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# *Committee Meeting*

of

## SENATE LEGISLATIVE OVERSIGHT COMMITTEE

*“The Committee will hear testimony from invited guests on the need for the Department of Environmental Protection to update the Statewide Water Supply Plan”*

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**LOCATION:** Committee Room 1  
State House Annex  
Trenton, New Jersey

**DATE:** April 22, 2015  
11:00 a.m.

### **MEMBERS OF COMMITTEE PRESENT:**

Senator Robert M. Gordon, Chair  
Senator Loretta Weinberg, Vice Chair  
Senator Bob Smith  
Senator Thomas H. Kean Jr.



### **ALSO PRESENT:**

Judith L. Horowitz  
*Office of Legislative Services*  
*Committee Aide*

Kevil Duhon  
*Senate Majority*  
*Committee Aide*

Brian Ahrens  
*Senate Republican*  
*Committee Aide*

***Meeting Recorded and Transcribed by***  
The Office of Legislative Services, Public Information Office,  
Hearing Unit, State House Annex, PO 068, Trenton, New Jersey

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ROBERT M. GORDON  
Chairman

LORETTA WEINBERG  
Vice-Chair

M. TERESA RUIZ  
PAUL A. SARLO  
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## New Jersey State Legislature

SENATE LEGISLATIVE OVERSIGHT COMMITTEE  
STATE HOUSE ANNEX  
PO BOX 068  
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### COMMITTEE NOTICE

TO: MEMBERS OF THE SENATE LEGISLATIVE OVERSIGHT COMMITTEE  
FROM: SENATOR ROBERT M. GORDON, CHAIRMAN  
SUBJECT: COMMITTEE MEETING - APRIL 22, 2015

*The public may address comments and questions to Michael R. Molimock, Committee Aide, or make bill status and scheduling inquiries to Shirley Link, Secretary, at (609)847-3855, fax (609)292-0561, or e-mail: OLSAideSLO@njleg.org. Written and electronic comments, questions and testimony submitted to the committee by the public, as well as recordings and transcripts, if any, of oral testimony, are government records and will be available to the public upon request.*

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**The Senate Legislative Oversight Committee will meet on Wednesday, April 22, 2015 at 11:00 AM in Committee Room 1, 1st Floor, State House Annex, Trenton, New Jersey.**

**The committee will hear testimony from invited guests on the need for the Department of Environmental Protection to update the Statewide Water Supply Plan.**

Issued 4/15/15

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## TABLE OF CONTENTS

	<u>Page</u>
Jeff Tittel Executive Director New Jersey Chapter Sierra Club	4
Jennifer Coffey Executive Director Association of New Jersey Environmental Commissions, and Representing New Jersey Water Supply Advisory Council	22
Daniel J. Van Abs, Ph.D. Associate Research Professor Department of Human Ecology Rutgers, The State University of New Jersey, and Advisor New Jersey Water Supply Advisory Council	33
Robert A. Kecskes Private Citizen	57
Tim Dillingham Executive Director American Littoral Society	63
Dave Pringle Director New Jersey Environmental Federation	67
Michael L. Pisauro Jr. Policy Director Stony Brook-Millstone Watershed Association	71
Ed Potosnak Executive Director New Jersey League of Conservation Voters	72

## TABLE OF CONTENTS (continued)

	<u>Page</u>
<b>APPENDIX:</b>	
Testimony submitted by Ed Potosnak	1x
Letter, addressed to New Jersey Senate Legislative Oversight Committee from Stony Brook-Millstone Watershed Association	2x
Letter, addressed to New Jersey Senate Legislative Oversight Committee from Dennis Hart Director of Utilities Utility and Transportation Contractors Association of New Jersey	4x
Letter, addressed to New Jersey Senate Legislative Oversight Committee from Peggy Gallos Executive Director Association of Environmental Authorities	5x
pnf: 1-73	

**SENATOR ROBERT M. GORDON (Chair):** Good morning, everyone. Welcome to the Senate Legislative Oversight Committee.

May I have a roll call, please?

**MS. HOROWITZ (Committee Aide):** Senator Gordon.

**SENATOR GORDON:** Here.

**MS. HOROWITZ:** Senator Weinberg.

**SENATOR WEINBERG:** Here.

**MS. HOROWITZ:** Senator Smith.

**SENATOR SMITH:** Here.

**MS. HOROWITZ:** Senator Kean.

**SENATOR KEAN:** Here.

**SENATOR GORDON:** Okay. Would you please join me in the flag salute? (all recite pledge of allegiance)

Well, let me welcome you all today -- our invited guests, as well as my colleagues today. Senator Smith is standing in for Senator Ruiz; we welcome him here. He brings particular expertise to this subject.

The purpose of today's hearing is to discuss the urgent need for the Department of Environmental Protection to update the Statewide Water Supply Plan. New Jersey statutes require the revision and subsequent adoption of a Statewide Water Supply Plan at least once every five years. Among the many requirements, the law calls for the plan to, first, identify all major sources of water supply; second, estimate their current usage and the anticipated future demand; recommend needed improvements in water supply infrastructure; and make recommendations for legislative and executive actions aimed at protecting watershed areas, ground and surface water quality, as well as overall water supply.

The law also requires the DEP to hold hearings to solicit public comment, and consult with the Highlands Water Protection and Planning Council to discuss possible effects of the water plan on the Highlands Regional Master Plan and water in the Highlands region.

The State has failed to comply with this statute. The water plan was last updated in 1996, almost 20 years ago. In 2006 the Legislature, recognizing the critical need for a new plan, passed the law compelling the DEP to prepare and adopt a new plan by December 31 of that year. This legislation further directed the DEP to consult with the New Jersey Water Supply Authority, the New Jersey Environment Infrastructure Trust, and private water purveyors. In addition, the Legislature appropriated \$2.5 million to cover the costs of the revision.

As of today, April 22 -- Earth Day 2015 -- no new plan has been presented or adopted. We are here today to discuss the very real consequences associated with our State's failure to adopt a new plan. Now, I should state for the record that the Committee extended an invitation to the Commissioner of Environmental Protection, or appropriate staff, to testify on this subject. This Committee always strives for a balanced discussion of issues. On Monday I received a call from a member of Commissioner Martin's staff who advised me that the Commissioner declined to attend. I was told that a revised plan was nearing completion and that the Commissioner would be available to brief the Legislature when it was ready for release. The Department would not provide a target date for completion. When I asked for a letter memorializing the conversation and indicating an approximate time -- for example, the third quarter of

2015 -- I was told that such a document would be transmitted before this hearing. But, as of today, we have not received this communication.

I think we can all agree that having access to a safe and reliable supply of drinking water is critical to the health and prosperity of our State. We only have to look to California to see the impact of a serious water shortage. If we are to avoid such an imbalance we need to understand the capabilities of our existing system, the location and size of future demand, and the resources required to provide an infrastructure capable of supporting our population and economy in the future.

In 2008, the Federal Environmental Protection Agency estimated that over the next 20 years New Jersey would need to invest nearly \$8 billion in its drinking water infrastructure. Failure to do so would only increase the rate of water loss from leaking pipes. If the improvements are delayed, the report said, the costs would increase exponentially. When one adds the cost of needed improvements in wastewater treatment and stormwater management, the bill grows to over \$32 billion.

Given the importance of adequate supplies of quality water to our future, it is difficult to understand the 20-year delay in producing a plan. How can we make informed land use and economic development decisions? How can we know if we are stressing the system by over-allocating water permits? Are certain aquifers in our state already at risk because of excessive demand? Without reliable data we cannot answer these questions or plan our future.

I'd also like to know what accounts for the 20-year delay. My hope is that the witnesses appearing before us today can help us understand the implications of the failure to produce a water supply plan.

With that, I'll turn to my colleagues for any comments they'd like to make.

Anyone? (no response)

Seeing none, we'll begin hearing from Jeff Tittel of the Sierra Club.

**J E F F T I T T E L:** Thank you. And I think even though we should be out today celebrating the environment and enjoying nature -- taking a hike with our grandkids or children -- I think it's actually even more appropriate to be here because, quite frankly, I think the biggest threat to the world, besides climate change, is the lack of having clean and abundant safe drinking water. In the future we're going to see tremendous economic and political dislocations because of the loss of drinking water, and we're also going to see horrific environmental and personal tragedies. And so I think it's critical to have this hearing, and to focus on water.

I also believe that New Jersey -- which has always been a state that was on the forefront of trying to protect its drinking water -- has not only fallen behind, but is heading in the other direction.

I just want to do a little personal note, because my family spent three generations living up near the Wanaque Reservoir. I've focused on water my entire life. In fact, one of the things that started me as an environmental activist was we'd be up in Ringwood near the Wanaque Reservoir, and you could drink the water out of the stream and you could see fish. Where I grew up in Hillside the rest of the year, there's a stream behind my house and you could throw matches at it and watch it change colors and flare different ways, and things like that.

And so I think that's the critical part. And being head of the Environmental Commission up there, and starting a local environmental group, and spending 20 years of my life fighting to protect Sterling Forest, you get a very good understanding of the threats to drinking water in New Jersey.

And so, you know, for me, the Water Supply Master Plan, in a lot of ways, is the Rosetta Stone of the environment in this state -- that it connects all the different issues from land use, to toxic cleanups, to sewer plant discharge, to protecting forests -- it's all interconnected, and it all comes together with water. And it is really the most strategic document we need, or have. So I call the Water Supply Master Plan, in a lot of ways, the *state of our water*.

And on another personal note, one of my next-door neighbors in Ringwood, Steve Nieswand, wrote the last plan -- and he has retired twice since then: once from DEP, and the second from USGS. And his brother George, who also is retired from Cook College, did a lot of the work in the late 1980s on the need to protect stream buffers and reservoirs, for Rutgers University. These are my volleyball buddies, but also long-time friends and colleagues who I got to learn a lot about water from -- as well as just watching that reservoir.

