have a question, Terry, about the Pinelands water supply, but I gather from what you said that it is coming out in this comprehensive analysis of the two aquifers, so I won't ask it.

MR. MOORE: Well, if I may, not to encourage you necessarily to ask, but perhaps to clarify something, it is a proposal that is being developed by the variety of agencies that I mentioned. It is a five-year plan. It will cost somewhere in the neighborhood of \$5 million, and some of us may be back to ask you. Okay?

ASSEMBLYWOMAN OGDEN: Thank you very much.

MR. MOORE: Thank you.

ASSEMBLYWOMAN OGDEN: I did see John Epling of the State Planning Commission here. I don't know whether he is still here, or whether he left.

UNIDENTIFIED SPEAKER FROM AUDIENCE: He's here.

ASSEMBLYWOMAN OGDEN: He's here, okay. Mr. Epling, we have heard a lot this morning about how we have to plan better in terms of land use and water supply.

J O H N W. E P L I N G: Maybe I should quit while I'm ahead on this one then. I will keep my comments, I think, fairly brief. I do appreciate the opportunity. Good morning.

As most, I guess some of you know anyway, I am John Epling. I am Executive Director of the New Jersey State Planning Commission. In January, 1986, after its bipartisan approval by the Legislature, Governor Kean signed into law the State Planning Act. The Act speaks of the "urgent importance" of preparing a State plan that can be used to assess suitable locations for infrastructure, housing, economic growth, and conservation. It created the State Planning Commission and its staff arm, the Office of State Planning, to carry out its intent.

The Commission is responsible for preparing and maintaining the primary instrument for coordinating planning and growth management in New Jersey -- the State Development and Redevelopment Plan. The Plan, says the statute, shall protect the natural resources and qualities of the State, while promoting development in locations where infrastructure exists or is planned. The Plan shall consider the views of all levels of government and of the public. Out of the cross-acceptance process, the Act envisions the creation and adoption of a State Plan which can ensure a high quality of life in the future; a Plan which can provide a rational basis to both the public and private sectors for planning and undertaking improvements in public facilities and services.

In January of this year, the Commission issued a draft of the Preliminary State Development and Redevelopment Plan for comment by the State agencies, the Legislature, local agencies, and the public. A revised draft is now being prepared by the Commission in response to approximately 500 or 600 comments received. Upon approval by the Commission -- hopefully sometime this fall, in October -- this revised draft will then become the Preliminary Plan and will be the basis for local refinements to the maps and other provisions through what is known as the "cross-acceptance process."

ASSEMBLYWOMAN OGDEN: John, could you, if possible, please summarize your statement, because--

MR. EPLING: I am jumping right into it.

ASSEMBLYWOMAN OGDEN: Okay.

MR. EPLING: The Plan specified several goals related to water supply issues of interest to this Committee: First, to provide adequate public services at a reasonable cost; two, to protect natural resources, including an objective to protect the quality and availability of water resources; and third, to ensure sound and integrated planning statewide.

The draft advanced both statewide and regional strategies, policies, and standards by which to achieve these goals. Foremost among these provisions was a Water Supply Protection Strategy, which reads as follows:

"Maintain the availability of high quality surface and groundwater resources to meet future needs for drinking water supplies by limiting the character, location, and magnitude of growth and development within potable water supply watersheds, aquifer recharge areas, and non-sewered areas."

This strategy has four components:

- 1) To design new development to protect water supplies from non-point sources of water pollutants resulting from development, including a recommendation for a buffer between development and reservoirs and water supply intakes;

- 2) To locate and design new development to avoid contamination of water supplies by toxic substances;

- 3) To encourage development that does not result in water withdrawals that exceed groundwater recharge, based on regional aquifer management programs or aquifer impact studies for major groundwater withdrawals; and

- 4) To guide the location and intensity of new development served by on-site wastewater disposal systems in ways that protect groundwater sources of drinking water, including a recommendation to base local master plan residential densities in areas to be served by individual wells and septic tanks on a nitrate dilution model.

The draft Plan includes additional statewide strategies: To protect water resources through stream corridor, scenic area, and open space policies; to protect water quantity and quality through implementation of local and regional storm water management plans in accordance with the Storm Water Management Act amendments to the Municipal Land Use Law; and to maintain adequate levels of service of water supply systems through capital facilities planning and programing at

all levels of government which assess long-term and short-term needs for water supply systems to serve future development.

To supplement the strategies of statewide application, the draft Plan advances policies for environmentally sensitive areas, delineated on the basis of sparse existing development and the absence of basic infrastructure, as well as on the existence of high quality waters, water supply watersheds, and endangered or threatened species' habitats. Policies in this area are focused on the need to protect the integrity of existing natural systems needed to sustain the State's natural resources including water by: directing development pressures to villages and towns potentially to be served by central water and sewer systems; limiting development densities to the capacity of existing infrastructure; and designing development to be sensitive to natural resources, including the protection of large contiguous open space areas.

We are now receiving comments on this draft, as I indicated, and the next version of the Preliminary Plan will be out in October.

I think I have provided all of you with copies of our testimony. I have hit on some of the major policy initiatives and recommendations that are contained in the draft. I will leave these copies with you, rather than take more of your time now. If you have any questions, I will be happy to answer them, either now or in the future.

ASSEMBLYWOMAN OGDEN: I appreciate that. The concerns that were being expressed this morning by representatives -- the Mayors of Princeton and also by the County Executive of Mercer, and I think by several other people -- about the whole question of development and water supply-- Is this coming in, in the comments from the cross-acceptance process, too, and will be, possibly, a stronger element than it has been so far in the Plan?

MR. EPLING: I think one of the problems the Commission has wrestled with is one that I am sure you are wrestling with and that the DEP is wrestling with; that is, trying to come to some agreement on reconciling technological solutions to water supply problems in the future, as opposed to protecting existing sources of ground and surface waters. There are no clear answers on it. Studies have been done over years, trying to answer these questions, and still we find a variety of expert opinion on the best way to resolve future water supply issues.

I think the Commission has tried, in its first year or year and a half, to engage that issue. We have included in the draft as many of the policies that we feel comfortable addressing in the context of a growth management plan. What I am trying to say there is, we should not, and cannot assume the duties of the Department of Environmental Protection as part of our growth management plan, just like we would not assume those duties for the Department of Transportation or any other State department. We are trying to produce a growth management plan to guide decisions of agencies at all levels, rather than to dictate certain solutions to highly technical issues. Within that context, we are going to try to address the issue of water supply in the greatest detail we can.

A lot is going to come from cross-acceptance. I might add that we are really anxious to get into and find out how the local governments feel about some of this.

ASSEMBLYWOMAN OGDEN: So, you're saying that basically you are relying on DEP for the research and the policy formation that has been done in that area, as opposed to developing new data yourselves?

MR. EPLING: That is correct.

ASSEMBLYWOMAN OGDEN: Are there any other questions?

ASSEMBLYMAN KRONICK: John, we have heard from a few people this morning that perhaps we should consider a

moratorium on further development until we have our water supply and infrastructure in place to accommodate this development. Would you have any comments on this?

MR. EPLING: Not really. We have received comments during our public comment period suggesting that a moratorium be placed. The Commission has not taken a position on that. I don't think it intends to at the present time. We're having enough trouble trying to pull together a plan that represents a consensus of very diverse views on how the State should grow. If we can get that done sometime in the next year, I think we will have hurdled a major obstacle. But I am sorry I can't help you with that issue.

ASSEMBLYWOMAN OGDEN: Thank you very much.

ASSEMBLYMAN KYRILLOS: Madam Chairman, I did have one question.

ASSEMBLYWOMAN OGDEN: Oh, sorry.

ASSEMBLYMAN KYRILLOS: Earlier in the morning, Mr. Epling, Rocco Ricci, of the New Jersey Water Supply Authority, spoke of the northern Monmouth County/eastern Middlesex region as one where groundwater consumption is going to have to be cut by 50%. That is the area I represent. That is my district, for the most part. The Old Bridge Aquifer has been harmed by salt water intrusion. It is not being recharged adequately because of all of the development that has gone on in recent years, yet the Master Plan, or the draft Plan calls for that area, as I am sure you know, to be an area of future growth and future high density housing, Mt. Laurel housing, and whatnot. It would seem to me that there is a conflict right there. I was wondering if you perceive it that way? Is that the kind of an issue that gets ironed out in the cross-acceptance process?

MR. EPLING: Let me explain one thing first. The State Planning Act set certain parameters on how the State Plan is to be devised. One of them was that we are to encourage growth where there is existing and planned infrastructure, and

to limit growth where that growth may impair natural resources and environmental qualities, or where that infrastructure is not planned and does not exist. So what you see on what we call the Plan Map right now is a delineation, really, of existing conditions relative to infrastructure. In other words, the growth areas we show are areas that have sewer, and that is a primary criteria right now. Through cross-acceptance, I think you are going to find a lot of refinement to that. We are not saying in the Plan that every area designated on the map has to grow and accept some kind of future population. But until we can get out and work with those municipalities and see, in very real terms, the over-capacity of a number of those infrastructure systems, and begin to make some decisions on either we resolve those over-capacities where there is traffic or sewer or water or what have you-- Either we can find ways to resolve those, or we perhaps cannot accept more growth, even though the basic infrastructure exists.

They are tough, knotty problems, and we are just getting started with it. But cross-acceptance will, hopefully, help us to answer some of those questions.

ASSEMBLYMAN KYRILLOS: That is the process where municipalities will be able to come to you and say, "I didn't have water this summer, not because of supply, but because of infrastructure problems in northern Monmouth County," for example?

MR. EPLING: Whatever the reason. That is correct.

ASSEMBLYMAN KYRILLOS: Okay.

MR. EPLING: We see, probably, some substantial changes to them now, that we have developed so far. We anticipate a lot of those changes.

ASSEMBLYMAN KRONICK: With regard to that, John, there is a logic to your plan, putting more development where there already is all the infrastructure. Yet, it is the converse

problem that you go to a major urban area, vis-a-vis Jersey City, where the sewage and a lot of the problems-- It is antiquated; it is breaking down; they can't handle it. We are going to impact that with more development. That presents a problem, I think.

MR. EPLING: Well, it does. I guess one way to look at it is, you are going to have-- When I say "you," I am talking in general. You are going to have to repair and maintain that infrastructure anyway. The question is, do you go in and when you repair and maintain make sure that you increase the capacity sufficiently to maintain growth? What we are trying to avoid with the State Plan is, over the next 20 or 30 years to reduce what would otherwise be some rather massive demands for new infrastructure in areas where we hadn't planned to spend money, which diverts some rather limited financial resources at the State and local level from solving the critical problems we have in our growth areas. As long as we are defusing our money that way, it is the feeling of the Commission that we will never be able to solve some of our critical problems. In the Infrastructure Needs Assessment we did, we found that just to accommodate the 1.3 million people and over one million jobs between now and the year 2010, our need for infrastructure -- the five basic classes of infrastructure, highway, water, sewer, drainage, and so forth -- our needs will exceed the revenues we will have to meet them by almost half again. In other words, the figure is 1.65.

This is not out of line with what the County and Municipal Study Commission found, the Governor's Management Improvement Program. We've got some real problems ahead in terms of meeting the demand new growth is going to put on it. You don't stop the growth. You try to find ways to accommodate it that we can afford and that will protect the resources that are vital and attract that growth to begin with. It is a very tough problem, as I am sure you are aware.

ASSEMBLYMAN KRONICK: Delicate balance. Thank you.

ASSEMBLYWOMAN OGDEN: Thank you very much.

MR. EPLING: Thank you.

ASSEMBLYWOMAN OGDEN: I understand the Acting Commissioner of the New Jersey DEP is here, Chris Daggett, so we will have him next. Then Ellis Vieser, and then we are going to take about a half-hour break. I apologize to everyone who has been here waiting if that is going to make it impossible for you to wait any longer. What you can certainly do is, if you have a prepared statement, if you cannot go beyond the break, if you will leave a copy here with the Committee, we will include that in the record. If you don't have a prepared statement, but still have to leave, and you would like to send us something in writing, we would also be very glad to receive that.

Welcome to the Committee, Chris. We have been asking people to summarize their statements. If possible, we would appreciate it if you could do the same.

A C T I N G C O M M . C H R I S T O P H E R J . D A G G E T T :
Yes, I will, indeed. Good morning. My name is Chris Daggett. I am the Acting Commissioner of the Department of Environmental Protection. Thank you, Chairwoman Ogden and members of the Committee, for providing the opportunity to address the water supply planning and management issue in New Jersey. I, indeed, will summarize this document. You have the full text of my statement. I will try to be short in my summary.

With me are both George McCann, to my right, Director of the Division of Water Resources, and to my left, Assistant Director of the Division of Water Resources in the planning and standards element, Mr. William Whipple. As you know -- probably know -- General Whipple is the most knowledgeable source, I think, in this State -- knowledgeable person in this State on water supply. In fact, I was kidding earlier, saying he has probably been doing this longer than I have been alive.

So, at the appropriate point, I will probably defer specific questions you might have with respect to water supply to either of these two gentlemen.

Water supply has been an issue of concern to many residents of this State, dating back to 1882, when the first State Water Commission was formed. This group recommended the site of the Wanaque Reservoir, and the Delaware River Basin Interstate Water Allocation Compact was proposed in the 1920s to coordinate use of the Delaware. However, water supply, especially groundwater resources, wasn't always a top environmental concern for many New Jerseyans. As late as the early '70s, wastes were dumped in open pits, wetlands, and other areas, and monitoring around landfills was unheard of.

Today, there are more than 100 geologists investigating the State's groundwater. Computer-run models now serve as powerful predictive tools for mapping underground water supplies and contamination, as well as helping to plan for future surface water supply projects. This summer has served as a tough reminder that water should not be taken for granted. Although most reservoirs remain near normal levels, many areas were taxed rather hard due to excessive demand that exceeded the system's ability to deliver water.

Increased land development is also cause for concern. In areas where aquifers are heavily pumped, an imbalance often occurs between withdrawal and recharge rates, resulting in potential problems such as salt water intrusion. At the same time, development introduces new non-point sources of pollution that must be controlled. The demand upon the State's water resources has increased significantly during the past several decades due to population growth. This is very evident in counties along the shore like Ocean County, where population has increased more than 80% since 1970.

In overview, meeting New Jersey's water supply needs is dependent upon preserving and protecting groundwater

resources and natural surface supplies, while at the same time increasing surface storage capacity with new reservoir projects. Infrastructure upgrading also will play a major role. As you know, DEP adopted a comprehensive statewide Water Supply Master Plan in 1982 to ensure that New Jersey would be able to meet its future needs in a systematic manner.

This plan has been updated several times to reflect changing conditions and incorporate new studies. In simplest terms, the Water Supply Master Plan provides a blueprint for action -- a plan that has guided, and will continue to guide, the expenditures of hundreds of millions of dollars for water supply projects.

Residents of the Garden State use about 100 gallons of water per person daily. Currently, DEP has issued permits that control the combined withdrawal of more than 700 million gallons a day from surface and groundwater sources. And, obviously, that is not the entire "universe," as many other private wells exist.

About half of New Jersey's residents derive their water supply from the ground -- both public and private wells -- and the remainder from surface water -- reservoirs and rivers.

Now let me detail a region-by-region summary of New Jersey's water supply situation and prospects.

Region 1, which encompasses northeastern and central New Jersey, contains the Hackensack, Passaic, and Raritan River Basins. The most pressing water supply problem identified by the Master Plan in Region 1 is the deficits facing the Passaic and Hackensack Basins during droughts. These problems are being addressed. The completion of the Wanaque South/Monksville Reservoir Project is the most recent major reservoir system to be built during DEP's 18-year tenure. This \$151 million system is sufficient to satisfy the demand of the northern portion of Region 1.

A new regional water supply system, constructed by the Middlesex Water Company, is projected to meet the needs of the southern end of Region 1 until about the year 2020. Also, the Delaware and Raritan Canal Improvement Project has been completed, as well as other modification and rehabilitation projects for several other systems.

Phenomenal growth is key to the problems facing Region 2, which consists of Ocean County and the portion of Monmouth County outside the Raritan River Basin. Depleted aquifers in Region 2 have required the area to be included in the delineation of Critical Area Number 1, the first in the State. Our Critical Areas initiative provides effective aquifer management, representing an innovative strategy for restoring groundwater supplies, a program which no other state has yet attempted. Again, this program is a first in New Jersey.

The needs of this region are being addressed by construction of the \$72 million Manasquan Reservoir. This project will provide a yield of 30 million gallons a day from the five billion gallon reservoir.

In Atlantic and Cape May Counties, which make up Region 3, two studies will help determine what action will be required to provide adequate supplies. A two-year study is under way for Atlantic County. Due to the resort-induced growth of the area and annual strains of the summer population influx, we must look carefully at the capacity of the Kirkwood Aquifer to sustain continued demand. A similar study is about to be initiated for Cape May.

To address the future water supply needs of Region 3, streams will likely have to be tapped. A study to evaluate estuarine impacts of reduced freshwater flows as a result of potential withdrawals will be initiated to begin to focus on this possible solution.

Region 4 consists of Salem and Cumberland Counties. Region 5 encompasses Camden, Burlington, and Gloucester

Counties. Region 6 consists of the portion of the Delaware Basin upstream of the Burlington/Mercer County boundary, including Warren and Sussex Counties.

The Delaware Basin presents a unique hydrologic unit for water supply planners, because it is shared by three other states. The mechanism for interstate planning and management of the basin is the Delaware River Basin Commission -- DRBC. The fundamental surface water issue facing the Delaware Basin has been to preserve a balance between the water supply uses of the river with its ecological value and aesthetic beauty.

New Jersey and other basin states are addressing these problems through implementation of the recommendations of our Water Supply Master Plan and the DRBC "Good-Faith" Agreement. As a result, the \$217 million Merrill Creek Reservoir, and the planned \$159 million modification of the existing Francis E. Walter Reservoir, will provide significant new flow augmentation storage in the basin. The Francis E. Walter modification is especially important. It represents the most crucial project before us at this time.

I bring it to your attention to request your support for a bill appropriating \$10 million of New Jersey's share of this project from the 1981 Water Supply Bond Act. The bill should be introduced shortly, and it is essential that it receives prompt and favorable consideration.

The Camden Metropolitan Area Water Supply Study we completed last year has recommended new sources of water to meet the needs of this region to the year 2020. These supplies will be provided by a new \$97 million surface water system to be built by the New Jersey American Water Company, which will include a new intake from the Delaware River, a treatment plant, and a distribution system serving Burlington, Camden, and Gloucester Counties.

The State of New Jersey is among the fastest growing states in the country. Population growth and development are

the principal determinants as to the quantities of water needed in the future. They affect the quality of water as well.

We feel confident that, in the long run, we can ensure that adequate water supplies will be made available in any part of New Jersey. An important component of this future planning for development is a statewide program for non-point source pollution control. The Department has the responsibility for protecting the natural environmental values of its streams and coastal waters, and also for protecting its water supplies, both surface and groundwater.

In this regard, there has been interest expressed recently to develop lands adjacent to water supply areas. These lands are valuable and should be safeguarded. Whether to protect surface or drinking water quality, wildlife, or a habitat, these watershed lands are important to preserve. They are critical to the recreational, aesthetic, and overall quality of life needs in our State.

Pollution of these lands may come not only from areas immediately adjacent to streams and reservoirs, but also from watershed lands miles away. We know that a large part of the pollution comes from non-point or dispersed sources, mostly generated from normal development or industrial activity. This pollution must be prevented to the greatest degree possible, through land acquisition and good land use management practices.

Within the next month, DEP will send to EPA Region II a Non-Point Source Control Strategy, as required by the Clean Water Act.

There is one additional subject I would like to bring to your attention. You are likely to hear today from some who have an interest in reviving the Tocks Island Dam Project. As you are aware, New Jersey made a deliberate decision some years ago to abandon State support for the project, and to agree to its incorporation into the Federal Wild and Scenic Rivers System.

I understand that the proposal is being made to extend the basic authorization of the Corps of Engineers to build the project, which is about to elapse. To restore or extend that authorization would require a great effort by the State. To engage in efforts to change its status now would merely divert our attention from the objectives that we need most.

The most important task before us today is to complete the F. E. Walter Project.

Thank you again for this opportunity to testify. I, with my colleagues here, would be happy to respond to any questions you may have.

ASSEMBLYWOMAN OGDEN: Thank you very much. Are there any questions from the members of the Committee? (no response) I have a couple of questions, Chris. Basically, you're saying, at the conclusion of your testimony, that we should get on with something we have been working on very hard--

ACTING COMMISSIONER DAGGETT: That is correct.

ASSEMBLYWOMAN OGDEN: --the Francis E. Walter Project, as opposed to being diverted to other sources that we have considered in the past and rejected.

ACTING COMMISSIONER DAGGETT: That is correct.

ASSEMBLYWOMAN OGDEN: We keep talking about new sources. Something I keep wondering about is the whole issue of conservation, and more efficient appliances. This is an area -- because this Committee is also dealing with energy -- that has been in the forefront in terms of energy. Instead of importing, for instance, more fuel, we know that if we continue to invest in conservation in the energy field, we can keep down our reliance on the OPEC.

I wonder, in terms of balancing out new sources and building new reservoirs, whether, from the standpoint of lead time -- we have heard it goes all the way from seven years to -- I think someone said 10 to 22 -- and also in terms of dollars, whether it doesn't make some sense at the same time to

have an ongoing effort as far as conservation is concerned, in terms of appliances, in terms of buildings, in terms of the plumbing code? I wonder whether we have gone as far as we can in that area? One thing along this line left over from the Water Supply Master Plan, was the whole question of all the leaky pipes in the old urban areas, whether all that has been restored. I believe that was part of the bond issue.

ACTING COMMISSIONER DAGGETT: Yeah, a couple of things in that regard. One is, certainly we ought to continue to press for conservation practices. I think we had a dramatic indication of how much we can do in a short period of time in the drought of 1980 and '81 -- I guess it was -- when, because of that drought there were some very big conservation moves made by companies and others -- individuals as well, for that matter. As you look at the demand on the water supplies of this State versus the projections of demand in 1980, the actual demand actually never reached the projected demand. In fact, it dropped off from the previous years because of some strong conservation efforts. Only now is it beginning to move back up again. That dramatic improvement is not likely to occur again quite the way it did at that one time, because those gains were made, conservation efforts were put into place, and they are still in place, in many instances.

So you are not going to have, maybe, that dramatic change, but there are still a number of areas where we can make improvements. Certainly one of them is the whole area of leaky pipes in urban areas. I think it is Jersey City that has done a fairly good job in recent years to work on its leaky pipes problem, but there are other areas in Newark, and others of our big cities, where the leaky pipe problem is still such that we need to be aggressive in working on that.

In addition to that, I think overall we ought to press wherever we can to educate people and tell them the value of conservation. So, I would underscore your interest in that

area, and say, yes, wholeheartedly, we ought to continue to press people.

General, do you want to add anything, or George?

G E O R G E G. M c C A N N: The only thing I would add, Chairwoman, is that we have developed general conservation guides and information to be made available from the Department for communities. We are certainly encouraging it. We also have required submission from large water companies regarding plans they have relative to your issue of leaky pipes and losses in the system. The water supply bond does provide moneys for those purveyors and water companies. We are looking to have those implemented, and to deal with the problem of losses through that mechanism.

So, we are concerned about it. It is a program that is in place. It has not been committed to as extensively as we would have expected it would be, but we are pursuing those leaky pipe situations.

ASSEMBLYWOMAN OGDEN: I have two more questions, and I understand Assemblyman LoBiondo has one as well. On the sole source aquifer designation by the Federal government, in and of itself, it doesn't really mean that much as far as construction, except I think it is that Federal funds cannot be used--

ACTING COMMISSIONER DAGGETT: That is correct.

ASSEMBLYWOMAN OGDEN: --without evaluating water policy. Is there any intention on the part of the Department to go further, because we now have that designation as a State, don't we, or we're--

ACTING COMMISSIONER DAGGETT: I think very nearly all the State has been formally designated.

ASSEMBLYWOMAN OGDEN: --attempting to obtain it, or--

ACTING COMMISSIONER DAGGETT: I think the whole State actually is-- Ninety percent or something.

MR. McCANN: If I may, Commissioner, the Department did apply. EPA had been acting on a number of requests that had come in, on a sequential basis, based upon application. So, while they initially approved certain areas for the designations, the ultimate designation encompasses the Department's request, which is approximately 90% of the land mass of the State.

ASSEMBLYWOMAN OGDEN: Other than the designation and the restriction at the Federal level, what does it mean in terms of the State?

MR. McCANN: Well, I think the answer to that is, we have recognized the dependency in New Jersey on our groundwater supplies, and we want to be protective of those. The complete answer to your question is, when you look at the designation of 90% of the State, effectively what we need to have in place is a sound groundwater management strategy which encompasses things like aquifer mapping -- detailed aquifer mapping -- classifications of the aquifers, and standards that provide for protection of those areas to avoid different types of land uses that would be implemented. There is a host of programs that are associated with this. Well head protection is another one that brings components to an overall program which we are embodying in our groundwater strategy for the Department. It will go much beyond just the Division of Water Resources. It is a Department strategy which will look at other things like the cleanup programs and the focus they bring to either Superfund or Spill Fund sites within the State, and other chemical industries and practices they have, in order to ensure that our most precious and needed aquifers are, in fact, protected for not just today, but for the future.

ACTING COMMISSIONER DAGGETT: I think the point is, we are not doing anything in particular specifically because of a determination of a sole source aquifer. What we are doing is moving forward in the programs as George has outlined because

of our strong reliance on groundwater and our overall water supply and water quality interests here in the State. General?

W I L L I A M W H I P P L E: As we get into these programs, including the non-point source control strategy, as well as these others that George McCann was mentioning, we will be assured of the cooperation of the Federal government, because previously Federal Highway Administrations, for example, were substantially immune from State control, and so are these very large military installations, some of which have given us trouble from environmental viewpoints. The sole source aquifer designation gives us a lever to require the Federal agencies to comply with State standards for environmental protection in these particular programs.