So I think that the biggest and most shameful policy failure that we have seen in an Administration with many shameful policy failures has been the failure to move forward with the Water Supply Master Plan. We know that there has been a draft plan kicking around for about 10 years, and there are people who I know have been working on it. And the failure for that to come out, I think, is shameful. And it is part of an

Administration whose attack on science and planning is, I think, worse than anything I've ever seen. And I put this in the same category with closing the Office of Climate Change, trying to stack the Highlands Council, the Pinelands Commission, stacking the Science Advisory Board with polluters - - and the list goes on and on. But this is part of that; this is not some isolated agenda of a bureaucrat forgetting to do something. It's deliberate. Because without this Master Plan you can continue to make decisions that are wrong for New Jersey; you can continue to put development in places we shouldn't be developing in; you can continue to withdraw water from places that we're already over-withdrawing.

And that's really, I think, the problem. And when you look at this policy and where we've been -- 20 years ago when the last Water Supply Master Plan came out it was during Bill Clinton's first term, and now we're heading into the age of Hillary. So, I mean, just see how far we've come -- you know, the Tesla to a 1996 Cutlass. I mean, they don't even make them anymore.

But the failure to do this-- And I just want to give you a couple of statistics because I think it's important. In 1996, 15 percent of our streams were considered *pristine*. We now only have one stream system in the entire state that meets the pristine character, and that's the Flat Brook up by the Delaware Water Gap. We've seen the sprawl line -- meaning the development line -- based on empirical data from the Water Supply Master Plan that's used (*sic*) by using water monitoring stations, move in North Jersey 10 miles further west towards the headwaters where we get our reservoirs. In the south, we've seen them move towards the Pinelands

where we get our clean water. So we actually can measure where our water has been degraded because of development.

We also have seen streams like the Metedeconk drop in flows over the last 20 years -- that water being pumped out to sea, along with over 100 billion gallons of other sewage water that reduces stream flows. And that's one of the reasons why Barnegat Bay is getting dirtier and dirtier, because we're losing the freshwater while increased development adds more nonpoint pollution. So we see the effects everywhere.

We've seen, in the last 20 years, four reservoirs in New Jersey close because of pollution -- including the Clark Reservoir in Middlesex County, the Haledon Reservoir, the Orange Reservoir, the Lawrence Brook Reservoir -- and other reservoirs going to backup, like the Franklin Lakes Reservoir.

We have seen hundreds of wells being closed because of groundwater pollution that we failed to clean up. We've seen -- not only in South Jersey because of contamination, but in Central Jersey-- And what that has done is, it's taken the water that used to come out of these wells and from these other reservoirs and put it on the backs of -- getting water supply for those citizens from the existing water supply sources: from our reservoirs and from our existing intakes. So we're taking more and more water from fewer sources. And those sources are under bigger and bigger stress because of more water use, and because of development and pollution that is impacting them.

The Water Supply Master Plan, in 1996, actually identified many threats to water supply in New Jersey, both for quality and quantity. And the State did take action because of that plan: upgrading streams to

Category I to protect water supply -- before it was only for fisheries; two, the Highlands Act; three, the 300-foot stream buffers; building interconnects between some of our water supply systems, like between Central Jersey and North Jersey.

But there's a lot more that needs to be done, and I think the failure to do that puts New Jersey, I think, further and further behind. The 1996 plan also identified -- and this is critical, because there are two Senators here from Bergen County -- that in a dry year, with drought, northeastern New Jersey, meaning Bergen County, would be the first place in New Jersey to run out of water. And the risk of that happening could be any year where we have a significant drought. And that was identified way back then, and we have not done a lot about that. In fact, when you think about New York -- for every person in New York City they have four times the water, that could be collected in reservoirs, than the people in northeastern New Jersey.

One of the biggest problems that was identified back then, which is still the case, is in the summertime during low-flow periods many of the water supply intakes that we depend on -- the rivers are too low and too dirty to take water from; and that's from the Passaic River and the Pompton River, and even the Raritan. And the failure of this State to actually clean up those rivers has been a major problem for water supply, because when we don't have the ability to take water from those intakes we don't have enough backup supply in our reservoirs.

In 1999, during the last significant drought, we were six weeks in northern New Jersey away from running out of water. And what happened in the middle of that crisis was that the Passaic River was running

at 10.5 milligrams per liter nitrogen. Now, for people who don't understand that, that means there's a lot of stuff in that water -- stuff from sewage plants. That's above the safe drinking water level, and they would have to shut down that intake if they couldn't get water from North Jersey District Water Supply Commission -- to mix it so they could get below standards.

What happened next was that North Jersey -- because we pumped to make up for our deficit of water -- we pumped dirty water from the Pompton River up to that reservoir. The nutrient-loaded water was causing massive algae blooms that were actually clogging water supply intakes, causing North Jersey to stop their treatment to have to keep backwashing their filters. We were at a crisis point, and luckily the head of the Rockaway Valley Sewage Authority broke the law -- which is still illegal -- he held back pollution in his beds so that the sewage would be eaten more by the bacteria before releasing it, which helped lower the nitrogen level. And then North Jersey was able to get their filters cleaned and send that water down. That actually happened.

And the failure of updating our Master Plan is we're not taking those considerations into place. We're not looking at the 3,500 sites in New Jersey that are contaminating groundwater. We're not looking at -- we have cities like Camden, where their well field is currently in a place where you couldn't build a new well because of toxic groundwater pollution. It's in what's called a *Category Exemption Area*; you couldn't put a new well there, but yet that's where their city is getting its water supply from. And what we're seeing happen is, instead of the water going to Camden and Pennsauken like it's supposed to, we see the Tri-County Pipeline heading

down to Gloucester County for new development on farm fields, instead of going to the urban areas that it was built for, to help them get water supply.

And again, that's the failure of not having a master plan. Because when there's no plan out there, you can do whatever you want. You can pump aquifers to the point where you have saltwater intrusion. You know, New Jersey is one of the few states that actually has a desalinization plant. And on a summer weekend, down in Cape May, the saltwater lines are moving up Cape May faster than the traffic on the Parkway. And again, these are the problems that we have.

And part of the major reason we have a Water Supply Master Plan is to do this characterization of our water supply. Right now, if you look in the Highlands Region which has over, I think, 120 HUC 14s, there's only 3 of them that are in surplus -- they're all in deficit. The Ramapo River, where Bergen County gets almost half its water from, hits the 10-year drought every 3 years. Before that, it was every 2 years. We've been lucky having wetter than normal summers. And the reason is because of overdevelopment in New York and over-pumping the aquifer in New Jersey. And again, those are the things that are identified in a plan, and what was identified in the previous plan.

So it's really critical that we move forward with a new master plan -- one that is based on sound science and the most available data -- so we can make those policy decisions we need to make. You know, you cannot plan in a vacuum. And that plan needs to then determine policy, which then determines regulations and laws that may need to be changed to ensure we have an adequate water supply.

And so the failure to have a new plan -- or to have any plan out there, because we're not following the old plan. And I could bring you copies of it; I've had -- I'm one of the few people who have probably read it. It really puts the State at a disadvantage, and it's going to lead, at some point, when we have that dry year, to catastrophic problems -- whether it's the saltwater line on the Delaware moving up towards New Jersey's intakes in Delran or Trenton, or Bergen County running out of water.

And so we have not done the investments we've needed to do to help deal with it. You know, the Drinking Water Quality Institute finally met after five years. There's over 500 contaminants we haven't even set standards for. You know, one of the things that was being proposed by Lisa Jackson to deal with contamination was to put carbon filters in all groundwater where there's signs of multiple contaminants, so that at least we could protect that water supply. And we're not doing it.

We have drought rules that are so old that they don't work. I mean, they can make people boil dirty water, but they can't make dischargers clean up their water before they discharge. In order to go from a drought watch to a drought warning is ridiculous; you can't even get there. And so we're seeing problems in New Jersey with water. Luckily we've had some wetter than normal years, but that can change, and that can change in any given year. And we've seen it happen in the past. And I was around for the drought of 1981 when I could sneak onto the Wanaque Reservoir and find Revolutionary War houses' foundations next to the Wanaque River that had been abandoned since the 1920s. That can happen again, where the Wanaque Reservoir looked like -- I thought I'd see Lawrence of Arabia out there because it was so dry on the bottom.

And we're seeing also, throughout the state, aquifers dropping even with all the rain we're getting. We're seeing contamination again impacting our wells. And we're not making those policy changes that we need to, whether it's on water conservation-- We still haven't-- One of the things we've tried to get passed after 1999 was to say -- and Senator Smith was behind that bill -- was have rain detectors on your sprinklers so you're not having your sprinklers going off in the middle of a thunderstorm. Or to go after the 20 to 25 percent of New Jersey's water that's leaking out of pipes that we can't use. You know, about 10 years ago they dug up the pipes in front of the State House. They were actually made out of cedar logs with wrought iron pipes drilled in them. And we still have miles and miles of them throughout the state that are acting like a sieve. And they also bring contaminants from groundwater into those systems. We see high levels of trihalomethane because of treating water with chlorine and having that die-off. And we're seeing it in more and more places in New Jersey as we have more and more development.

And that's the key to the Water Supply Master Plan. Because it looks at all the different factors: it looks at land use threats, it looks at the availability of water, it looks at the threats to water from contamination, whether it's nutrients -- a third of all private wells in New Jersey show high levels of nutrients or contamination because we have a law in place, that was passed after the last drought, that we actually are monitoring and measuring, when people sell their homes, what's in their private wells.

And while this is happening, instead of moving the State forward on drinking water and protecting our water supply, instead we are seeing rules that are being rolled back or significantly weakened. You know,

we're seeing this Administration not only tried to stack the Highlands Council and the Pinelands, but put areas back into sewer service that were taken out by the previous Administration because they were close to water supply intakes, or reservoirs, or in flood hazard environmentally sensitive areas. Ocean County, which is being overdeveloped, they put 21,000 acres back in. It makes absolutely no sense because, again, as you over-pump that aquifer and you pump it out to sea, you're dropping those stream flows and you're dropping Barnegat Bay -- putting more nonpoint pollution into it.