ASSEMBLYWOMAN OGDEN: Just one last question I have on the well head protection. Is anything needed in terms of legislation, as far as that is concerned, or is it going forward through--

ACTING COMMISSIONER DAGGETT: We are carrying out the program implementing as it has been put in place, and I think that is adequate at the moment.

MR. WHIPPLE: We need a little more money, but that's--

ASSEMBLYWOMAN OGDEN: Frank?

ASSEMBLYMAN LoBIONDO: Commissioner, I would like to call to your attention something you might not be aware of because of the short time you have been in your position -- Region 4 in Cumberland County. We are dependent, almost entirely, on groundwater for our source. I have been rather upset and frustrated with DEP for the last several years because of what at least appears to me to be a contradiction in your mission.

While we are sitting here talking about protection of our water source and the importance of keeping water from becoming contaminated -- groundwater -- we have a situation in the First District, in Region 4, where DEP has allowed -- has

permitted for composted sludge, which originated in Camden, traveled to Philadelphia for processing, is mixed with the industrial waste of Philadelphia -- with all of the heavy metal contaminants that that implies and are with that -- and then allows this material to be brought into Cumberland County, without very much control and without cooperation, notification, and all kinds of other things we have asked for, to be applied to our land. The same material that was coming into Cumberland County -- it has temporarily been stopped -- was applied in Lancaster County, Pennsylvania, and was proven to have caused groundwater contamination. There was an injunction issued to prohibit additional shipments.

While we are all concerned, and I appreciate what you have to say, I may be calling on you to set up a meeting to discuss this, because we have extreme concerns that, while we have a good groundwater source that is not contaminated, without proper testing, without analysis being made available to us, we fear that heavy metal contaminants will, in fact, intrude in our groundwater, and will cause a problem that will-- You know, we'll be sitting here two years from now taking testimony on how to solve a problem, while I think we have the solution before us at the present time.

I just wanted to bring that situation to your attention.

ACTING COMMISSIONER DAGGETT: I appreciate it. I have not looked into that situation, but I certainly share your concern about any contaminated materials and how they might be applied in some fashion to the areas in Cumberland County. Let me say, first of all, that I am hopeful, certainly, that permits that are allowing this activity would cover that. Let me look into it in some detail, and I would be happy to meet with you to go over it with staff here.

ASSEMBLYMAN LOBIONDO: Thank you.

ASSEMBLYWOMAN OGDEN: I have one other question -- a regional question from my area -- in terms of the documents we received as updates to the Water Supply Master Plan -- the whole question of the Buried Valley Aquifer, which is in western Essex and eastern Morris Counties, whether it is being overdrawn, and whether there is a possibility of it becoming the next water supply critical area?

MR. WHIPPLE: That Buried Valley Aquifer is a very complex geologic system. It is roughly -- I wouldn't say circular, because it is so irregular, but it has branches. Parts of it had been so depleted that the Department has had to put a moratorium on additional withdrawals from parts of that aquifer. But that is only a short-term solution. There is a study our State Geological Survey has been conducting of that for the last year and a half to two years. We intend to have a water supply feasibility study initiated there, as soon as the geological study is completed, because there is a possibility that it might need to be a water supply critical area, or it may be that certain other lesser restrictions would be sufficient. Probably they will need to get supplemental supplies of water from outside the aquifer area, but we won't know the details until we finish the geological study.

ASSEMBLYWOMAN OGDEN: And that is going to be finished next year, did you say?

MR. WHIPPLE: I would expect the geological study to be finished next year, yes. We plan a feasibility study to be initiated after that.

ASSEMBLYWOMAN OGDEN: Thank you very much, if there are no further questions.

ASSEMBLYMAN KRONICK: I have a question, Madam Chairman.

ASSEMBLYWOMAN OGDEN: Oh, sorry.

ASSEMBLYMAN KRONICK: DEP has stated that new legislative authority may be necessary to protect reservoirs

and groundwater supplies from certain types of development by creating a buffer zone. I was wondering what the State should do to protect and preserve these areas?

ACTING COMMISSIONER DAGGETT: There's a current study under way by Cook College to take a look at the question of development relative to impacts. I think that study is due to be completed, I believe, in December.

MR. WHIPPLE: Yes.

ACTING COMMISSIONER DAGGETT: We will use that, in part, to help guide us on that question. But, as far as the general buffers -- as to how big an area needs to be protected or how -- I think we need to wait and take a look at both that study and any additional information we can gather on it.

ASSEMBLYMAN KRONICK: Thank you.

ASSEMBLYWOMAN OGDEN: Thank you very much. The last witness I would like to call before lunch, is Ellis Vieser. It doesn't look like you can summarize this, Ellis.

E L L I S V I E S E R: Madam Chairman Maureen Ogden, thank you very much, and your Committee, for the opportunity to be here today to present testimony.

As is indicated on your witness list, I am representing here, and am privileged to be Chairman of the New Jersey highly successful Wastewater Treatment Trust Fund. By the way, the gentleman on my left is Dirk Hofman, Executive Director of the Wastewater Treatment Trust. He is a career employee with DEP. I must compliment him, because just recently he was nominated, and is the President of a national organization called the Interstate Conference on Water Policy. So we are fortunate to have Dirk.

In addition to that, I am on the Board of Directors of the Washington, D.C.-based National Water Alliance, so I get a national perspective on water problems. In addition, I am testifying as the President of the New Jersey Alliance for Action. I will abbreviate my remarks, and get to the heart of

the subject. Some of my remarks have been reflected here this morning.

The clear picture is that 50% of our water comes from groundwater aquifers, and 50% comes from reservoirs. I think most citizens don't really realize that. It has been said here this morning that we must protect our aquifers, because just by sheer gravity, anything we throw on the ground is eventually going to go into our groundwater facilities. We need properly constructed and lined landfills. I am going to touch on resource recovery facilities to eliminate the garbage problem. We have a white paper that we did jointly with the New Jersey Institute of Technology. It is reference information for your benefit.

We can no longer tolerate the pollution of our groundwater supplies through the continued use of antiquated garbage dumps. DEP and ourselves, and a number of other people, tried to get that message across to people. It gets wrapped up in the NIMBY system, and I think most of us know what that means -- Not In My Back Yard. But when you get down to risk assessment from the people we have interviewed and worked with professionally in that area, there is no doubt that the resource recovery route is the right way to go in diminishing that supply. Otherwise, we are continually going to be confronted with the contaminants going into our groundwater. Once they are destroyed, there is no reclamation.

It has been alluded to by Chris Daggett about the non-point source pollution. This is an area where the public could help, but I don't think the public understands it. Through the organization I represent -- the Alliance for Action -- we are working with DEP to get the educational process across to people -- that we are part of the problem. We are the enemy. Unfortunately, a lot of people do not like that message. The crass explanation for that is, the tendency is to kill the messenger.

I think we need education, and we need it bad. You know, the mere fact that people throw cigarette butts out in the street-- They think that takes care of it, but those filters don't dissolve any more. They go out into the ocean, and we see them all on the beaches. You know, I could go on and on with this, but it all gets into the water supply system.

I am going to reflect on my capacity as Chairman of the Wastewater Treatment Trust Fund. I have come to learn firsthand about the need to upgrade our sewage treatment facilities in New Jersey. For your benefit -- and there is information in your packet -- Dirk and I went down to see our congressional senatorial representatives about the Federal program. We have a need in New Jersey of over \$3 billion to take the sewage plants from primary to secondary treatment. The Federal government is imposing rigid regulations, and well they should. But now we are at a point, and there is a crux-- They are now telling us what we should do, but then they are pulling back the money.

At this point, I would like to ask Dirk to reflect on a typical letter that is in your packet -- item one. As he is discussing this, and discussing what we did in order to make our congressional delegation aware of the shortfall-- If we put into the program, which we are at the present time, \$200 million a year, if we have a \$3 billion backlog, simple mathematics tells us it is going to take 15 years to get all of these plants up to where they should be.

I personally -- and I am sure you also -- do not agree with the fact that that is a proper way to do things. So, Dirk, would you reflect on that letter, please?

D I R K C. H O F M A N: Yes. Good morning. I come to you with a little different hat on than you have seen me wear in the past. As the Executive Director of the Trust, the Chairman and I went to Washington and visited with our congressional delegation, to bring to their attention the reduction in the

Federal funds that has been recommended by the President in his budget.

Congress, when they toyed with the whole concept of the Construction Grants Program, elected to -- decided to phase it out with the idea of a loan program. Well, thanks to you, New Jersey was ahead of the other states. We have had our first year of a loan program, which was very successful, which we are moving forward again with this year. I might add on that a little commercial. You have the concurrent resolution up before you on Thursday, and I would ask your support for that concurrent resolution to approve our financing for this year. There are also two bills in the Revenue and Finance Committee, which have gone through the Senate already; they have gone through the Subcommittee; and they are now before the Finance Committee. As soon as they come out of there, I would also ask for your support on those.

But, getting back to this other, Congress, when they decided to amend the law, decided that they were going to reduce the overall funding for this program, and phase it out by 1991. However, with the \$2.4 billion that was authorized, the President saw fit to only recommend \$1.5 billion. That \$1.5 billion would have meant a reduction in New Jersey of from about \$60 million a year in the ability to finance programs. We took that to Washington, and I think, through the efforts of our congressional delegation, and some others, it appears that it is going to be a higher amount. I don't think we are going to get the full \$2.4 billion, but your support for full funding of that program is important.

You might ask how that all ties in together with water supply, but remember, water-- You treat it in a sewage treatment plant, you discharge it into a stream, and downstream it is picked up again and it goes through a water treatment plant. So the whole package has to be treated as a water resource issue. The sewage treatment plants we are talking

about are an integral part in providing a clean water supply for the citizens of New Jersey. So, that is an important program, and your support for the continuation of the Trust, and its financing, along with support for Congress to provide as much money as possible through that program, is extremely important.

MR. VIESER: I am going to touch on surface water. We are very fortunate in New Jersey because of our Federal representatives. They were very active in the Water Resources Development Act of 1986. That is Public Law 99-662. It provides for more than 30 water resource projects affecting New Jersey, probably more than any other state. But this legislation has a unique provision in it. Certain time schedules must be met to get the projects in, or they will disappear. We need a local cooperating agreement with the Federal government, and a local sponsor which, in all likelihood, is the State of New Jersey in this case, and a cost-sharing agreement must be made.

So, there has to be a commitment on the part of the State of New Jersey to tap these Federal dollars under this law. I did not give you a delineation of it in the effective time, but that is available. DEP can make that available, or I can make it available. We think that is imperative.

You have heard from our Commissioner and other people about the F. E. Walter Dam. We have been very active in trying to get that passed. Within your packet, you have a letter from the district engineer from Philadelphia, representing the Corps of Engineers, to the Governor, saying that if this project does not go ahead by October, 1988 -- and I mean a clear signal from the basin states -- it is going to disappear. It will be pulled back. The simple reason, which I will put in very plain language, is, those people going to Washington for money today are far greater than they have money available, and I think we all know that. The Corps is not looking-- Because of our

request, they have investigated F. E. Walter. They have come up with a viable project. It is ready to go ahead, but they are not going to recommend it to Congress unless our congressional delegation in the three basin states gets together and agrees to it. We are almost there, but we need your impact and your support in this.

If it doesn't go ahead, as has been indicated, I think that insurance policy for the South Jersey Water Supply will disappear. If we run into a drought again, it could affect all of the residents of South Jersey, and the industries, very disastrously. This has been spoken about before, but I bring that to your attention and urge your support.

Flood plain management has a profound impact on all of us. You have heard Dean Noll refer to the fact that water impoundments are being impacted by flood control back and forth, and that is something that is a little bit difficult for all of us to understand. I had to have it repeated to me two or three times before I could understand it. We think that is important, too.

And lastly, let me put on my hat as a member of the National Water Alliance. I provided to you a copy of the draft paper that the National Water Alliance put together to present to both presidential candidates. That Committee is headed by Senator John Breau from Louisiana and Senator David Durenberger from Minnesota. Our own Bob Breau is very active in it, and I am pleased and proud to serve as a Director.

One thing I have found in both the national perspective and myself in the State of New Jersey, both as the Wastewater Trust Chairman and with the Alliance for Action, the water doesn't realize, particularly the aquifers, that it is passing a state boundary, that it is going from one state to another. We put up boundaries, but the water supply system does not put up boundaries. There is an awful lot of information and meat in this paper here, which has been put

together by experts. It applies to the State of New Jersey, but the water situation in the United States is very, very severe. New Jersey is blessed with what we have, but we don't take care of it as much as we should.

You have been very patient. I appreciate your concern, and I appreciate your putting Dirk and I on before lunch, because I have commitments this afternoon.

Let me say, in addition to that, I pledge to you support on all three of these. The Wastewater Trust-- If you want to bring us in, we will describe it further to your staff, or what have you. We would be glad to do that. On the national scene, if I can provide you with information as it comes up, I will do so. And, obviously, as the President of the New Jersey Alliance for Action, we are working at this, as I told you, with non-point source pollution.

Thank you for what you people do. Also, if you want to tap us, we would be glad to provide you with whatever we can provide you with, in order to focus in on this situation and the needs. Thank you.

ASSEMBLYWOMAN OGDEN: Thank you. I know we all appreciate that offer. Are there any questions or comments from the members of the Committee? (no response) Thank you very much, Dirk and Ellis. I appreciate your waiting.

MR. VIESER: Thank you.

ASSEMBLYMAN KYRILLOS: Thank you, Ellis.

ASSEMBLYWOMAN OGDEN: The Committee is going to take a recess now for lunch until 1:30.

(RECESS)

AFTER RECESS:

ASSEMBLYWOMAN OGDEN: I would like to reconvene the hearing. I want to thank everyone who has stayed. We still

have one or more members of the Committee here in the building, I know, so I hope they will be back shortly.

At this time, I would like to call Gerald Hansler, Executive Director, Delaware River Basin Commission.

G E R A L D M. H A N S L E R: Thank you, Chairwoman Ogden and Committee member. This is a welcome opportunity to chat with you about water supply in New Jersey.

I had the privilege of looking at the eight questions you posed to DEP concerning general water supply issues. I won't comment on those specifically. I am quite sure that Acting Commissioner Daggett, in his remarks and in subsequent material, will answer those questions.

There were two, however, that relate, I think, to water supply problems on a micro- and a major-regional basis throughout the State of New Jersey. One is the concern of over-pumping of the groundwater system. The Delaware River Basin Commission, formed in 1961, has the authority to allocate groundwater and surface water anywhere in the Basin, without regard to political boundary. We do that if the amount is 100,000 gallons a day or more, whether it is surface or groundwater. Earlier in the morning, I believe it was the Mayor of Princeton Township who brought up the problem that existing people might be adversely impacted if someone comes in -- if there is a new development and groundwater is pumped. What do you do? In Mr. Ricci's remarks, he addressed that as a need to be addressed by DEP. Chris Daggett, in his remarks, also brought that up.

In DRBC, as a matter of procedure, we must look at possible interference problems for new water allocation requests. If someone who is already there might be adversely impacted, then a condition in the docket decision we get -- which is parallel to the State's permit approval-- It is required to provide a hookup or water or a deepened well to a person adversely affected by the new user.

From the groundwater management standpoint, on a larger basis, we look at the impact of overdrawing of the groundwater table. On many streams in the Delaware Basin, and some of those in New Jersey which are in the Basin, if you lower the groundwater table below the level of the stream bed, you can dry up what used to be a perennial stream. Many of the waste treatment plant requirements placed by the State of New Jersey on waste dischargers within the State are based upon a seven-day, 10-year low flow of the stream. If, through improper management of your aquifer, you withdraw that stream level below historically low levels, your seven-day, 10-year low flow will drop, and the waste treatment plant's discharge is too severe, the treatment plant becomes inadequate or obsolete, or must be upgraded. So, water quantity, in this case, is directly related to water quality.

Another thing that can happen is, if you overdraw a groundwater system and reduce the long-term low flow regimen, the downstream water supply reservoirs, either on system or pump storage such as the Manasquan Project will be, can be, adversely impacted. If you plan for a certain yield from the system, and you don't get that yield because the stream flows have become diminished because your groundwater reservoir feeding those streams has been drawn down, then all the planning you have done has gone by the wayside. It is not dissimilar to the point that Dean Noll brought up this morning, where a reservoir was planned for a certain storage capacity -- certain reliability of MGD based upon drought of record-- If someone else comes along and appropriates that storage space for other uses, such as flood control, then your original plan has gone by the wayside.

I think the most important problem confronting DRBC in relation to New Jersey's water supply, as stated earlier by several speakers, is the protection of the Potomac-Raritan-Magothy Aquifer. Before you is a map of the

Basin. The states are in colors. If you look at the area from southern Bristol County down to northern Cumberland County, that is where the Potomac-Raritan-Magothy Aquifer outcrops. It outcrops right under or at the Delaware River. Now, a long time ago, the water from P-R-M flowed into the Delaware River. It was a big, healthy aquifer. Today, the water flows the other way. Over 50% of the recharge of the aquifer, especially in the central Camden area, comes from the Delaware River. During dry and drought periods, that is a higher percentage that goes from the Delaware into the aquifer.

Back in the late '70s, the Commission decided to review its basinwide comprehensive plan relative to water supply -- adequate provision of water supply for present and future users. They did that because the Keystone Project in the Basin to provide water supply was the Tocks Island Project, which was shelved in 1975. Congress passed a bill appropriating money. The Corps did a big environmental study called the Madigan-Braeger Report. I know you have all heard of that. They said, "There are alternatives to Tocks Island. Find out what those are, and try to implement them."

The Commission did this through the Level B Study effort. I will leave this for the Committee. It took about four and a half years to complete. There were some 21 hearings around the Basin. Over 3200 people attended. It looked at different alternatives for providing water supply in the Basin. One of the major issues was protecting the Potomac-Raritan-Magothy Aquifer so chlorides did not come up the estuary and permanently contaminate that system.

The water supply portion of this report looked at three methods to adequately supply water between now and the year 2000, and probably thereafter. First, was to modify the U.S. Supreme Court decree which apportioned the waters of the Delaware. That decree was entered and consented to in 1954. New York gets 800 million gallons a day. Jersey gets 100

million gallons a day. Pennsylvania got the right to build a dam on the main stem at Walpack Bend, which later became the Tocks Island Project. But New York City had to provide releases from their reservoirs to maintain an adequate minimum flow at the tristate boundary just below Port Jervis, called the Montague Gauging Station.

Historically, the low flow at that point was 175 cubic feet per second. New York has to guarantee 1750 at that point. So the quid pro quo the down Basin states got was a flow 10 times greater than the historic low flow. Almost every summer, the flow out here at Trenton -- at least 50% of it -- comes from releases from the New York City reservoirs.

So, in 1975, when three Governors decided to shelve Tocks, Pennsylvania still wanted to build it. The Federal government abstained. Jersey, basically, had not come up with their end of the agreement under the Supreme Court decree. Pennsylvania could not move ahead with the project in the main stem. That is why the Level B effort. The elements in the Level B Study that related to revisions in the decree had to be unanimously concurred in by the parties to the decree. That was a requirement in the compact that created the Commission.

The four Governors and Mayor Koch met. They agreed unanimously to 14 recommendations on how to provide adequate water supply during drought periods. That agreement, known as a "good-faith agreement," I will also leave. It is not often you get four Governors and a major city Mayor to focus, let alone agree, let alone agree unanimously, but they did. They were protecting their own individual interests. But, fortunately, they were dealing with the same set of facts and the same problems -- the same deck of cards.

Now, that agreement said water conservation, some storage, and revised downward what New Jersey and New York could take out of the Basin during a drought. New Jersey and New York City are cut back 35% from what was given them in the

1954 decree. They agreed to this. Down Basin states also agreed to a lesser flow at Montague, but not a flow which would adversely impact the Potomac-Raritan-Magothy Aquifer and the chloride situation.

Water conservation things we have on the books. We put five or six. If you want a list of those at a later date, I will give it to you. They include plumbing fixtures. They include leak detection and control. These are requirements that must be done in the Basin, regardless of political boundaries, and regardless of whether or not a state has enabling legislation.

The metering requirement is basinwide. Measurement of all withdrawal, surface or ground, of 100,000 gallons a day or more, is a requirement, and there are some other things.

When it comes to storage, four projects would be added to our bathtubs for release during low flow periods to keep the pressure on the salt front, so as not to create contamination of the P-R-M Aquifer.

There were dams at all four sites. Chris Daggett, earlier this morning, mentioned the Merrill Creek Project. That is a huge project now. There was a little dam there -- an Ingersol Rand dam. No (indiscernible) fish could get up or down, but there was a small dam. Now it is a huge dam. That project, from inception to completion, I think took nine years. It is much larger than the Manasquan.

The second project is modification of the F. E. Walter Dam, a huge dam built for flood control, but designed to be modified for water supply storage. That was considered by several of the speakers this morning. I only want to step on their bandwagon and highlight the importance of getting that project under way, and the importance, through Congress, of seeking amendment to the compact which created the Commission, and a Federal reservation in that compact which stops the Commission from charging pre-compact users, even though they

may benefit from post-compact projects. Now, that reservation is not in any legislation passed by the four states. When they legislated the compact which created the Commission back in 1961, that was only a Federal reservation, so it is only to Congress we need to go to remove that.

I will leave with you a copy of our April 7 paper endorsed by the three down Basin Governors, in which they have proposed what they feel is a fair and equitable system for raising revenues to pay for the Francis E. Walter Project, as well as two existing projects which we are now operating.

The third and fourth projects-- One is a Prompton Project; similarly, a Corps of Engineers flood control project in the Poconos. And the fourth would be the modification of New York City's major reservoir in the Delaware system, the Cannonsville (phonetic spelling) Project.

With that, probably a 30-second summary. The Delaware is water rich. In 85% of the drainage area in the Delaware Basin, the water flows untouched, unpounded. It flows to the Atlantic Ocean. I can't see a need for the Tocks Island Project at this point in time, or probably even in my lifetime. I think the decision to shelve it was a proper one. I think if we could move ahead with even improved water conservation, with the F. E. Walter project and, at a later date, the Prompton Project, the P-R-M Aquifer, in our lifetime, can be well-protected.

Thank you.

ASSEMBLYWOMAN OGDEN: Thank you. I just have one question, Mr. Hansler. What would be the effect of a Tocks Island Dam on the protection of the P-R-M Aquifer, if any?

MR. HANSLER: It would give vast protection. For instance, the F. E. Walter Project would give us an additional 300 cubic feet per second at Trenton. Tocks Island would give 1800. But, the F. E. Walter Project's cost to the users in the Basin is only about \$100 million. Tocks Island now, would

probably cost upwards of \$1.5 billion to \$2 billion. If you think we're having trouble with some users out there who don't want to pay their fair share of the F. E. Walter Project, if you put a price tag such as Tocks in front of them, you know, they would say, "Get it from Congress, or Russia, or the State of New Jersey." I'm sure they would come here first -- to this very room.

ASSEMBLYWOMAN OGDEN: We have not dealt at all this morning or this afternoon with the implications of the greenhouse effect, but I think that's maybe a whole other day.

MR. HANSLER: Well, I can give you 30 quick seconds on that, because in our planning for Level B we did look at sea level rise, and that is factored into our storage needs. We did not factor in sea level rise due to greenhouse effect. I would say that probably before you would need to build Tocks -- if you look at the map -- the critical thing is the Delaware estuary and the protection of the P-R-M.

If New Jersey, or the investor-owned utility, New Jersey American, puts a treatment plant at Delanco Intake, and Philadelphia has their Sam Baxter Plant with 100 MGD unused capacity, if you ran a line from above the rocks at Trenton -- a raw water line, an aqueduct -- down to the Sam Baxter Plant, you would not have to worry -- you know, this is 50 or 60 years from now -- you wouldn't have to worry about it, I don't think. Sea level rise and the greenhouse effect or oceanfront property in Titusville-- (laughter) No, I mean, out West, they take huge lines hundreds and hundreds of miles. Here you are talking about an aqueduct maybe 18 or 20 miles long, as an alternative to a huge storage project to keep pressure down.

ASSEMBLYWOMAN OGDEN: Thank you very much. We appreciate your being here.

Is Tracey Carluccio, of Del-AWARE Unlimited, Inc., here? (affirmative response)

T R A C E Y C A R L U C C I O: Good afternoon. Thank you for the opportunity to comment here today.

As others have said here this morning, New Jersey is a water-rich State. We have about 45 inches of rainfall a year. It is, therefore, rather odd to be discussing water supply problems, when we are not the arid Midwest or Southwest. We have, in New Jersey, a vast renewable groundwater resource which can meet most of New Jersey's needs without being overpumped, if we properly manage it. We also have, to supplement that groundwater resource, underutilized reservoirs in northern New Jersey, and we have the Merrill Creek Project. The Merrill Creek Project is at least 40% oversized. That is due to the cancellation of electric generating stations which were to be build by the Merrill Creek owners group. The reservoir, when these electric utilities did not materialize, was not downsized, despite the lack of need for this replacement water.

New Jersey DEP, when they gave approvals in their permits for the project, made it very clear that the State of New Jersey will benefit and control any water supply that is to be drawn from the Merrill Creek Project, rather than the utilities. This, as of this moment, of course, is unutilized. The project is not quite in operation yet, but it is almost completed.

The Francis E. Walter Dam expansion and the Prompton Dam expansion, as well as the Merrill Creek Project, were all put forward as alternatives to a dam on the main stem, namely the Tocks Island Dam. Now the proponents of that dam are forgetting that these projects are already under way -- Prompton not as much as Francis E. Walter -- but they are still on the books and moving ahead and, in addition to those projects, are pushing the Tocks Island Dam.