SENATOR GORDON: Mr. Tittel, we've got a good number of people here who want to testify. Could you summarize?

MR. TITTEL: I'm going to wrap up. Yes, I'm going to wrap up now; sorry.

Between the waiver rule, rolling back C-1 protections, rolling back the stormwater rules, failure to update standards for drinking water-- And the biggest failure of all is to not update the 7Q10 -- the 7-day low flow of a 10-year drought. Because that tells you how much water you have in a stream that's available for water supply or for sewage discharge, because that's the assimilation of discharge in a stream. And we haven't done it. We have streams today that have less water than they had 20 years ago, and we're putting in more and more pollutants and we're taking out more drinking water, affecting the lives--

And I just want to end with one critical piece, which is: this is not just about the environment; this is about our economy. New Jersey's three largest industries are water-dependent: tourism, pharmaceuticals, and food processing. Water in New Jersey drives our economic engine. Water

in New Jersey produces everything from Budweiser, to Goya beans; from Manischewitz matzo to Tylenol. And without clean and abundant drinking water, we will hurt our economy. But what's worse is that unless we have a real plan, or one that's protective, that looks at the science, that looks at the need to protect our health, then New Jersey will be the first state east of the Rockies that could run out of water.

What's happening in California could happen here. Not just because of a drought, but because we have too many contaminants and pollutants in our waterways that will threaten public health and safety. And that's why I think the failure of having an updated plan or a plan that's out there is probably the biggest shame of this Administration --because it really, I think, puts New Jersey's waters at risk.

Thank you.

SENATOR GORDON: All right. I'd just like to follow up with a question.

MR. TITTEL: Yes.

SENATOR GORDON: This plan has been delayed for 20 years.

MR. TITTEL: Yes.

SENATOR GORDON: And that's a period that extends long before the current Administration. This seems to be a bipartisan problem. I still don't understand: If a draft plan has been prepared, why hasn't the plan actually been issued? Is someone afraid of something? Are the numbers -- do the numbers suggest that we're going to have to spend more money than anticipated? I'm really trying to understand why

administrations of every political stripe have been reluctant to issue the report.

MR. TITTEL: Well, under previous administrations we actually had meetings and sat down with DEP, and had not only stakeholders, but other meetings where we kind of fought out some of the issues on how do you measure how much water supply you have. Do you use HUC 14s or HUC 11s -- because one is large and one is small, so you see localized impacts. But the bottom line is that there was a plan ready to come out under Lisa Jackson; Governor Corzine, for whatever reason, did not put it forward, and that plan was pretty much finished. It wasn't perfect, but it had some good things in there.

I think the main reason that no one wants to put out a water supply plan is because it's going to call for some tough choices -- both financially and politically. Because there are places where we're going to need to limit development, and other places where we're going to need to spend billions of dollars to correct past mistakes. And I think that's-- It's just like the gas tax.

SENATOR GORDON: Okay.

Any colleagues--

SENATOR WEINBERG: Yes.

SENATOR GORDON: Senator Weinberg.

SENATOR WEINBERG: Thank you, Senator Gordon.

You said that when Lisa Jackson was the Environmental Commissioner, there was a draft plan of some kind ready to come out.

MR. TITTEL: Yes.

SENATOR WEINBERG: Why don't we ask for a copy of that?

SENATOR GORDON: I think that's a good idea.

SENATOR WEINBERG: Thank you.

SENATOR GORDON: Senator Kean.

SENATOR WEINBERG: We might have to do it through an OPRA request, but-- (laughter)

MR. TITTEL: Well, yes, yes. I just did one of those on Exxon; it was fun. But, anyway--

SENATOR GORDON: We have a pretty aggressive OPRA law.

SENATOR WEINBERG: Yes, we do. (laughter)

MR. TITTEL: I can look around. I might have a purview copy somewhere in a file. I'll check to see.

SENATOR GORDON: Actually, as I recall, then-Commissioner Mauriello testified, in 2006, and said that, "We're working on the -- we're in the final stages of--" I'm paraphrasing, of course -- "We're in the final stages of this report and it will be issued by the end of the year." I mean, someone stopped that from happening.

MR. TITTEL: Yes, that was the Governor at the time.

SENATOR GORDON: Senator Kean.

SENATOR KEAN: If I may; thank you. Through the Chair, I guess my question is -- my statement, not question -- goes to that point. Through the Chair, *almost* putting out a plan under a former Governor is not putting out a plan. And so if it was stopped, it was stopped by Governor Corzine, at the time -- not the present Administration; number one. Number two, before 1996, when was the last statewide water plan developed -- issued?

MR. TITTEL: It was about 12 years before.

SENATOR KEAN: In 1982?

MR. TITTEL: Yes.

SENATOR KEAN: Correct?

MR. TITTEL: Yes.

SENATOR KEAN: All right. So therefore, through the Chair, the Kean Administration put out a statewide water plan, the Florio Administration did not. The Whitman Administration put out a water plan; the McGreevey-Codey-Corzine Administrations have not. Through the Chair, the current Commissioner said that within, we think, hopefully, by the end of this year -- which is *almost* issuing a plan -- if we can use the prior rhetoric -- that the Christie Administration will be putting out a plan.

Would you call the Florio-McGreevey-Codey-Corzine Administration *shameful* with the same vehemence you did with the current Administration because they did not, within the context of every five years or whatever your analysis was, issue a plan during their tenures?

MR. TITTEL: I will say this, as everybody in this room on this Committee knows me, that I'm not shy in criticizing every administration.

SENATOR KEAN: But would you use that same analysis?

MR. TITTEL: I was very critical of--

SENATOR KEAN: No. Would you use those same words of *shameful, failures--*

MR. TITTEL: The only group that I would probably give a little bit of a pass to would be Florio, because a lot of the stuff in the 1995 plan was done under his Administration. Because the plan really was finished in 1995 and adopted in 1996, so his Administration -- his people did work on it.

I would say, yes; I just said before that the failure to update the Water Supply Master Plan is just like the gas tax: something everybody knows we need, and no one wants to make the tough choice to do it. But we were very critical of the Corzine Administration when that plan was held back -- and it was very public at the time. We had worked with the McGreevey Administration on the plan and expected something there; and we were also critical then. But at least we got the Highlands Act, which helped make up for the failure of getting the water supply plan.

SENATOR KEAN: And I think everybody on this Committee voted for the Highlands Act.

MR. TITTEL: Yes, yes.

SENATOR KEAN: So through the Chair, if I may, and if we can use State references for the State issue. I mean, at the time it was the Whitman Administration, not the Clinton Administration; it was the-- I don't know who is going to be the potential presidential nominees from either party.

MR. TITTEL: Yes, well--

SENATOR KEAN: If I may, if we can keep this within a State context. I think everybody on this Committee, through the Chair, if I may be so bold, agrees we need to update this plan in a timely basis and it needs to be done as quickly as humanly possible. But if we can leave the rhetoric out of it in the context, and realize that this is -- as the Chairman so eloquently stated -- an issue that spans 20 years. And let's address this in that context.

Thank you.

MR. TITTEL: But I would also like to respond, through the Chair, while there have been criticisms of other administrations for not putting out a plan, they also have taken affirmative action to protect the water supply. You know, whether it was Governor Whitman with her Open Space, Governor McGreevey with the C-1 stream programs, Lisa Jackson with removing areas that did not have drinking water or were environmentally sensitive -- near reservoirs -- being above water supply intakes or next to reservoirs.

So while I may be critical of those administrations -- and I think they should have had a plan out there -- they were taking affirmative steps to protect their drinking water. This Administration is doing the opposite. The Governor was proud of the fact that he's rolling back those protections that Lisa Jackson put in.

SENATOR KEAN: And through the Chair, if I may, just to follow up on that. That's a context of -- which is why having an additional statewide plan is important. And my hope is, whether it's in the context of this calendar year -- which I think we would all like it sooner rather than later -- or next year; but I think we all understand that within the year this thing should be -- we should have access to this, and it should be done.

MR. TITTEL: I just want to respond, because three years ago there was a draft plan and they did actually start having meetings on it. And then it was supposed to be changed to meet the State's strategic plan, but then the State's strategic plan died and so we're still waiting. And I hope you're right; but I'm not going to--

SENATOR GORDON: Well, I think this is--

SENATOR KEAN: If I may, through the Chair. You had said once that the problem with this Administration versus prior administrations -- you never had any meetings. You just said -- you said you had it with prior administrations, but now you're saying there were meetings?

MR. TITTEL: I did not--

SENATOR KEAN: Three years?

MR. TITTEL: There were meetings -- not with me, not with the stakeholders.

SENATOR KEAN: But in context, you're saying that people who started this plan--

MR. TITTEL: There were meetings, two or three years ago, with members of the Clean Water Council and other governmental entities about it -- not with the public.

SENATOR KEAN: Okay.

MR. TITTEL: And I just want to end with--

SENATOR KEAN: I think we all understand the urgency of making sure we have the right water supplies. I want to make sure we're using it in fact-based statements.

SENATOR GORDON: I think we all would agree that this is not a partisan issue. This stretches back through Democratic and Republican administrations. And I think what's-- It's not terribly constructive to bring politics into this. I think that what we want to do is understand the implications of not having done this, and what needs to be done to get a plan issued so that we can take appropriate executive and legislative actions.

Any other--

SENATOR KEAN: And through the Chair, I agree, which is why I'm very excited that this hearing would occur on this date, at this time.

Thank you.

SENATOR GORDON: Anyone else?

Senator Weinberg.

SENATOR WEINBERG: Yes. I agree with you, Senator Gordon. And hopefully my respected colleague from the other side of the aisle will not find it so needed to be so defensive, when Senator Gordon acknowledged in his opening remarks, and the rest of us will continue to acknowledge, that it is a bipartisan problem.