The real reason we have experienced so-called water supply shortages in New Jersey is not because of a lack of

water. The problem stems from water management inadequacies throughout the State, mainly in two areas: One, our existing infrastructure, and two, in water quality. Most restrictions in New Jersey during this past summer drought, as we know, mainly stem from inadequate infrastructure; that is, your piping and your pumping in existing systems has not kept pace with development. The only way to solve this problem, as we have heard this morning, is now to put on hold new hookups, until the existing systems are upgraded, and then institute better water system planning, so the problem does not crop up again.

The water problems which are plaguing the entire State, especially South Jersey and industrial contaminated areas, all stem from water pollution. That is of both surface and groundwater supplies. We attempt to solve our surface water pollution with adequate treatment. Of course, this is not curing the problem; it is simply dealing with the symptoms. We need to institute better storm water controls, better flood plain and wetlands protection. We need to control our non-point, as well as our point sources of pollution, in order to really get a handle on our surface water problems.

As far as our groundwater is concerned, unfortunately, we have made virtually no effort to deal with the route of that problem. The only remedy imposed so far, is to pipe surface waters into an area at great expense to the public that has unusable aquifers. Until we begin to locate the sources of groundwater pollution, stop the degradation, and then institute land use practices and water management practices to protect those aquifers from depletion, and also from further pollution, mainly by industry, we will always suffer water supply problems in New Jersey.

We have realized through, for instance, the Pinelands Commission, that the huge underground reservoir under that region requires protection through proper land use. We must

take this enlightenment and apply it statewide. The outrageous suggestion that a main stem dam on the Delaware River -- the Tocks Island Dam -- will provide any relief to our water supply problems is ridiculous. It is also very unrealistic. It has been proven, through extensive ecological studies, that the Tocks Island Dam will only worsen our water supply woes by trapping pollutants in the reservoir that would be formed by the dam, lowering water quality downstream for all of us here who drink from the river, and Philadelphia. And further, the estuary, which is the best biodynamic natural treatment system for river pollutants, would suffer from the imbalance, and would also have its delicate ecosystem irreversibly imbalanced.

In addition, the estuary requires the fresh upstream flows that now come down the river and wash out what once formed the pollution block at Philadelphia. Without those fresh-water flows by a main stem dam, we are afraid we will see the days return when the Delaware was incapable of having shad pass through that section.

The Potomac-Raritan-Magothy Aquifer -- the most important, of course, in this region of New Jersey -- must be protected from salt intrusion by keeping those fresh-water flows flowing. Now, you will hear disagreements as to whether impoundments, which give a steady supply, or lack of impoundments, which give a fresh-water slug at the time of year when it is critical, is the thing that will best protect that aquifer. We believe from the studies that we have reviewed, that a main stem dam will only make the salt water intrusion problem worse.

The point is that our underground aquifers are the only place we can turn to for water supply in the future, as our environment becomes more and more contaminated. We continually relax our drinking standards in order to allow our present infrastructure to meet the requirements of the law. The public suffers from that management decision. Rather,

water utilities should be forced to upgrade, while on the other end, our environmental enforcement agencies go all out in a campaign to stop point and non-point sources of pollution. The public would benefit from that management decision.

Realistically, as global pollution continues from those sources we can't, as a State, gain total control over -- acid rain, radiation, fallout from the greenhouse effect -- we must plan now to turn to deeper and deeper underground water sources. If we do not now stop the downward journey of pollutants into our aquifers, we will have nowhere to go for essential water in the future. And, if we don't now gather the data on the geology of the State, through stream monitoring and well monitoring, then we won't even know what is happening down there.

Proper groundwater management, aquifer recharge and protection, prudent use of existing wells, recycling of sewage effluent through land application, rather than wasteful and polluting stream discharge, must be instituted statewide. This is a management practice which would benefit the public.

As a citizens' organization with 3500 members, both in Pennsylvania and New Jersey, Del-AWARE is dedicated to the protection of the Delaware River and its entire watershed. We have become aware over the past eight years of the pressures placed on the Delaware River, one of the last free-flowing rivers in the country. We advocate water conservation. Here this morning, even the Chairperson asked quite a few questions about water conservation. We believe that the measures, right down to the local level, should be advocated at the State level, such as amendment of your municipal plumbing codes, as well as the State plumbing code, and renovation of water system infrastructures to minimize your leaks and your waste, in both old and new systems. There is the newest technology at hand, which is being used in areas that are more water short, which we should be applying here. Spending bond issue moneys on

repairs and metering is far more beneficial than the development of new systems. We heard here this morning from DEP that that part of their program is not really up and running. It must get up and running.

We have to remember that every drop of water that is wasted, is a drop of water that we could have used. In other words, when we save water, we are actually creating a source of water. The State DEP should have a priority program which enlists utilities, as a requirement of their permits, and also provides incentives to industries that are settling in the area, to reduce consumptive water use.

How much water an industry or a new project requires should be one of the parameters routinely included and thoroughly scrutinized in any environmental impact statement done, and the strictest measures required to reduce that use to a minimum. Consumer education and municipal guidelines for local water conservation ordinances must also be made a priority.

ASSEMBLYWOMAN OGDEN: Is it possible to summarize the remainder of your comments, because we are--

MS. CARLUCCIO: Yes. I am at the last two paragraphs.

ASSEMBLYWOMAN OGDEN: You're really over your five minutes.

MS. CARLUCCIO: As an environmental organization, Del-AWARE also advocates the utilization of at-hand water sources under the best land use practices, rather than the importation of surface or groundwater supplies to replace your fouled groundwater supplies. The out-of-basin transfer of any water from the Delaware River is only "robbing Peter to pay Paul." Again, the issue of groundwater contamination must be dealt with, not simply put off until a mythical tomorrow, because the problem will only get worse. Already, the DRBC and the state agencies -- DEP and DER -- have allowed the Delaware River to be over-allocated to the point where we are facing a

day when we are afraid this pollution block will return to this area.

Once the Point Pleasant Project in Bucks County goes into operation, permanently removing, that is, totally consuming about two-thirds of the 95 million gallons a day that will be diverted from the Delaware River there, and once the Merrill Creek Project skims the flows above 3140 CFS at Trenton, and once the Canal Project in New Jersey takes its full allocation, and perhaps comes back for more for the growth that may be induced by that system in the Trenton to New York Corridor, then we on the Delaware will be facing a crisis. The remedy for that crisis, some will cry, will be augmentation and more dams on the Delaware, or the resurrection of Tocks Island. But the remedy will be then, as it is today, pollution control and water quality improvement. The inconsistency of the DRBC, the Pennsylvania DER, and New Jersey DEP to allow these diversions out of the watershed, and then complain of water shortages, is a bureaucratic failing.

Del-AWARE believes that the Legislature here must require a realignment of priorities that will face head-on the water quality issue and stops further diversions from already beleaguered streams, instituting your wise groundwater utilization and renovation and upgrading the existing infrastructure. This is in the public's interest, and is also in the interest of the Delaware River itself and its watershed. This is the only way we feel we can head off the water supply problems that New Jersey is facing now and will face more critically in the future.

Thank you.

ASSEMBLYWOMAN OGDEN: Thank you very much. Next will be Peggy Haskin, Natural Resources Committee, League of Women Voters.

Since we are going to try to stay to the five minutes -- which, unfortunately, we keep violating -- maybe the best

thing for the rest of the people who are coming up -- because Assemblyman Kyrillos and I have to leave just around three -- would be to come up with your recommendations.

P E G G Y H A S K I N: All right, fine. The League of Women Voters appreciates the opportunity to address this Committee. I think this has been a very valuable hearing. Many of the things that have been said today, the League strongly concurs with.

There are a number of attachments to our written testimony which amplify the statements in my present testimony. I would like to invite your attention to two attachments. One, "South Jersey Underground -- The Water Story," which was a booklet we put out for a seminar we had last fall -- Water for South Jersey. You have mentioned conservation several times. There is a one-page flyer called, "Extending the Supply." There are two kinds of on-going conservation, where we could use less water all the time by using it more efficiently, and the kind we have to have in a drought, cutting back on nonessential uses.

The League has been very concerned with groundwater. We will direct our comments primarily to the vulnerability of groundwater, both from overpumping and contamination. We will make suggestions for its protection. Of particular concern is the coastal plain and the future water supply of rapidly developing South Jersey.

A number of the speakers have touched on things in this testimony. Mr. Hansler gave a great deal of the background for one of our action items, the Francis E. Walter Dam. Terry Moore also mentioned one of our other items. But our number one priority -- and I will read this -- is one that you have been concerned with, Assemblywoman Ogden. That is on page 7 of our testimony.

We urge the following action:

1) Identification and protection of the groundwater recharge areas. We believe this is the single most important groundwater priority today. Unless this is done, groundwater levels will not stabilize as planned under the Critical Area Program. Instead, the water budget on which the cutbacks were based will no longer be valid, and groundwater pumping will have to be cut back still further.

We have strongly supported the Critical Area Program. We feel this is a very farsighted, innovative program. This way, groundwater can be kept as a renewable resource. But if we don't protect the recharge areas, it is just an exercise in futility, really.

I was very happy to hear that the Governor signed the first step in this in June -- your bill to map the aquifers. I believe there was a million dollar appropriation attached to that?

ASSEMBLYWOMAN OGDEN: That's right.

MS. HASKIN: But the critical thing is, as soon as we have the information, let's get it into effect. I have been very much involved with Critical Area 1 in Monmouth County. We are cutting back on withdrawals from the Potomac-Raritan-Magothy there. It just happens that the recharge area is in Middlesex County. So, this is a regional statewide problem that has to be addressed.

2) Francis E. Walter Dam: We urge strong support for the enlargement of the Francis E. Walter Dam to assure adequate surface water from the Delaware. Keep the salt front below the recharge area, the P-R-M Aquifer in Camden. We also feel that if there isn't more water available in the Delaware, there really may not be enough surface water to make up the deficit in Critical Area 2. The Delaware River Basin Commission will eventually have in place a depleted water use budget. They have a very sophisticated data system now. So they really know how much water they can allocate and still keep the salt front

down. And, of course, keeping the salt front down is the top priority, and there may not be that much more left to allocate in the Basin. So we do have to have water for South Jersey.

The problem is, as Mr. Hansler said, the grandfather clause actually makes 95% of the water in the Basin cost free, because only 5% of the withdrawals are post compact. So, we have to get that grandfather clause removed.

3) This is what Terry Moore mentioned. The League has been very concerned about water in South Jersey, because 85% of the people are dependent on groundwater. There are no major reservoir sites. So, there are two problems: We either get the surface water from the Delaware, or the Cohansey. We can solve the Delaware problem with Francis E. Walter, but there is a major concern that if we poke holes in the Cohansey Aquifer indiscriminately, we may cause problems to the fragile ecosystem of the Pinelands, or we could actually be poking them in the wrong place so we are not maintaining a sustainable resource.

Terry Moore mentioned the study proposal which was drawn up by a number of agencies. Actually, the League is very proud, because this was sparked by our seminar last fall -- Water for South Jersey. Within two weeks after that, this group got together, and said, "We would like to propose a study for the Cohansey." The lead agency is the U.S. Geological Survey and, as Terry said, the five-year study will cost roughly \$5 million.

I trust the Legislature will get a request to appropriate money for this study. The League will be strongly supporting this. We just thought we would let you know in advance what was coming.

I would like to make one more Tocks comment. In 1975, the New Jersey League, together with the Leagues of the three other Basin states, concurred that the Tocks Island Dam should be deauthorized. That is still our position. As I have been

reading Tocks propaganda in the newspaper, and hearing one statement here this morning, I think they are very unrealistic about hoping to get water for northeast New Jersey from the Delaware, Tocks or no Tocks. I happen to live in the Delaware Basin, and I don't think any of the people or the Governors of the three lower Basin states would consider letting another drop of water be diverted from the Basin. In fact, I think everybody would be very happy to get New York City water and New Jersey Delaware Canal water back in the Basin. Actually, we do benefit from New York City reservoirs, as Mr. Hansler pointed out. It would be nice if the Basin states owned those reservoirs so we could control where the water went.

But anyway, I think people are very unrealistic about Tocks there. They are living back in the early '70s, and not the realities of today.

I would be very happy to answer questions.

ASSEMBLYWOMAN OGDEN: Thank you very much. I also congratulate the League for the catalyst role you played in the study of the Cohansey Aquifer. I agree with you that it is very important.

MS. HASKIN: Good, fine. I want to thank you for the mapping along the aquifer recharging areas.

ASSEMBLYWOMAN OGDEN: Next on the list is Mike Ontko, Tri-County Management Board -- Burlington, Gloucester, and Camden.

M I C H A E L O N T K O: Thank you, Madam Chairman. I am Mike Ontko. I am from the Delaware Valley Regional Planning Commission. We are the service organization to the Tri-County Water Quality Management Board, which is a designated continuing water quality management planning agency for Burlington, Camden, and Gloucester Counties. As such, it covers a fairly large portion of southern New Jersey, a population of approximately 1.2 million.

I have been pleased to see that a number of the points that I proposed to talk about have pretty well been covered, and I have been whittling my comments down accordingly as we have gone along. I would like to endorse a few things, and perhaps comment on a couple of new things that the Committee might not have heard about yet.