Having said that, I also want to express my disappointment in the current DEP Commissioner who chose not to be here; chose not to send a staffer who might have actually updated us on where we are. And, you know, I find this kind of-- You don't come, you don't talk, so somehow the problem will go away because he wasn't here to answer questions? It won't go away, we need the plan, and it would be very nice to hear from him -- at least an estimate of when he thinks that plan will be completed. And I hope he knows that that is certainly the sense of this Committee.

SENATOR GORDON: Majority Leader, I think it would not be an inappropriate thing for this Committee, at the conclusion of the hearing, to have a letter drafted and sent to the Commissioner with specific questions -- including when we can expect to see this document -- so that we can move forward with this.

SENATOR KEAN: And through the Chair, I would agree with that letter being drafted on a bipartisan basis so the full Committee can get a better sense of the timeline of this plan.

SENATOR GORDON: I think it would be a good thing for every member of the Committee to sign it.

SENATOR KEAN: Agreed.

SENATOR GORDON: Okay.

MR. TITTEL: I just want to make a correction. There was a statement of Bob Martin at the DEP budget hearing in 2011, when he made that statement that he was having meetings -- that the draft plan was done, and he was having meetings with the Governor's Office and others to get the plan out. So I just wanted to correct that.

SENATOR KEAN: Thank you.

SENATOR GORDON: Okay. Thank you, Mr. Tittel.

We are next going to hear from Jennifer Coffey, Executive Director of ANJEC, and a representative of the New Jersey Water Supply Advisory Council.

Ms. Coffey.

**JENNIFER COFFEY:** Thank you. Thank you for having these hearings today.

Outside of saying *ditto* to the Chairman's opening remarks, I want to highlight a few points.

The New Jersey Water Supply Planning Act, passed in 1981, did a very smart and courageous thing, under the Legislature's leadership, in creating a Water Supply Master Plan. And you will hear later this morning

and likely into the afternoon, at this point, some fairly detailed, scientific overviews as to why this plan is needed.

From a 30,000-foot level, it's really an accounting measure. It's a balance sheet of how much water we have in the state, and that's why we need it. So that when we give out -- our Department of Environmental Protection, under Republican or Democratic administrations, provides water allocation permits for businesses, for farms to operate and keep the Garden State growing, we're able to have an accounting of our water. So the plan is our checkbook, and the allocations are our checks.

And so the updates to the plan are necessary so that we can balance that checkbook; and we can ensure that we have enough clean water for our families, for our environment, for our agriculture, and for our businesses. So that's really why this is so incredibly important. There are schemes (*sic*) of data and details that get encompassed in this plan, but that's the real fundamental reason why we need this.

That Water Supply Planning Act did two primary things. It required the establishment of this plan -- of this budgeting, this accounting for our water -- and it established the Water Supply Advisory Council, which is a panel of experts to advise the Governor and the Commissioner on the development of the plan. And I serve as the Watershed Representative on the Water Supply Advisory Council. I'm not here to testify on behalf of the entire Council, but I do serve as a representative.

And quoting from the Act, the role of that Council is to "advise the Department concerning the next iteration of the Water Supply Master Plan and other water supply resource issues." I had the great privilege of joining the Water Supply Advisory Council in January of 2014. And I had

a track record of many years before that, under both administrations -- Corzine and Christie -- asking for this plan. I was able to attend hearings looking at maps and possible implications of what would happen when this plan moves forward.

And so for eight years -- nine years -- I asked about the plan. And I've repeatedly been told, under both administrations, that it's coming out in six months; it's coming out in six months. Here we are today, lots and lots of six months -- many moons later.

When I joined the Water Supply Advisory Council in January of 2014, I started, again, asking, "Where's the plan? I'm a new Council member; can I see the plan? I would like to see the plan." And I was told, "It's coming, it's coming, it's coming." And in about August or September of 2014, we sent an informal request, as we were advised to do so, to the Commissioner asking if, particularly, the new members of the Council could have a copy of the previous plan that was reviewed by the Council two or three years prior. It came back in November that that request was denied. That gave me extreme pause, because as the Watershed Representative on the Water Supply Advisory Council, my role, as per legislation that these bodies passed here, in this house, is to advise the Commissioner and the Governor on the plan. If I can't get a copy of the plan, I can't do my job that the Legislature has requested that I do.

And so I want to thank you for having the conversation about sending a request to get a copy of that plan -- because I have certainly struggled with that. And just to close that loop to let you know: The Water Supply Advisory Council has sent a formal letter, in writing, signed by the Council members, to the Commissioner last week asking for the

most recently updated plan because we have been told, “It’s coming, it’s coming, it’s coming,” and we’re concerned that we haven’t had a chance to review it.

Furthermore, some of the data that you’ll hear about today from folks who are scheduled to testify will show that we do have increasing water problems in New Jersey. We are not, luckily, in the same position that California finds itself in right now. However, there are environmental warning signs, environmental alarms that are going off -- and Jeff alluded to a number of those.

We already have one desalinization plant in Cape May; we are seeing increasing amounts of saltwater -- saltwater intrusion pouring into our aquifers. And so the saltier that our freshwater supplies become, the more challenges we have for drinking water. We are seeing the *saltwater line*, as it is called, driven further north up the Delaware each summer, because the freshwater sources are being used and so the saltwater from the ocean -- as a coastal state -- are moving further and further up this river that’s a major drinking water source. And so having the Water Supply Master Plan will help us to better manage for business, farm, residents, and environment. And that’s really why it’s so critically important.

Just to echo something that Jeff had said: This is about environment, this is about the food that you eat, this is about the water that your kids drink. And this is also our economy. Pharmaceutical research and manufacturing, agriculture, and tourism are three primary industries in New Jersey -- economic generating industries that require abundant supplies of clean water. So water in New Jersey really is everything. And we are in danger of running out of it.

So I implore you to do anything and everything that you can to find a solution to this bipartisan problem that will require hard decisions on the way that we manage water. It will require adjustments in infrastructure, it will require adjustments in the way that we farm our lands, it will require conservation measures. These are hard, difficult decisions, but we have a moment in time here, when we know that we are having diminishing supplies, to take action and to make those hard decisions -- to make sure that we never get anywhere near the situation that California is struggling with.

So thank you, again, for having this hearing. Thank you for having it on Earth Day. And I'm here to answer any questions that I might be able to.

SENATOR GORDON: Well, I have one. Have you seen even a draft of the plan?

MS. COFFEY: As a member of the Water Supply Advisory Council -- no. I did see draft maps of a Water Supply Master Plan under the Corzine Administration as they were presented at a public meeting in the public hearing room at the DEP. That's all I have seen.

SENATOR GORDON: Can you speculate as to the reluctance on the part of a number of administrations to issue the plan? I mean, a cynical person might think that, "Well, it's going to inhibit development in this part of the state or that part of the state." Although, since I've been in the Legislature, we've had two Energy Master Plans which show that we're having -- we have to make some tough decisions there as well. So I'm still trying to understand the motivation for the delay.

MS. COFFEY: Well, I hate to speculate, and I really try not to do it. But my understanding is that, in some cases -- for example, ANJEC, the Association of New Jersey Environmental Commissions -- is working on aquifer studies for an aquifer called the Kirkwood-Cohansey Aquifer, which underlines the vast majority of South Jersey. So the South Jersey Bayshore -- I should probably do it the opposite way, because we're sitting across from one another (gestures to demonstrate) -- but the South Jersey Bayshore and the Pinelands. So it's our underground water resources that provide 80 to 90 percent of the base flow to our streams. So when water is low, the only water in those streams is coming from that aquifer. We are seeing decreases in the level of that aquifer, and that's where the environmental warning signs are going off. If all of the water allocation permits in those areas were fully cashed in -- the checks were fully cashed and the full amount of water was used -- something on the order of-- Those aquifers will be over-withdrawn by about 300 percent.

So we've written too many checks for our water, and they will bounce. And we will have severe impacts to our ecology, our water use. These require massive business decisions. They require conservation, they require looking at infrastructure. It will not be easy or cheap to make decisions based on having enough clean water into the future. But there's an opportunity to plan for that right now. And so that's why many of us are here today saying, "Let's have this hard conversation; let's start to make these hard decisions now so that we don't get ourselves in the trouble that our West Coast neighbors are in right now." So I think it's -- that's probably the crux of this bipartisan issue.

SENATOR GORDON: Okay.

Any questions?

Senator Kean.

SENATOR KEAN: Thank you for being here today.

MS. COFFEY: Thank you.

SENATOR KEAN: I appreciate your insights.

I wish I remembered her name -- but on Bloomberg Radio, last week or the week before, there was a -- they had an individual who was the head, I believe, of the LA Economic Development Environmental Protection Authority. And she was talking about the issues surrounding California -- we've referenced California a couple of different ways here -- and she was the Mayor's appointee. I wish I could remember her name. But she was-- At that juncture, the question came up on this radio station; *a*) she said desalinization is not a priority at this juncture because the sheer expense of desalinization versus every other component is just so extraordinary that even in the LA context -- from the Mayor's plan -- that the desalinization is just not within their immediate plan. Through the Chair, would that be your sense as well?

MS. COFFEY: I would not begin to speculate on doing that kind of an economic analysis at this point. I think that's why we need the plan so that we can look at where we have existing water deficits and where we have projected water deficits. And then we can have the discussion about how to solve those problems.

I do know that in addition to it being extremely expensive to run a desalinization plant, it is also not in line with goals that many people have with regard to climate change because it is very energy intensive. And that's part of what makes it so incredibly expensive.

SENATOR KEAN: And that was part of the context of this conversation; that was one part of it. The second was, obviously, the immediacy of the solution.

In this interview, this person talked a great deal about-- Obviously, through the Chair, they talked about conservation efforts. Another aspect was a program that they had in LA where there were credits for changing your lawn to more environmentally responsive plant structures so that you'd be able-- They would have a grant program that would essentially say, we'll give you \$100 bucks -- or whatever it was -- the cost to change your lawn to something that was much more responsive in that way. And that was a public-private partnership, for lack of a better word, where it was a completely voluntary program.

And so the question that I have for you is, obviously if we're getting down to the end point, which is recharge of aquifers, can you, in your recommendations, look to see some of the ideas that LA has expressed for some of those aspects? That seems to me, if we can minimize the usage in some of those areas on a partnership basis -- that could deal with some of the drain on the everyday usage.

MS. COFFEY: Yes. So I think the solutions for our water problems will likely lie somewhere in everything. And so it will be about individual conservation, it will be about looking at the wooden pipelines that Jeff referred to, it will be about fixing holes in infrastructure pipes, it will be about recharge.

There are some existing great programs in New Jersey that nonprofits support, including a River-Friendly program and a Bayscaping Ppogram that encourage individuals, and businesses, and golf courses to

look at converting some of their lawn into more native habitats that provide both wildlife habitat and give better root recharge. So I think it's an all-in situation, but this is why we need the plan so that we can begin to scope out those solutions.

SENATOR GORDON: If I could just comment on that, and then I'm going to turn to Senator Weinberg.

I think there are some strong analogies with energy here in that the least costly way of solving these resource problems is through conservation. And I think, as we've seen in our efforts to produce more energy-efficient homes and commercial buildings, we can do the same thing with water. My understanding is that there are approaches to capturing rainwater and reusing that, and just reducing stormwater runoff, and a number of measures that we can take. And as this resource becomes more dear I think we're going to move in that direction.

Senator Weinberg.

SENATOR WEINBERG: Yes. I'm glad that Senator Kean brought up the conservation issues, particularly in the LA area -- something that I see firsthand. And I just came back, a few weeks ago, from a visit to my daughter and son-in-law. And we were walking around their neighborhood -- they live in Culver City. Everybody is ripping up their lawns, replacing them with dirt and some few plantings, I guess that don't require watering. And as I walked around there, I thought, "I wonder who invented lawns?" (laughter) Because they are a lot of work.

SENATOR GORDON: Probably the Scott's company.  
(laughter)

SENATOR WEINBERG: I mean, it's like you have to mow it, you have to water it, you have to seed it.

SENATOR KEAN: Hey, Bob, are you hitting my Scottish derivation? (laughter)

SENATOR WEINBERG: Whereas, this is so much easier. And, by the way, quite as attractive -- at least to my eyes. And it's true: They get credits from -- I think it's a combination of their water utility. But they do get credits. You have to take a picture of the -- I think the program is running of out money, by the way -- you have to take a picture of the before and the after. But it's quite a sight to see this going on, neighborhood-wise.

They also all have rain barrels -- the old fashioned rain barrels -- in their backyards for what little rain there is -- is what they use to water the few plants they have -- that goes through some kind of a-- I don't know how the system works, but I see the rain barrels in the back, on the side, and so on. And so it's interesting to see how people can rise to the occasion, providing they know, and providing there's a big educational program along with it so that they do know that it comes out of a water plan.

But I'm really surprised-- I want to go back to something in your testimony where you said that, as a member of the Water Supply Advisory Council, you asked for a copy of the plan. I'm assuming you mean whatever the Lisa Jackson--

MS. COFFEY: Whatever the draft -- whatever the most recent draft of the Water Supply Advisory Plan was, is what we have asked for.

SENATOR WEINBERG: Okay. I think we should remind the Commissioner -- and I'm reading the opening sentence of the 1996 Statewide Water Supply Plan. The opening sentence says it all. "New Jersey's waters belong to its residents, held in trust, and managed for them by the State of New Jersey." So maybe we should just send him that sentence. (laughter)

SENATOR KEAN: If I may, through the Chair. Issues outside of the control of an individual State government -- in the context of California -- what caused California? The drought, these issues -- what percentage of the issues are population shifts from the non-San Francisco basin to more emphasis down south in the LA area? I mean, those populated (indiscernible) supplies where they could -- how the pipelines go. I mean, there were individuals who simply said, "If you could do a pipeline from Maine and Massachusetts to the Southwest, you could send all the snowfall over the winter across the country and grate it a little bit. (laughter)

But seriously now, I mean, what were the decisions that caused the California drought to occur, in your opinion, in the last 40 years?

MS. COFFEY: So I would like to answer your question. My expertise, however, lies in New Jersey water and New Jersey water supply. California is a vast and very different environment than New Jersey's. Western water law is based on a whole entirely different theory of law and policy than eastern water law -- and that has to do with our history as a nation and when we were founded.

In New Jersey, we have a variety of problems that range from being a 350-year-old state and having wooden drinking water lines, where

we-- I have heard a representative from the American Civil Engineers testify at a Clean Water Council hearing to say that we lose approximately 60 million gallons a day because of holes in old pipes. And so, with due respect, I wish that I could answer your California question, but my expertise is in New Jersey.

SENATOR KEAN: And if I may just, through the Chair, for future witnesses, if anybody has any expertise in this area I would think that the Committee would appreciate that that consideration -- whether its California or any leading-edge state that could be next in these issues over the course of the last 50 years.

SENATOR GORDON: Okay.

SENATOR KEAN: If I may; thank you, Mr. Chair.

SENATOR GORDON: Thank you, Ms. Coffey.

MS. COFFEY: Thank you.

SENATOR GORDON: We'll next hear from Dr. Daniel Van Abs of Rutgers University, Department of Human Ecology; and Advisor to the New Jersey Water Supply Advisory Council.

Dr. Van Abs.

**DANIEL J. VAN ABS, Ph. D.:** Thank you, Mr. Chairman and members of the Committee. It's a pleasure to be here.

I am an Advisor to the Advisory Council (laughter) -- Technical Advisor to the Advisory Council. But perhaps more pertinent to this is that I was the Project Manager for the 1996 Water Supply Plan when I was at the New Jersey Department of Environmental Protection. I moved on from there to the New Jersey Water Supply Authority; moved on from there to

the Highlands Council, and I'm now with Rutgers. My whole career has been spent in water resources management, planning, and analysis.

I want to cover a bit of history to give you a sense of how we got to where we are now, and then talk about some of the critical issues that I see coming forward for the new Water Supply Plan.

There actually have been three major Statewide Water Supply Plans in New Jersey. The first one was in 1955, and it was prepared by a consulting operation out of New York City working with the then-Department of Conservation and Economic Development that existed at the time. That plan was extremely important to New Jersey. New Jersey's population was booming in the post-war period. And that plan laid the groundwork for a 1958 Water Bond Fund which, in turn, provided money for two major projects that we absolutely depend on right now -- Spruce Run and Round Valley reservoirs in Central Jersey, in the Raritan River Basin -- and also for the acquisition of properties in a number of parts of the state for future reservoirs -- some of which still have not been built, but the lands are there and reserved for those purposes.

Unfortunately for us, the Round Valley and Spruce Run reservoirs were under construction during the 1960s drought so they didn't really come online until after the crisis had passed.

The 1982 Statewide Water Supply Plan was actually begun in the late 1970s, prior to the drought of 1981-1982. But it really picked up steam during that period. That was a very severe drought; not as bad as the 1960s, but it was enough that we came within a month of running out of water in some of our reservoir systems of North Jersey.

So that plan then got linked with the 1981 Water Supply Management Act, which completely revamped our entire regulatory structure for water supply -- an absolutely critical piece of legislation; and the 1981 Water Supply Bond Fund, which was, again, an enormously important piece of legislation: \$350 million worth of bond capacity for water supply projects.

What did that get us? Well, first of all, the 1982 plan was the first plan to really deal with the issue of groundwater, and put in train a tens of millions of dollars research program to understand the aquifers of our state. We had very limited knowledge. Now we have extensive water models of our aquifers; we have a much better sense of what's going on, and we're developing even better information as time goes on.

Second: That modeling led to the designation of two critical water supply areas -- Area No. 1, which is in Monmouth and northern Ocean County; Area 2 is in the Camden area -- to forestall saltwater intrusion in those two areas.

Third: Those designations then led to the creation of surface water supply projects: the Manasquan Reservoir and the Tri-County Project down in the southern New Jersey area. The 1982 plan resulted in the creation of the Monksville Reservoir and the Wanaque South Project up in North Jersey which significantly expanded the amount of water availability in the North Jersey area.

So this planning process was critical to the State and put us in pretty good shape for quite a bit of time.

The 1996 plan was the third plan. But I want to note that there were, in fact, multiple updates that were adopted by the Department

in between the 1982 plan and the 1996 plan. So the 1982 plan was a complete new plan; the 1996 plan was a complete new plan. But during both the Kean and Florio administrations, the Department would, every year or other year, put out a series of ideas and a request for concepts from the public as to how the 1982 plan should be updated.

So one of the points I want to make is that it is feasible to update a plan without completely redoing it. And we did that. The 1996 plan was proposed in 1995; it was during a drought. It was adopted in 1996, during the wettest six months in history. (laughter) And if there's any advice that I would have to anybody, it's to adopt a water supply plan during a drought because you get much more attention than we did there.

But what came from that plan? Well, first of all, that plan was able to confirm all the benefits from the 1982 plan. All of the work that was done -- we were able to show that it, in fact, worked; that New Jersey's water supply system was far more robust than it had been as of 1982.

It also identified new areas of aquifer concern. Steve Nieswand -- whose name was mentioned before -- was the Administrator for Water Supply Element; I was over in the Land and Water Planning Program. And we immediately started research work on those aquifer areas: one is Toms River-Metedeconk, and the other is the Upper Maurice River area in Cumberland County and Gloucester County.

We recognized that there were no new water supply possibilities up in the northeastern part of the state. We have no more reservoir capacity in the Passaic River Basin or the Hackensack River watershed. And so the next major water supply for that area will actually be the Raritan Basin, using some of those lands that were preserved based on

the 1958 Water Bond. So you can see how long a period some of this planning takes place and requires to move things from step to step.