The first one is, the Tri-County Water Quality Management Board has been the principal local coordinator for the Critical Area Program for water supply Critical Area 2. As such, we are pleased to understand that DEP has been very receptive to the local solution proposed by the Tri-County Water Quality Board to have New Jersey American Water Company act as the principal purveyor for water supply Critical Area 2, and to provide both the water distribution system and the water supply system as the principal alternative source.

A sidelight, however, of this that is not so well-known is, in this Critical Area process-- It has been a very open and diverse process, and purveyors have had the option of developing their own local solutions. In doing such, a number of purveyors have elected to go to the Mt. Laurel/Winona Aquifer as their alternative source of supply, increasing the demand on that aquifer from about four million gallons a day to somewhere over 12 million gallons a day. This means that this aquifer is also going to bear severe scrutiny in the future, to make sure that this kind of usage is not going to jeopardize that formation.

Secondly, the Cohansey Aquifer is also considered to be a viable alternative and is, indeed, permissible for water supply use under the regulations for water supply Critical Area 2. We are pleased, however, to inform you that there has not been a mad scramble for Cohansey water as a result of the water supply situation and that, indeed, out of the entire process, only one jurisdiction has proposed to go to the Cohansey formation for its alternative source of supply.

A longer term concern, however, does result from this. As you can hear from the people who have been speaking, we are chasing water from one place to another. We are going to the Delaware to get part of our water. We are going to the Mt. Laurel/Winona. The Cohansey, although it has not been used yet, is the kind of thing that people are going to continue to look at as an alternative. Therefore, the Tri-County Board has endorsed the study that the Pinelands Commission has proposed to, in fact, identify very specifically what the capabilities and uses for the Cohansey Aquifer might be.

It is important to know, for those of you who might not be familiar with the geography, that the Cohansey Aquifer covers a very much larger area than the Pinelands jurisdiction itself. In fact, it covers about two-thirds of Burlington, Camden, and Gloucester Counties, and covers virtually all of Salem County, portions of which, of course, are not really in the Pinelands. Nevertheless, we have a very poor understanding about what the full impacts of the aquifer are and its water use, which brings me to my third point -- hopefully my last major point.

We see by virtue of not only the planning process for wastewater management and water supply, and the process -- the State Planning process, as well as local plans, that there is a tendency to want to compact the development process. There is just a word of warning here, and that is: In areas where this has happened before, it has, in fact, dispersed development by promoting, if you will, the development of greater numbers of on-site septic systems and individual well systems. This is the kind of thing that has to be balanced out in this view. We must be careful that we do not damage the unusually delicate Cohansey sands by forcing development in those areas onto on-site systems, which are, of course, permissible under the regulations, another area of which needs to be examined.

This brings me to the concluding remark, and we are all victims of the process which, I guess, starts at the Federal level and gets mirrored at the State level -- unfortunately, we pick right up on that continuing on in our own work -- and that is the separation, if you will, of the wastewater management planning process, the water supply process, and the environmental use of water, all of which are covered by different regulations under the different jurisdictions of separate branches of government. I think we have to start finding a way to plan for water use, period, whether it is wastewater, whether it is water supply, or whether it is wetlands, whether it is well head protection, or whether it is aquifer recharge, rather than viewing all these programs individually. This would be the kind of Committee, I think, that would be able to start to examine how that kind of thing might be done. It is certainly a very big job because of all of the existing regulatory structure that is in place, that might have to be modified to accompany that kind of judgment.

Thank you for the opportunity to make these comments. I should point out that many of these comments are, in fact, the official position of the Tri-County Water Quality Management Board, but I am not speaking with the endorsed approval of the organization, so I would like you to take those as my personal comments at this time. The Board, however, may choose to make a submission.

ASSEMBLYWOMAN OGDEN: Thank you very much.

Is Robert Brewer, Atlantic County Planning Division, here? (no response) Ella Fillapone, Executive Director, Passaic River Coalition? (affirmative response)

D R. E L L A F. F I L L A P O N E: Good afternoon. I am Ella Fillapone, Executive Director, Passaic River Coalition. Now we are going to go to North Jersey for a little while. Madam Chairman, I am going to skip the usual introductions of the organization, but in putting together this presentation I

already started to get brief. I wanted to make sure that we covered several of the areas of major concern to us in northern New Jersey.

An institutional impediment which we have found is the legal morass in DEP. This Legislature has passed certain bills, such as the Leaking Underground Storage Bill, and the regulations are still not legal. The fact that it takes so much time for the legal process to look over the regulations delays the environmental improvements from much needed legislation. We would hope that adequate resources would be allotted to DEP so they can get the appropriate legal staff, so we can get to work not only on the regulations for leaking underground storage tanks, but to establish some very good standards that are being recommended on groundwater quality standards. That is one of our institutional impediments.

Another one is the interconnected nature of water supply and water quality, which the previous speaker alluded to. The water quality component does not address water supply at all. As a matter of fact, tomorrow is the last day for comment on the new water quality standards which are being, in our opinion, downgraded, from health oriented standard to a standard that is more related to the analytical capability of the laboratories in the State. This will have a distinct impact on the wasteload allocations of sewage treatment plants, and ultimately non-point source pollution in the upper Passaic, which is a major water supply source. So, these changes in standards by water quality will have a negative effect on water supply over the long term.

The other point is one which I have preached on for 10 years. It is also a part of the priority system of our wastewater management program, which places high points to sewage treatment plants that process urban sewage. They do not look with much care to the receiving waters. Right now, we have eight sewage treatment plants that are on the priority

list in the upper Passaic, but that is only because time has passed. The upper Passaic is drinking water supply, and it should always have had high priority. We have never gotten that priority and, as a consequence, some of our municipalities are being burdened economically by having to finance these plants themselves. Towns like Livingston, which has been a good steward, as much as they could be, are being penalized because they happen to be geographically located in a place where there was no priority given by DEP.

The assimilative capacity of a small stream, such as the Passaic River in this particular region, is much less than when you are going into upper New York Harbor, or perhaps even into the ocean, and we could have done so much more putting money into the smaller treatment facilities.

Another threat to our water supply is water qualifications in the neighboring state. This, I think, is something that this Committee and the Governor and the Acting Commissioner should immediately get onto. New York had given its legal word to classify all streams coming into New Jersey as "A" Classification. They gave the Ringwood Creek a "D" Classification. That "D" means that they don't even have to treat it. They can put the sewage into the stream -- into Ringwood Creek. Ringwood Creek flows into the State of New Jersey through Ringwood Park, and ultimately into the Wanauque Reservoir, which is the primary drinking water supply for northern New Jersey.

We, the Coalition, have written a letter to the Commissioner in New York. We would hope that we would get every bit of support from this Committee, and everybody else, that this classification be changed to "A," and that any development up in New York State that is going on in the Sterling Forest lands or elsewhere be remanded to treat their sewage effluent to "A" Classification.

Another issue we would like to jump into is a point that has been made by several previous speakers; that is, response to drought and the development syndrome in the State of New Jersey. When we first started working as a watershed association and we were working before planning boards and development schemes, 60 units was a big project. Now, we are talking in the hundreds and in the thousands. One question we would like to have answered is: What is the overall impact of the builders' remedy of the Mt. Laurel decision on our water resources, at least in the Passaic River Basin, and especially in the water deficit Morris County area? When the Acting Commissioner was before you and talked about Region 1, he did not mention to you that Morris County is in a water deficit situation. With all of the development that is going on there, and all of them being groundwater dependent, there is going to be a major crisis in that particular area of our watershed.

Another point we wanted to bring to your attention, and it is somewhat in response to a question you asked, Madam Chairman-- It is with regard to the Buried Valley Aquifer system to the central Passaic Basin. The unofficial report is that we are already overpumping and overdrawing what is in that aquifer. The Passaic Groundwater Protection Committee, of which Millburn has always been a member, has been monitoring the State studies. We have been trying to urge the State to move forward in a much more expeditious manner. However, in one area there is a critical difference of opinion between the Groundwater Protection Committee and the position held by the Department of Environmental Protection. Recharge of that aquifer is critical, and we cannot afford to lose one drop.

The Flood Control Tunnel Plan will activate the tunnel at the one-year storm, drawing water out of the Basin and into the lower Passaic River, and ultimately to the ocean. We will be losing recharge capability for that groundwater resource. When we put in our sole source aquifer petition back in 1979 --

when you were Mayor of Millburn -- we had 689,000 people dependent on that groundwater for drinking water supply. We now have over, or close to a million. So, our population is going up very quickly, with towns like Parsippany gaining tremendous population.

Another area we have to look at -- and again, other speakers alluded to it -- is the transfer of water from one watershed to another and what this means to the overall scheme of water management in the State of New Jersey. We have raised what I think has frequently been a rather interesting question, and I would like to go to my statement here because if I want to paraphrase it, it is not going to come out right: Has a county or municipality which provided water supply to the urban area given up certain of its rights to development because its water supply is going elsewhere? In the same context, where certain lands have been held as watershed lands, will they always remain as open space, and do we have the financial resources to keep them open? How high on the priority list is watershed protection? Did the Legislature make a wise decision when it required every county to site a resource recovery site with a landfill within its boundaries, especially when certain areas of the State are the water exporters?

I think the Legislature should reevaluate that decision, because it has always been a reasonable principle that you don't put your garbage dump in your water supply area.

What priority will be placed on contaminated groundwater? That is another question we would like to ask DEP. Currently, several episodes of contaminated groundwater have been identified. In some cases, remedial action, such as air stripping, allow for use of the water. However, where the situation is too grave, water is brought in for public use. Once these pipes are in the ground, we are concerned that the importance of cleaning up the contaminated groundwater will no longer hold priority, and these supplies will no longer be used.

According to the process for the revision of the Water Supply Master Plan, these types of issues should be explored, and more. Our primary concern regarding water as a resource is, does the State of New Jersey have the courage to recognize that water is a limited resource, and will it initiate safeguards towards overdevelopment not only from a user's standpoint, but also related to land use and its interrelationship to water supply? This is not an environmental issue. It is of utmost economic importance. No society can function without an adequate high quality water supply.

We urge this Committee to formulate a long-term management proposal which will include funding for not only feasibility projects, but also policy issues, allowing for dialogue amongst different views. A forum should be established to attain consensus from such deliberations. We suggest that a public education component be created which would further encourage water conservation and inform our citizens regarding their own personal water source. We urge this Committee to formulate legislation which will lessen the property tax burden on water purveyors holding large tracts of land for water supply purposes, so that such lands need not be sold and developed.

We also suggest that this Committee, and all members of the New Jersey Legislature, take a greater interest in water resource management issues, so that we see greater progress in water pollution initiatives and in land use management.

We thank you for the opportunity, and would be very happy to comment or answer any of your questions. I'm sorry the other Committee members aren't here any more.

ASSEMBLYWOMAN OGDEN: I am, too. One will be returning momentarily, but they will all have a chance to read your testimony, Ella. Thank you very much for your thought-provoking questions.

From the Hackensack Water Company, the President, George Haskew, and Mr. Roberts, and Frank Capece.

T H O M A S M c C A N N: Madam Chairman, my name is Tom McCann. I am Vice President of Operations for the Hackensack Water Company. I will speak for Mr. Haskew and for the company. My associate, Mr. Frank Capece, will be available to answer any questions that may develop within his area of expertise.

The Hackensack Water Company is an investor-owned utility providing water supply to 800,000 people in 60 Bergen and Hudson County communities. Our primary water source comes from a series of four reservoirs built in the interstate watershed of the Hackensack River. We are also a partner in the North Jersey District Water Supply Commission in the Wanaque South Project, a regional water supply project completed in 1987. Wanaque South develops a new water supply and additional reservoir storage capacity in the Passaic River watershed, and also provides for inter-basin transfer of water. It makes efficient use of preexisting, but somewhat underutilized storage capacity of the Wanaque Reservoir.

Wanaque South adds more than 80 million gallons a day to the safe yields of the two partners. Forty million gallons a day, which is Hackensack's share of the project, adds 50% to the safe yield of our own water supply resources.

In 1988, the State has experienced an intense dry spell. Rainfall during the month of June was the fourth lowest in 105 years of record. There have been 43 days during the summer where the temperature exceeded 90 degrees. As far as I know, this is a record. But the promise of Wanaque South has been kept, namely to provide northeastern New Jersey with adequate water supplies to serve future growth and to avoid water shortage and restrictions during drought conditions.

So far this year, the project has already added more than three billion gallons to Hackensack's water supply,

replenishing Oradell Reservoir more than once over. In fact, just last week, the tenth billion gallon of Wanaque South water flowed into Oradell Reservoir, since the project went into partial operation in 1985.

This might be an appropriate time to comment on Assembly Bill 1912, which was alluded to by Mr. Noll previously. If this poorly conceived bill becomes law, it will mandate the reduction of water levels in Wanaque and Monksville Reservoirs by 5%. When we first started with this bill before your Committee, there was no drought. Events this summer would have had a more serious effect in northern New Jersey had the reservoir reduction been in effect. A 5% reduction in the storage capacity of these reservoirs, if applied to Hackensack Water Company alone, would equate to an approximate loss of 18 days' water supply to the people of Bergen and Hudson Counties, at a time of the year when we could least afford it, namely during the summer months.