And the other issue that we recognized was the need for a new safe yield model -- a systematic reservoir model for the Passaic and Hackensack watersheds. Because that area, of all of the areas reliant on surface water, was considered closest to the edge: least amount of buffer between the demands and the supply. And so we wanted a better understanding of that.

The new planning process started in, roughly, 2002. Several distinctions between that planning process and the prior ones: one is that, for the first time, the Department decided not to hire a consulting team. They decided to do the work in-house. And that has had implications, because one of the difficulties when you're working with in-house is not that they're not sharp enough -- they are. The staff there is really good. But it's that they can be pulled, at any time, for any other priority. A drought comes along, they go off the State plan. Something else happens, they go off the State plan. And that lengthens the time it takes to get a project done.

The draft plan was completed and was released to a public advisory committee in 2011 -- just over four years ago. Comments were generated from that committee; there were about 40 people in that meeting. It was a selected group of people; it was not a generally open-to-the-public meeting. And then the revised version was provided to the Water Supply Advisory Council members later that year, and then started moving its way up through the chain.

So you've heard then, obviously, that we have not had a plan since then.

So I want to speak to some of the reasons that a new plan is critical. First of all, demand projections. The 1996 plan used available population projections and then extrapolated from there to the year 2040. Those population projections for 2040 were for a State population of 8.9 million people. New Jersey, in 2015, has 8.8 million people. So we are already at the population that we planned for, for 2040.

Current projections added up from the various Metropolitan Planning organizations for 2040 are talking about 10.4 million. That's 1.5 million more than the 1996 plan was addressing. And that's roughly 200 million gallons per day of additional demand based on New Jersey's current per capita demands. It's a lot of water; that's a lot of water. The entire Raritan system -- which is Spruce Run Reservoir, Round Valley Reservoir, and the Delaware and Raritan Canal -- is only 241 million gallons per day. So essentially, we're talking about replicating that entire Raritan system as a potential new demand -- if we meet those population projections.

So the question is: Where will that demand occur, and how will we meet it? That's the critical issue for the Water Supply Plan.

I will note, full disclosure: I am currently working on a project for the DEP to develop new demand projections for the year 2040, which I anticipate being in the Water Supply Plan that follows the one that's being developed now. I certainly hope that it doesn't wind up being in the next Water Supply Plan. I hope that comes out sooner than that.

Second issue: New science on aquifers. As I mentioned, we have done tens of millions of dollars of research on aquifers in the State of

New Jersey -- most recently, the Kirkwood-Cohansey study that came out from the United States Geological Survey, the DEP, and the Pinelands Commission. Those studies have provided us with a tremendous amount of information which we then should be able to apply more broadly in the State to understand better the constraints on our water supply. Our aquifers have been and remain the least understood portion of our water supply system -- even despite the research we've done.

Third: New science on the effects of aquifer withdrawal on stream flows, and therefore on aquatic ecosystems. The 1996 plan is completely silent on this point because the science was just starting to get underway at that time. Now we have an entire body of research in this country and internationally that shows very clearly the effects of stream flow reductions on aquatic ecosystems -- on the fish, on the amphibians, on the bugs in the streams, the invertebrates. And the Highlands Regional Master Plan, which I worked on when I was there at the Highlands Council, incorporates a lot of this science. That plan was adopted in 2008; it is now seven years later. We would expect to see that science reflected in the new Statewide Water Supply Plan. And that will involve constraints that we have not previously seen with regard to aquifer demands and aquifer availability.

Fourth: It's been 50 years since the drought of record. I remember my brother walking across the Boonton Reservoir in the 1960s. Now, my brother does not walk on water. (laughter) He walked across the bottom of the reservoir, and he wasn't wearing a scuba outfit, either. It was empty. It's been 50 years since that drought. Are we really prepared for

another 1960s drought? How would we manage it? Water supply plans should deal with these kinds of issues.

And finally, individual decisions do not result in a statewide perspective. We've been making individual decisions for quite some time now, over multiple administrations, and we have a strong need to bring all of that information together so that we then again get a statewide perspective on how all of this puts together.

I would note, having been in Los Angeles just a few weeks ago and talking to the person who is responsible for developing the California Water Supply Plan, that even though they weren't prepared for this drought, they do have a statewide supply plan that gets readopted -- that gets redone every four years. This person is now in her fourth iteration of doing this -- she's a consultant -- and so it is entirely possible to do updates relatively quickly. The point with California is they don't try to redo the entire plan every four years. They redo pieces of it. They have a new theme for each plan. The problem we have in New Jersey is that we tend to wait long enough that we pretty much are forced to redo the entire plan. And then we wait a long time, and we're pretty much forced to redo the entire plan. Part of the idea behind the current draft, as I understand it, and as I last saw it -- which was four years ago -- the expectation this time is to make this more of a "living document" so that it can be modified piece by piece as new information comes up, so that we never hit this particular problem again. We can hope that that's true.

We are very good at responding to crises; but real management involves avoiding them -- and that's what a supply plan is for.

Thank you very much.

SENATOR GORDON: Thank you very much.

A couple of questions: You said you hadn't seen-- The draft that you saw was four years ago. Do you have information that corroborates what we -- what I was told by the DEP staff that the release was imminent; that they're just not ready to release it at this point? I mean, have they, in fact, been working on something that may well be ready this year?

DR. VAN ABS: The Water Supply Advisory Council asks for and often receives updates on the progress with regard to the plan; and those minutes are public minutes, so I feel comfortable talking about that.

We have been told, over time, that in the last six months updates were requested by higher levels with regard to pulling the data up to a more current level. After all, it had been four years since the draft was prepared. The Department had that many more years of data, so they were asked most -- fairly recently to update the data that were used as the basis for the plan.

Let's see -- what else were we told. We were told basically that the new data did not substantially change the conclusions of the plan from its prior draft. But we know that the plan has been revised several times within the last four years in ways that the Council has not seen.

SENATOR GORDON: Okay.

DR. VAN ABS: I think that's what I can say.

SENATOR GORDON: In the area of energy, we have a system in which we can, as a State, draw on energy generated from other states. I seem to recall in the past there were proposals -- and maybe they've been implemented -- whereby water would be moved from one state to another.

I thought there was some discussion of a pipeline across the George Washington Bridge, for example. Are there greater opportunities for us to work with New York, for example, to draw water from their supplies during periods of water deficit?

DR. VAN ABS: It's an interesting question. We did have a pipeline across the George Washington Bridge; that was the 1981-1982 drought. We never actually used it, but we did have it. We had another pipeline that went from Lake Hopatcong over into the Rockaway River basin to help refill the Jersey City reservoir -- that I mentioned was so dry in the 1980s. The difficulty is how to get water where you want it to be in a manner that's cost-effective. Bringing it across the bridge is probably not going to be cost-effective. The most cost-effective approach possible during a drought would be for New York City to release more water from its Delaware Basin reservoirs for use by New Jersey. And, of course, New Jersey would have to pay for that privilege, I'm sure. The difficulty, of course--

SENATOR GORDON: Are there legal--

DR. VAN ABS: Many.

SENATOR GORDON: Are there documents -- compacts between the states that would facilitate that, or would those have to be prepared?

DR. VAN ABS: In terms of facilitating -- no. I think it's quite the opposite way. New York City has rights to Delaware River Basin water; there are compacts that require it to release certain levels of minimum flows. Those compacts are routinely under negotiation in terms of how

they might be modified. This is something that would need to be either done well ahead of time of a drought, and would be quite complex to do.

And, by the way, Steve Tambini, who is the Executive Director of the Delaware River Basin Commission, is here with us today. So he might be able to answer in more detail.

But the one advantage that we have, relative to where we were, is that New York City's water demands have dropped considerably from their peak, because New York City has engaged in extensive water conservation efforts over the last several decades. So they have probably more buffer in their water supply if an emergency were to come. I will not minimize the difficulties of an agreement of that sort. It would be very difficult.

SENATOR GORDON: Just one final question and I'll turn to my colleagues.

I'm sure you're aware of the approaches taken in other states. We've heard an estimate of \$8 billion for water supply systems alone.

DR. VAN ABS: Yes.

SENATOR GORDON: How do other states pay for that? Do they simply issue bonds in the traditional way? Do they impose levies of some kind? Are there approaches that are used elsewhere in the country that we might want to explore here?

DR. VAN ABS: Okay. The answer is, in several ways, but most often it comes down to ratepayers. So you may pay through -- as a pay-as-you-go process, so it's a cash flow issue. You may bond, and then repay those bonds through ratepayers. You may get subsidized bonds -- the New Jersey Environmental Infrastructure Finance Program is an

exceptionally good program at doing that, where they can provide subsidized rates, lower-than-normal rates, for those who wish to engage in these kinds of infrastructure projects.

You can do public-private partnerships, but eventually the ratepayers pay for that. You can do-- You know, there are all sorts of mechanisms but, in the final analysis, grants just aren't there. There are no money trees, and so the ratepayers wind up paying for it in one way or another. That is the standard situation around the country. I don't expect it to be any different in this state.

I will mention that \$8 billion figure is probably low. The national estimate over a 25-year period is roughly \$1 trillion. New Jersey has about 2.8 percent of the national population, so if we were just average, that would be \$28 billion for the next 25 years. And we are an older state, and a lot of our pipelines are older than other states. So I think that \$8 billion is probably low.

SENATOR GORDON: Okay.

Senators, any questions?

SENATOR KEAN: If I may; I'm sorry.

SENATOR GORDON: Senator Kean.