Flooding in the Passaic River Basin is a serious problem. The attainment of well-engineered and sensible flood control is a worthwhile objective, but the confiscation of water supply facilities for flood control is short-sighted. Wanaque South is not a large project by most standards. It is nothing like Hoover Dam, for example, and Lake Mead and Hoover Dam were built in seven years. The Wanaque South Project took 15 years from its application to completion, not including an eight-year planning scenario. The long time lead to develop water supply facilities is something that New Jersey should be concerned about, as its water supply needs and deficits will continue to grow.

The statewide Water Supply Master Plan deserves comment. This is a living document. It is continuously reviewed and updated. It is our opinion that local solutions to water supply deficits are no longer appropriate. Planning must be on a regional -- at least on a regional basis, and best

done on a completely statewide basis. The process of examining water resources in a systematic way is worthwhile and deserves legislative support and attention.

A considerable amount of comment has been made to future water supplies after the year 2010. We estimate that the Wanaque South Project yield will be depleted between the year 2010 and 2020. Region 1 represents 80% of the population of the State of New Jersey and 70% of its economic resources. It is imperative that a long-range plan be developed to handle the deficit situation which will occur sometime after the year 2010. From our point of view, there are three projects that might be liable, and I would list them in order of priority:

First, the yield of the Passaic River Basin can be substantially increased by making sure that the wastewater treatment plants along the river that discharge effluent into the river meet their NJDPES permit requirements -- their effluent requirements. This is not the case right now and, as a result, Wanaque South Project partners, for example, are preempted from pumping from the Passaic River during five to seven months of the year, because of lower and degraded water quality in the river. This is something that could be taken care of, and taken care of in a long-range, systematic way.

Going further down the road, going into the 30- to 100-year planning cycle, it is hard for us to envision any major water supply addition to Region 1, other than the development of Tocks Island, or a similar type of project of that magnitude, or possibly the development of the Hudson River diversion. Both are viable projects. Both can supply very large amounts of water to meet these coming deficits.

We believe that our area, Bergen and Hudson Counties, will continue to develop to the saturation point. It is our responsibility to anticipate this development and redevelopment, and have water supply delivery facilities in

place when the need occurs. We regularly update our forecast for population consumption, and we frequently consult with county and regional planning authorities to check our projections against theirs.

That, Madam Chairman, concludes my remarks. Thank you for your attention, and for the opportunity to express our views on this most important topic. One advantage of speaking late, is that these things tend to become more compressed as we go on.

ASSEMBLYWOMAN OGDEN: We appreciate your waiting as long as you did, and for summarizing your very good testimony.

Mr. Dickey Dwyer, Lawrenceville Water Company?

D I C K E Y D Y E R: Madam Chairman, my name is Dickey Dyer. It is Dyer, not Dwyer. I am not the Irishman from New York.

ASSEMBLYWOMAN OGDEN: Our mistake.

MR. DYER: I am a Director of the Lawrenceville Water Company, and also Vice Chairman of the Ewing/Lawrence Sewerage Authority, so I am kind of in the middle of this water situation.

I am coming to you to appeal to you to provide a model ordinance for the 567 municipalities of New Jersey which, excluding Newark, Camden, New Brunswick, and major municipalities of that nature, are quite ill-equipped, by virtue of their governments being run by part-time people, to fathom the intricacies of what is necessary in periods of drought to manage potable water properly.

I will take you through a micro-example in my own township, which I lie between the supply of potable water and the processing of wastewater. I believe the implications are macro, however. For the last four years, the Lawrenceville community has suffered miserably from the droughts we have been experiencing in New Jersey, starting with 1985, when Richard Dewling, on behalf of the Governor, issued an emergency

proclamation in September, when things went bad around Labor Day. The following year, things went bad around Memorial Day. This year, they went bad around Independence Day.

In the Township of Lawrence, these wonderful things occurred, and you can see the dilemma that the 567 municipalities, save the small ones, are faced with. When the water shortage occurred this year, around Independence Day, the wise people in the township turned over to their attorney the proclamation issued by the Governor, prepared by Richard Dewling as the model for developing a water control -- water conservation ordinance for the Township of Lawrence. I presented that ordinance the next day to the Policy Advisory Committee of the Mercer County Planning Board's Water Management Group, which is part of the Planning Board. The people representing agriculture went up in smoke, and said, "That is pure junk -- pure junk. You are inducing the wasting of water, rather than the saving of water. You have some cosmetic things in there, like, don't give people water at a restaurant unless they ask for it. You're talking about saving one jug of water, at the time you are inducing people to waste 100 gallons per night."

I took the material I got from the agriculture representatives in the pack, took it back to my council, and my council clammed up mentally. It was too much. So, instead of bringing forth an ordinance which would become a model for the County of Mercer -- and you heard Mr. Mathesius earlier today -- my township committee simply cramped up, and said, "Oh, give them every other day watering, and say it doesn't count for agriculture; it doesn't count for industry; it doesn't count for anything." Just poor, old people who have houses, who can only water their lawns every other day, and they can't wash their cars.

So, I come to you and say, the townships -- the municipalities -- are between a rock and a hard place. There

are very, very strong strictures coming from DEP, talking about the conservation of groundwater. On the other hand, there are tremendous demands from developers demanding water, and the profligate use of water, and the township committees -- the township councils -- are caught in the middle between these two contending forces.

I have been talking to Ara Hovnanian, probably unsuccessfully, saying to him, "When you build these massive 2000 family units, don't put in the landscaping the middle of Labor Day or the middle of July 4, because that is when the drought starts, and that is when you run all of the water companies out of water. The people who have \$15,000 worth of landscaping which has just been put in when they moved into the house, are certainly not going to pay attention to anybody. They are going to save that \$15,000 worth of landscaping. So, Ara, don't put your landscaping in in the middle of the summer."

Now, what am I asking you to do? I am asking you, with the power you have-- You have firstly given us home rule. Now I am asking you to bring together the people of the Department of Agriculture, the people of the Department of Environmental Protection, and the people of the Department of Commerce, representing the various contending forces. Commerce, I assume, could represent developers. Agriculture, I assume, could represent farmers, nurserymen, people who are selling plants in places like K-Mart, and so forth. DEP could certainly represent concerns for the preservation of the aquifers and such things as we have been hearing about today about the transfer of water from one segment to another.

Prepare for us, as a part of the legislation you are preparing, a model ordinance, so that all of us can do those jobs we should do, which are: 1) Preserve our aquifers; 2) be fair to the people who live in our communities. Show us the kinds of prohibitions we should have, such as: "Hovnanian, you

can't put that landscaping in in June." Help us with the matter of how to enforce these kinds of regulations. Do we send cops out? Do we cite people? Do we fine them \$500 if they violate? Is alternate day watering a good idea? Is it true, as the agriculture people tell me, that the concept of hand-held hoses is the biggest joke in New Jersey? You do not water shrubs, and you do not water gardens with hand-held hoses. That is an inducement to the wasting of water. You get trickle systems, you put them in at night, and you trickle into the garden so it can slowly absorb it. You use one-seventh the amount of water. You don't, one, either cause disease to the plants at night, or two, spray in the daytime, on the off-time of the water companies, and burn the plants, because the little droplets of water, believe it or not, that stay on the plant, become magnifiers and the sun goes through them and burns the plants. I did not know that until a few weeks ago.

So, my petition to you-- I will give you a summary of what I have just said and, in addition, the five documents I just referred to -- the so-called bottle ordinance, the retort I got from the agriculturists, and the two mishmash proclamations that came out of Lawrence Township in sheer desperation -- desperation because they simply cannot, as part-time people, deal with the immensity of the problem and all of the contending forces.

I have been talking pretty fast. If there are any questions, I would be delighted to answer them.

ASSEMBLYWOMAN OGDEN: I think we are going to have to read them first. Then we will come back to you, Mr. Dyer.

MR. DYER: All right.

ASSEMBLYWOMAN OGDEN: We appreciate your bringing this to our attention.

I think Jim Morford, of the New Jersey SEED group, has left. Is J. Richard Tompkins, of the Middlesex Water Company, still here?

D E N N I S S U L L I V A N: Don't worry, I'll be short.

ASSEMBLYWOMAN OGDEN: You'll be short, okay.

MR. SULLIVAN: My name is Dennis Sullivan. I am with the Middlesex Water Company. I will summarize a couple of points here.

First of all, concerning the Delaware River Basin and the F. E. Walter Project, about which you have heard today, if I could offer a couple of comments. A number of the speakers have spoken about the need of the Walter Project. They referred to groundwater recharge in southern New Jersey, solidty control, future growth, but they have not raised the issue of cost and who is going to pay for it. As I understand the proposal as it is now, it would levy the major burden of the cost -- at least the New Jersey portion of it -- upon the residents of Central New Jersey. Granted, there is some benefit, or there may be some benefit to those residents who are our customers. The proposals up to this point seem to be heavily burdening our customers far in excess of any benefits they are going to receive. I would just like that issue to be placed on the table -- the fairness of the costs. I guess we are some of the people that Gerald Hansler referred to as being unwilling to bear our share of the costs. That is true, up to this point, because we don't think the burden has been fairly allocated up to this point.

Secondly, the issue is whether the procedure is correct that the compact has to be amended so that the Delaware River Basin Commission has authority to levy fees on our customers, or whether the State of New Jersey should retain its own ability to pay for its share of the Walter Project: for example, if the State were to pay for its share and then levy the costs as the State itself sees the benefits allocated. As it is now, the DRBC would be the one that would levy the costs. Again, this would fall heavily upon our customers, who happen to be easy targets for obtaining finances.

The rest of the statement we have prepared really speaks about the general water supply issues and distribution issues. It speaks primarily about the high capital investment that investor-owned companies have to undertake, and some ways in which the State could assist us in keeping costs down by being conscious of the heavy capital investments we have to make, the long-term planning we have to do, and how those finances are recovered. But I will leave those prepared remarks with you.

If you have any questions, I would be happy to answer them.

ASSEMBLYWOMAN OGDEN: Thank you very much. I see that you have several recommendations here at the end -- solutions. So, if we have further questions on them, we will be in touch with you.

MR. SULLIVAN: One of the primary ones would be the issue of the tax credits to help us to plan for the future. A specific example would be, right now, we need a 8-inch or 12-inch diameter pipe line to serve present needs, but we have to install a 36-inch or 42-inch line in order to meet future needs. Yet, the cost has to be paid for now. How do we deal with that? How do we put something in the ground that will meet future needs, and yet recover those costs with present revenues?

So, that's about it. Thank you.

ASSEMBLYWOMAN OGDEN: Is Mr. Robert Karen, Vice President/Treasurer, New Jersey Builders Association, here? (inaudible response from his representative in audience) If you could be brief, like the previous speaker, that would be great.

M I C H A E L M c G U I N N E S S: Good afternoon, Assemblywoman Ogden and members of the Committee. My name is Michael McGuinness. I am Director of Environmental Affairs for the New Jersey Builders Association.

We would like to say that it is becoming increasingly apparent that portions of the State lack adequate infrastructure for the collection, treatment, and distribution of potable water. Needless to say, there is a direct relationship with the State's economy, housing in particular. We would like to say, though, that the State is well-equipped, however, with the necessary water resources, such as ample rainfall, abundant waterways, numerous lakes and ponds, and several productive aquifers. What we do not have, though, is the necessary infrastructure to collect and distribute this water to where it is needed. Regardless of the causes for this lack of infrastructure, we believe the challenge of providing the infrastructure can be provided by the water supply companies. A good example is in the northern part of the State, where the recent completion of the Monksville/Wanaque South Reservoir, carried out by the New Jersey Water Supply Authority, has virtually drought-proofed that portion of the State.

We believe that additional projects such as that are essential, and that the State water supply companies are the ones to meet that challenge. What they need, however, is incentives and flexibility by the State government. Included here would be financing for water supply projects, as outlined in the State Water Supply Master Plan, and the avoidance of the NIMBY syndrome, which tends to inhibit the siting of these facilities.

The water supply companies have strict programs they have to adhere to, such as well drilling, water allocation, water quality standards, which are designed to protect the public health. These are run by DEP. They take into account the regional differences that exist throughout the State.

We believe these programs need to be examined to identify opportunities to streamline them, and to make them more coherent and efficient, where possible. This coordination

is necessary if we are to make the improvements necessary to meet the future needs of the State.

Presently, water supply companies, as an example, in the central and southern portions of the State, are developing new water supply sources to replace cutbacks that were imposed by the State due to the Critical Area designations. We have no doubt that these companies can successfully meet the challenge of capturing, treating, and distributing water from new sources.

Water supply infrastructure is vital to the implementation of an effective State plan. Review of the draft of the State Development and Redevelopment Plan does not indicate any plans for providing additional water supplies to growth areas. For example, the plan's analysis cites potential water shortages as a critical concern, but offers no proposals on how to increase our supplies of potable water. Instead, the emphasis is placed on strategies designed to protect existing groundwater and surface water supplies from pollution. While protecting these supplies is essential, we believe that concurrently, plans should be made for additional water supplies.

The State should assume the role that is spelled out in the New Jersey Water Supply Master Plan, basically to see that a well-balanced program of water supply management and development is created, that water is used efficiently, and that distribution is provided equitably. Included in these responsibilities would be: the setting of policy to develop standards and enforcement procedures; setting up training programs; acting as a trustee and guardian of water supplies; promoting the economic welfare; establishing a sound institutional and financial system to ensure the health of private water companies; supporting the planning, coordination, and public participation to protect and maintain waters; and acting as a wholesaler of water in operating the State facilities on a self-sustaining basis.

In so doing, this would compliment the other entities which have a role in providing water supplies, such as the water companies, who must reinvest in their systems, local government, which must award franchises to reputable water companies, and the private citizen, who must implement water conservation measures.

Additionally, I would draw the Committee's attention to other areas that may help us with our water supply problems, such as eliminating bureaucratic delays, especially for water supply projects, as the water companies apply for permits, easements, and approvals from DEP. Also, to provide a stable source of funding, such as a water surcharge tax, to be used for the purchase of lands and the development of reservoirs to supply future water needs, and to develop and maintain associated infrastructure. Also, to fund studies to research alternative and innovative methods to treat water, and to provide for expedited approval of rate adjustments by the BPU to water companies, so that they can raise capital for improvements. Also, to ensure a stable and adequate source of funding to maintain the water company infrastructure loan programs, and especially to make those funds available to the investor-owned water companies. They are not presently available. Also, to promote additional projects such as the F. E. Walter, which several people have spoken about earlier, and possibly the Tocks Island Project.

We also feel it would be important to identify and create a map of existing water supply company franchise areas, which could be used as a planning tool to identify inefficiencies such as leaks, and prioritize funding for the remedy to consider a surcharge in the use of well water, possibly through the Well Drilling Permit Program, to supplement funding for water supply projects, and to support the recycling of treated wastewater to be used for irrigation and other non-potable uses.

In closing, on behalf of the New Jersey Builders Association, I would like to commend DEP for their continual efforts to evaluate and plan for the State's ever-changing water supply needs through support of the use of the State Water Supply Master Plan. This Plan has proven to be a viable and dynamic document based on its biannual update and the number of projects that are either under way or have been brought to completion.

Additionally, I also want to thank you, Assemblywoman Ogden, and your Committee, for scheduling this hearing to bring public awareness to this significant issue of water supply infrastructure.

I would be happy to address any questions now, or in the future.

ASSEMBLYWOMAN OGDEN: Thank you very much.

Is Mr. Neely, of the Township of East Brunswick, still here? (no response) Mary Ellen Noble, Watershed Association of the Delaware River? (affirmative response)

I am going to turn the hearing over to the Vice Chairman, Assemblyman Kyrillos, at this time, because I have to leave. I apologize. I thank him for being here, and thank all of you for coming.

I think we just have about two more people on the list.

ASSEMBLYMAN KYRILLOS: Thank you. Go ahead, please.

M A R Y E L L E N N O B L E: The Watershed Association of the Delaware River is a four-state citizens group. Our area of concern is the watershed of the Delaware River. Our concern is cooperation with natural systems, and the health of natural systems. We do not take this point of view exclusively, as against the needs of the human population, but we wish to sort of take the point and emphasize it.

There were a number of issues mentioned here today that I would like to support, but at this hour I just want to bring up something that hasn't been mentioned. Lots of people

have used the phrase "adequate water supply." In defining what is adequate water supply, and how we arrive at that determination, how we make projections for the future-- You're asking us how we stand for the future? Are we going to have deficits? How do we get to that figure? What method is used?

What I urge the Committee to do is-- When funding proposals come before you, when you are considering projects and they are based on projection, I ask you to look at the methodology of that projection. Let me give you an example of a very bad method. The person charged with the projection says, "Gee, in this area, since 1950, per capita water use has been going up at this rate. So, gee, we'll just consider that it is going to just keep on going. The local planners say population is going to go up like this, so we will extend those out to our planning horizon. We will multiply our expected population by our expected per capita use, and we will come up with a figure. That will be our projected need. Then, we will use whatever standard multipliers -- maybe 150% for (indiscernible) use. There we've got the capacity we have to plan for."

I warn you against that. I warn you to look carefully at what underlies projections. Are we building self-fulfilling prophecy into some of these studies? This brings us back to the question of being pro-active, instead of reactive. I think our largest increment of water supply can be met by the efficient use of water. This, admittedly, is a much more complicated -- institutionally complicated solution. It is easier to say, "Gee, we've got this project here. We have put so much concrete and so many dollars into it, and it is going to solve our problem." It is very focused. It's easy to deal with.

Local ordinances, I really-- The gentleman from Lawrenceville/Ewing-- I understand the problem he has. Each municipality has that problem, and they need help with those

kinds of problems -- the more complicated ones -- about dealing with their water on a micro basis. That is where we need to deal with them. We have to be sure we are using water efficiently, not only within each home and each water district and each piece of infrastructure, but that we are using each natural system within its current capacity, not only in terms of withdrawal, but in terms of how much we are polluting it, before we go to what someone else referred to as "chasing water," looking for it from a distance.

I urge you to look at the assumptions behind projections of deficit, whenever projects are brought before you, because the cumulative impact, if you will, of a series of projections, can lead us to stretch our natural systems beyond where we want them to be, and where we can tolerate having them be.

I will just make one other comment. This kind of approach is being dealt with by other state governments. In Massachusetts, they have not only a very detailed but I think very well-thought-out inter-basin transfer legislation, which requires a lot of thinking to go on before you allow transfers of water out of one natural system into another. Secondly, through their state plumbing codes, and with the cooperation of the plumbing industry there, they are getting a major increment in supply in requiring one-half gallon flush toilets in all new construction. If Mr. Hovnanian not only doesn't put in his landscaping in June, but in his two-and-a-half-bath houses, has low-flow fixtures -- low-flow toilets, water-efficient appliances -- the cost not only of water supply, but of wastewater treatment, the cost to the community, to the users, and to the natural systems, will be much diminished.

I thank you very much.

ASSEMBLYMAN KYRILLOS: Thank you, Ms. Noble, for your comments and your suggestions. Hopefully, Mr. Hovnanian will get a copy of the transcript from someone here today.

MS. NOBLE: I would like to see the same message to to others, as well.

ASSEMBLYMAN KYRILLOS: Thank you very much.

Next up will be Tom Cawley, from the Elizabethtown Water Company, if he is here. (no response) Nancy Becker was here. I think she has left. Is there anyone else who would like to speak? (affirmative response from audience) Please tell us your name. You're with the New Jersey Business and Industry Association.

C A R R I E M. W A I N W R I G H T: My name is Carrie Wainwright.

ASSEMBLYMAN KYRILLOS: Thank you, Carrie.

MS. WAINWRIGHT: As I said, I am Carrie Wainwright. I am from the New Jersey Business and Industry Association. I am a Research Associate, and I represent the Association on the Industrial Advisory Group on Water, and several task forces within DEP. I will keep my comments very brief. A lot of the issues we wanted to comment on have been addressed, so I will just state our position on many of them.

With regard to the F. E. Walter Dam, we suggest that this Committee urge the Governor, as the DRBC representative, to call for this legislation from our congressional delegation, which would remove Federal Reservation 15.1.b from the compact and allow a compromise funding measure to be worked out between user fees and public funds.

With regard to the Kirkwood-Cohansey Aquifer, we do not recommend endangering this or any other environmentally sensitive ecosystem through indiscriminate use, but we feel the State must now do several things to responsibly ensure adequate water supply. We recommend that a study be conducted to: Evaluate the feasibility of the aquifer's use for drinking water; evaluate the importance for its current agricultural use as compared to drinking water; consider a reevaluation of the provisions of the Water Pollution Control Act, which protect

the current uses over all others; and, most importantly, evaluate the possibility of the compatibility between both of these types of uses, all while considering the delicate ecology of the Pinelands area.

We would like to bring out several quick points in regard to infrastructure related to supply. DEP, I understand, is setting up a program to monitor purveyance for leaking water systems throughout the State, under which purveyors with the highest percentage of unaccounted for water will have to report to the Department and conduct leak detection surveys and remedial actions. The State will eventually need, however, a means of financing the necessary repairs which such surveys discover.

In addition, another infrastructure problem that should be addressed is the matter of the lack of inter-connections in several areas of the State. Since the Wanaque South Project connecting the Hackensack and North Jersey Districts, inter-connections between supplies do not seem to be progressing in other areas. We have members which have contacted us in Critical Area 1, for example, where the Eastern Division of New Jersey American has no inter-connections with adjacent water supplies. While the situation may be mitigated by the completion of the Manasquan Reservoir, we feel the Committee should encourage inter-connections as short-term safeguards, at the very least, especially in times of drought.

In terms of water quality being affected by infrastructure problems, we view one of the most environmentally harmful effects of infrastructure to be the cross-connections between storm and sanitary sewers. We think there is an urgent need for a complete survey of cross-connections throughout the State. There have been some done in the coastal regions due to ocean pollution problems, but it should be done statewide.

Storm runoff is also an infrastructure problem that should be dealt with. It contaminates ocean, streams, and groundwater in virtually all recharge zones, and there are currently no regulatory programs or any laws governing this.

Most importantly, I would like to speak about groundwater quite briefly. Groundwater, as you know, supplies approximately 50% of our overall water supply. DEP has been working diligently toward protecting the quality. We have worked extensively on the revision of the groundwater quality standards with them, and a fairly solid framework has been set up to ensure that there is no further contamination, to preserve existing quality, and to clean up contaminated groundwater. However, as you have heard today, these standards need to be applied to currently unregulated sources of groundwater contamination.

One notion I would like to dispel at this time, is that industry is a major cause of groundwater contamination. People who have testified today have stated that, but if you wish to interview any other person aside from an industrial representative, knowledgeable environmentalists and DEP officials will tell you that industry is not, indeed, the major cause of groundwater contamination, but our unregulated sources, such as septic, pesticide and fertilizer overuse, improper disposal of everyday materials, road salts, etc. While we acknowledge that it may have been expeditious to first regulate the identifiable community, in the case the municipal and industrial point sources, we must recognize and address the primary causes of pollution.

DEP has stated that this is a top priority, and NJBIA strongly supports this move. In the future, however, this Committee should consider increased resources at DEP to provide for the localized technical assistance it will need within this program, and it should consider financing, perhaps, a bond issue to fund loans for sewer systems and non-point source control surveys.

While some here today have also talked about development restrictions as an answer to protecting ground and surface water quality, we have found that the solution is not quite that simple. While regulating development in highly vulnerable areas may be necessary, existing patterns of flow and therefore legitimate areas of concern are not always clearly definable. Moreover, currently developed areas overlies recharge zones, so development restrictions will never protect the water these zones feed. We feel the answer lies more in the development of standards to encourage sound engineering solutions which can actually improve recharge, not in banning human activity, but in steering it and encouraging healthy practices that promote clean water supply.

The State must somehow begin to regulate human activity on the public level, as DEP has done on the industrial level. They must ensure that people stop dumping paint down their drains, used oil down their sewers, excessive amounts of fertilizers and pesticides on their lawns and gardens and farms. The State must make the public aware that their daily habits pose a hazard to their drinking water.

What we present here is a great challenge, for the public obtains no permits to dump materials into their drains or lawns or gutters and, unlike littering laws and recycling programs, which are relatively easy to enforce, there is no mechanism for policing the environmental damage done to groundwater by these practices. But, if unaddressed, harmful practices could, and will likely continue, and could ultimately taint 50% to 60% of our water supply; not only that, but the portion of the supply which is so difficult to clean up -- groundwater -- and it could result in permanent degradation.

We have reached a level of regulatory control where industry is not a major threat to groundwater. Individuals are. Somehow we must change our bad habits. NJBIA has considered this question, and feels that the beginning must lie

in education. One state, Pennsylvania, is considering requiring six credits of environmental education for teachers and teaching students, a move that could help to bring environmental awareness up to speed in this State, as well. Following the need for education, will be regulation. I know DEP is working on a non-point source control strategy. We feel the regulation should focus on a system of proper use, proper collection, and proper disposal of the many materials that, if mismanaged in an everyday household, pose a danger to our water supply.

As NJBIA is eager to help to preserve this critical natural resource, we offer our assistance to the Legislature and DEP in the development of a groundwater protection campaign. We would be most pleased to aid in the development of educational literature and the distribution of information to our more than 11,000 member companies, representing over one million workers in this State. We seek active involvement in DEP's efforts to devise this most complex regulatory program.

Thank you.

ASSEMBLYMAN KYRILLOS: Thank you very much, Carrie. You made some excellent points.

Is there anyone else who wishes to speak before we adjourn the hearing? (no response)

I thank you all very much. I think we have had some thorough testimony from a wide array of members of the water community and those interested in water supply and water quality. Food for thought for members of the Committee. I know I will be digesting the testimony we have heard today, as will the other members, and we will proceed from there.

On behalf of Chairwoman Ogden, thank you all very much for coming today.

(HEARING CONCLUDED)