SENATOR KEAN: If I may, New Jersey is an extraordinarily diverse state in a lot of different ways. It is my understanding that that includes the geology that is beneath all aspects of the state. Can you talk about, on these planning processes, the difference in the types of water, whether it's well water in certain parts of the state -- because that's been a lot of the conversation, is what percentage of the state has well water, what percentage has groundwater, and you have the type of sands much more

prevalent down in South Jersey than in North Jersey. Just-- Not to -- through the Chair -- be boring, but that has to impact cost, and location, and solutions, right? So there has to be different answers for different parts of the state. Can you talk just a little bit about the underlying issue, if I may?

SENATOR GORDON: Good pun.

DR. VAN ABS: That is a very good pun; I like that.

SENATOR KEAN: That's what I thought too. It took me a couple of minutes to think of that, but I got there. (laughter)

DR. VAN ABS: Right, yes. And I promise not to go into it in depth. (laughter)

New Jersey's population, of course, is very heavily biased toward the north. If you think about the North Jersey Transportation Planning Authority area -- which is Ocean County, Middlesex, Hunterdon, and north -- that's 80 percent of the total population of the state. There's no surprise that our reservoir systems are biased also toward the northern part of the state -- in part, because of geology. We have the topography; we have valleys and ridges. And so it's possible to put dams that create reservoirs.

Even so, our reservoirs are tiny compared to the western reservoirs. They're even small relative to New York City's reservoirs. So that's where our reservoir system is based, and pretty much our entire urban area of North Jersey is dependent on surface waters from those reservoir systems -- and the Delaware and Raritan Canal, I should not forget that.

However, a lot of the outer suburban and rural areas of the North are dependent on groundwater because we have a lot of glacial

aquifers up there -- relatively small aquifers, but yet they serve their purpose for places essentially from the Livingston-Millburn area out to the west.

South Jersey has two different major water supply -- three, I should say, water supply opportunities. One is we have very deep aquifers; they are confined by clay layers. They are called *confined aquifers*. So if you've heard about the Potomac-Raritan-Magothy aquifer, that's a complex of aquifers in South Jersey. And much of the southeastern part of the state relies on them, and parts of the southwestern as well.

We also have the Delaware River. So cities such as Trenton take water from the Delaware River, use it, and then discharge the treated wastewater back to the Delaware River.

And finally, we have the surface aquifers in the South Jersey area, and that's primarily the Kirkwood-Cohansey aquifer that we've heard about. And it is this aquifer that supports the unique Pinelands ecosystem. And that ecosystem is extremely sensitive to water levels within that upper aquifer.

So each one of those has its own opportunities, its own constraints, and its own restrictions.

SENATOR KEAN: Thank you, through the Chair.

SENATOR GORDON: Senator Smith.

SENATOR SMITH: Just a few, Dan.

You indicated that the water infrastructure needs of our state could range anywhere from \$8 billion to \$22 billion. What would the infrastructure improvements be, why are they needed, and what would be your top three?

DR. VAN ABS: Okay. And yes, that's just the water supply part. Then there's the wastewater part, and then there's the combined sewer overflow part.

SENATOR SMITH: Yes.

DR. VAN ABS: Right, so several different pieces. First of all, we have a lot of pipes that were put in place between around 1860 to 1870, and then in the 1920s, 1930s period. This was during the period of peak urban expansion in our state -- a very industrial period of time -- and these kinds of pipelines have an average lifespan of roughly 100 years. It's been 100 years -- 120, 140 years. They're really starting to decline in a major way.

Same thing with combined sewers; they were created during the same period of time. And they are absolutely aging out. We are seeing constant articles about line breaks where they're just collapsing. These are brick tunnels, basically.

And then with regard to the next boom period -- that was during the 1950 to 1970 period where we gained about 3 million people in our suburban areas -- people moving out of the city and people coming into the state. Those pipelines are generally considered to have average ages of 50 to 70 years. Well, guess what? The pipelines that were laid during the Baby Boomer era are roughly the same age as the boomers, such as me. (laughter) And they-- I resemble that remark, right? (laughter)

SENATOR SMITH: We're all wearing out. (laughter)

DR. VAN ABS: And they are declining in structure integrity as well.

SENATOR GORDON: They're getting arthritic. (laughter)

DR. VAN ABS: So we have a situation where our oldest lines are hitting their age-out period; our second boom period are aging out; and treatment plants only will last, generally, 30, 40 years before they have to be significantly restructured. And a lot of our plants were built during the 1980s and 1990s. So in the next 20 years we're hitting this triple whammy of issues. And then on top of that, we have the issue of the combined sewer overflows, which 800 other cities around the country have already been dealing with, some of them for decades. New Jersey is at the very tail end of this process. And so we're going to have to face those costs as well.

SENATOR SMITH: In terms of the financial impacts, how much of the pipes are in private utility or utilities, as opposed to being owned by the public?

DR. VAN ABS: Well, about 40 percent of our water supply is through investor-owned water companies.

SENATOR SMITH: Right.

DR. VAN ABS: I think I'm correct in that figure. And the remaining are through a combination of government owned, either municipal utilities or municipal utility authorities. A lot of-- When you think about it, they're probably not terribly different in terms of age, except that the oldest urban areas are, for the most part, still publicly owned. They may have private contractors maintaining them, but they are publicly owned.

SENATOR SMITH: All right. So your answer to Senator Gordon's question earlier about how this gets financed--

DR. VAN ABS: Yes.

SENATOR SMITH: --whether it's a private investor-owned utility, or publicly owned utility, at the end of the day it's going to be the ratepayers who are going to pay for this.

DR. VAN ABS: Pennsylvania did an interesting study several years ago where they looked at the whole question of how things get financed.

SENATOR SMITH: Right.

DR. VAN ABS: Ninety-six percent of the expenses fell to the ratepayers.

SENATOR SMITH: So the bargain that water is in New Jersey is not going to be true for very much longer.

DR. VAN ABS: Rates for water and sewer nationally have been escalating significantly faster than the Consumer Price Index. And yes, I absolutely expect the same thing to happen in New Jersey. What we will hope, in the process, though -- and this is happening, to a certain extent -- is that we can offset improvements in systems that reduce energy costs with some of the costs of improving the systems. So there may be some offsets. So for instance, if you replace a lot of lines, and you knock down your water losses, that means that more of your product is actually getting to the consumers and you have greater efficiency.

SENATOR SMITH: Right.

DR. VAN ABS: If you have better sewage treatment plants, water supply treatment plants, you lower your energy costs and that helps offset some of the increase in capital costs.

SENATOR SMITH: So does the Water Supply Master Plan (*sic*) -- when it is revised and adopted -- does it have the force of law with

regard to the improvements that the utilities have to perform? Does it lay out a pattern, or a requirement, or a percentage every year that has to be updated? How do you actually get the utilities to do the job?

DR. VAN ABS: Excellent question. The only force of law that the Water Supply Plan has is with regard to the allocation of funds from the 1981 Water Supply Bond Fund.

SENATOR WEINBERG: The allocation of funds from what? I'm sorry.

DR. VAN ABS: From the 1981 Water Supply Bond Fund. In all other ways, it is a policy document that must be implemented through regulations -- or legislation. But it is a policy document, not a regulatory document. And that was true of the 1996 plan and the 1982 plan. The critical issues for those two plans is that they did allocate significant chunks of money under the Bond Fund that could only be used for those purposes, because they were in the plan.

SENATOR SMITH: So there's no guarantee that even if we had a great Water Supply Master Plan, and it said what our deficiencies were and what should be done, but then it may never be accomplished because the decision is in other hands.

DR. VAN ABS: The decision would have to be followed -- that plan would have to be followed by a whole series of additional decisions -- yes.

SENATOR SMITH: Okay, thank you.

SENATOR GORDON: Anyone else?

SENATOR WEINBERG: Yes, one--

SENATOR GORDON: Senator Weinberg.

SENATOR WEINBERG: One small question, if I may -- because I'm confused.

There's the, for want of a better term, the Lisa Jackson plan. And then you talked about a four-year-old draft plan.

DR. VAN ABS: Right.

SENATOR WEINBERG: So are there two plans kind of floating out there that nobody's really seen?

DR. VAN ABS: I hate to disagree with a prior speaker, but I'm not really aware of a Lisa Jackson plan. I know the Department was working on the plan through that whole time; but in terms of having a draft plan that was a complete document, I'm only aware of the 2011 plan -- draft.

SENATOR WEINBERG: Okay, so maybe I have reason to be confused then.

And a second question: You talked about New York being successful with their water conservation plan.

DR. VAN ABS: Yes.

SENATOR WEINBERG: Can you give us some highlights of that?

DR. VAN ABS: Yes. New York City had this interesting situation where, years ago, none of their users were metered. And so people loved New York City water; it's great water. But they liked to keep it running cold, and if you're in a tall apartment complex, that can be a problem. So they would simply let their taps run so that they always had cold water readily available.

New York City implemented metering, and the result was the levels of water demand dropped drastically.

This is no difference, in some ways, from what Las Vegas has done. They were using 270 gallons per person, per day. They're down to about 170 gallons per person, per day now. New Jersey is roughly 130; New York City is roughly 130. They used to be over, I think, 200.

So what they did was, they started actually paying attention. They got serious about it because they were scared by it going through a drought period -- and it worked. It's amazing what will happen; it's like facing the firing squad. It really concentrates your mind. (laughter) Well, it worked.

SENATOR WEINBERG: Yes, I agree with you. I've seen an ad on TV, and I have no idea who put it there -- about leaving the water running when you're brushing your teeth.

DR. VAN ABS: Yes.

SENATOR WEINBERG: And how much water is wasted by that.

DR. VAN ABS: Yes.

SENATOR WEINBERG: And as I said, I don't even know who put the ad on.

SENATOR GORDON: The pricing system is amazing.

SENATOR WEINBERG: What?

SENATOR GORDON: The pricing system is amazing. It's just the way your economics professor told you it worked.

DR. VAN ABS: Well, it used to be--

SENATOR WEINBERG: Just like I figured out it works in my own life, actually.

DR. VAN ABS: It used to be that we had situations where the more water you bought, the less you paid for each gallon. And that is pretty much gone, at this point. We now have inclining loss structures, as we do in my town of South Brunswick. You use a certain amount of water, it's one rate; you use more water, and it's actually an increased amount per thousand gallons. And people start paying attention to those signals. Pricing signals work.

SENATOR WEINBERG: You know, when we had the drought -- which you're telling me was in the 1960s; I did think it was later than that -- we were told, at the time, and I remember it, that you were -- we were given a per-gallon usage, depending upon the size of your family. And you would be fined if you went over that. They got to the fine part of it.

DR. VAN ABS: Right.

SENATOR WEINBERG: It just kind of died out, I guess, with the drought.

DR. VAN ABS: Yes, Senator. That was the 1981-1982 drought.

SENATOR WEINBERG: Okay. Yes, I was going to say, I didn't think that went back to the 1960s.

DR. VAN ABS: Yes, you are correct. That's was part of the response to the 1982 drought.

SENATOR WEINBERG: Yes, so-- And people paid attention; I remember quite well--

DR. VAN ABS: Oh, yes.

SENATOR WEINBERG: --in terms of my husband hollering at the kids to stop taking such long showers, or whatever was going on.

So we were told we were being monitored, and we were told if we used more than we were supposed to there would be some kind of payment.

DR. VAN ABS: Yes.

SENATOR WEINBERG: So those are the kinds of, at least, attention-getters that--

SENATOR GORDON: And, of course, the odd-even watering days for your lawn.

SENATOR WEINBERG: Yes, that's true. And washing your car and the watering of your lawn, or whatever, on the odd-even days -- correct.

SENATOR GORDON: Senator Kean.

SENATOR KEAN: Through the Chair, if I may.

In the 1980s and the 1990s, the fact that New York City did not have a positive solution to its combined sewer overflow issue caused a lot of issues on the New Jersey shoreline and Staten Island shoreline, and everything else.

SENATOR GORDON: Medical waste.

SENATOR KEAN: And medical waste and other -- wide barges going everywhere. But the CSO issue coming out of New York City impacted fellow New Yorkers as well as New Jerseyans.

DR. VAN ABS: Yes.

SENATOR KEAN: *A)* has New York done anything since 230 years ago to deal with that CSO issue? And *b)* does whether they have or

not -- does that have any impact on our cost associated with what we need to do, going forward, if we need to figure out how to purify the water, going forward?

DR. VAN ABS: The original situation with New York City, Senator, was even worse than just having combined sewer overflows because they had no sewage treatment plants.

SENATOR KEAN: Right.

DR. VAN ABS: At all.

SENATOR KEAN: Right.

DR. VAN ABS: So one of the things they have done is they've built 14 sewage treatment plants, which is an amazing improvement. So now during non-wet weather periods they're treating the sewage. They still have combined sewer overflows; they are one of the 800 cities that are now under an EPA Compliance Order to deal with their combined sewer overflows. They will be spending billions of dollars on that, as will Philadelphia -- which is also under a Compliance Order. So yes, they are doing this.

SENATOR KEAN: And if I may, on that (indiscernible), that Compliance Order means that they have to do this. Is there a timeline for adhering to an EPA Compliance Order, in this regard?

DR. VAN ABS: Yes. They have what's called a *Long-Term Compliance Plan*; it's a multi-decade plan, as will be the plans in New Jersey. And they are required to show routine progress toward meeting their objectives.

SENATOR KEAN: And *a)* they are on a path to do that, and *b)* until they get that done, are there any costs that are -- besides the

obvious issues associated with those CSO defects going out -- any economic costs that are not just -- the direct tourism that don't show up on a beach; all those things on our treatment of water?

DR. VAN ABS: The New York City situation does not change the nature of what New Jersey utilities must achieve for their combined sewer overflow controls, or for their routine permits. So our sewage treatment plants are facing very similar expectations; they now have three to five years to develop these plans and get them approved by the DEP. What New York is doing will solve their part of the problem; we will solve our part of the problem. And together we would hope that it will show improvements in water quality.

SENATOR KEAN: I'm sorry -- just to clarify the question. I apologize; thank you for your patience, through both the Committee as well as to you as a witness.

The question is: Until they resolve their issue, some of that CSO that comes out will impact our aquifers, will impact everything else. The treatment issue you're talking about -- after use -- is not consequential in that regard. But I'm saying from an impact on our drinking water supplies, a variety of other things -- is there an additional cost associated with New York not doing its job? Or is that just-- Do you understand the context of that question?

DR. VAN ABS: Yes, yes. Thank you. None of the waters which New York City discharges are drinking water supply waters. They're all estuarine, and so it has no effect on drinking water supplies at all. And it has no effect on our requirements for wastewater treatment to those same waters.

SENATOR KEAN: Thank you.

DR. VAN ABS: Thank you.

SENATOR GORDON: Okay. Unless there are other questions, thank you very much, Dr. Van Abs.

DR. VAN ABS: Thank you.

SENATOR GORDON: We will hear next from Bob Kecskes -- I hope I'm pronouncing that properly -- a retired DEP employee, who I was led to believe has been involved in this planning process during his career.

Welcome.

**ROBERT A. KECSKES:** Thank you. And Happy Earth Day.

I'll try to make this real quick since we're getting kind of late here.

I was employed by the New Jersey Department of Environmental Protection between 1976 and 2011. During my last 25 years with the Department I served as Chief of the Water Supply Planning Section; I worked with Dan. One of my primary duties was to draft large sections of the plan. I authored large sections of the 1996 plan; I also authored large sections of the plan that we're discussing today.

The Department has been officially assuring the Legislature and the public that this draft plan would be released for more than a decade. In fact, due to the impatience of the Legislature during the last decade, a law was enacted in 2005 that required the Department to have a plan prepared and adopted by 2006, as Senator Gordon noted. So this is an ongoing headache.

The absence of a Statewide Water Supply Plan is not without significant consequences. Our knowledge of how water supplies should be

managed grows over time. Those of us who are familiar with New Jersey's water resources understand that the 1996 plan was a vast improvement to the 1982 plan. And those of us who are familiar with this draft plan that we're discussing today realize that it's a vast improvement over the 1996 plan.

Knowledge of how much water is available from the state's individual water supplies during future drought conditions is a cornerstone of planning for the future. On average, since 1980, New Jersey has undergone drought warnings about every three or four years, and drought emergencies about every five or six years. Since the last drought emergency was declared in 2002, one might conclude that one is on its way. When? We don't know. Sometimes there are large expanses of time between them; sometime there's one, after the other, after the other.

The New Jersey Legislature understood this over 30 years ago when it enacted the Water Supply Management Act that required the development of a comprehensive Statewide Water Supply Plan. Without an update to the plan, the following impacts could be expected.

Overallocation of water supplies: We typically give dozens upon dozens of water allocation permits every year. Before we had the 1982 plan, when we had the 1981-1982 drought we concluded very quickly that we overallocated our supplies. We stand to make that same chance (*sic*) again today.

Excessive stresses upon aquatic natural resources could be expected. Overallocation of water supplies due to not knowing how much water is available can lead to stream flow depletion, which in turn can impair New Jersey's freshwater-dependent natural resources. Trout streams

can be damaged, shellfish harvesting can be diminished, and outdoor recreation opportunities could be negatively impacted.

The Department recently released a report that shows that 47 percent of the state's 151 watersheds may be currently stressed by present withdrawals. At full allocation, 89 of the 151 watersheds may be stressed when that water is finally used -- if it is finally used.

Impairment of water quality could be expected. Surface and groundwater withdrawals in excess of available supply may lead to deterioration of surface water quality. Consequently, the state's surface water quality standards might not be met and natural resources may be damaged.

Furthermore, tens of millions of dollars might need to be expended to upgrade the states water supply wastewater infrastructure. Numerous county water quality plans are currently being developed; but these plans are using outdated water supply availability numbers from the 1996 plan. Since these plans will allow for future development, it may be the case that there is not ample water supplies to meet their needs.

Reduction of existing water supplies may be occurring. Overallocation of water supplies upstream of existing water supplies, such as reservoirs, can reduce the amount of water available from these existing supplies. As a result, these supplies may not be capable of providing ample water during future drought, and expensive new water supply infrastructure may be required.

Increase in future droughts could be expected without having a guide for -- having a Statewide Water Supply Plan. Approval of unplanned withdrawals can increase the frequency and intensity of future droughts.

Since drought emergency declarations are based, in part, on the lower reservoir levels, stream flows, and groundwater levels, future drought declarations can be expected to be more frequent and last for longer periods of time too. They could be very -- they could be significantly more severe than we currently expect.

So I'd be glad to answer any questions that you might have.

SENATOR GORDON: Thank you very much.

If I could just ask a question I've been asking throughout this hearing. You spent your career in the DEP. What are your thoughts on what's behind the delay? I mean, is it staff being diverted to other issues? Or is there word coming from above that the plan shouldn't be released? What are your thoughts, from the inside?

MR. KECSKES: All of the above. But I do suspect that the state of the current water supplies, using the approach that's in the draft Water Supply Plan, is playing a pretty critical role. It's showing that approximately one-third of the state's watersheds are being stressed by current water allocations, and that's going to grow to be, probably, 60 or 70 percent at full allocation. In other words, it's a detriment to future development.

SENATOR GORDON: Okay.

MR. KECSKES: That's pure speculation on my part.

SENATOR GORDON: Okay.

Senator Weinberg.

SENATOR WEINBERG: Yes, you know, as I'm listening to all this, I'm assuming we're all getting the general idea of what the problem is. And how we come up with a solution, if there is one, or varied solutions, is

-- that's the trick question, I guess. And hopefully when we finish this hearing -- and we've already suggested a few follow-ups with the DEP Commissioner -- but I'm assuming that there is going to be a plan at some point or another. I think we need to know, whatever that plan is, what the next step is; whether, when that plan comes out -- whether that's a responsibility of this Committee to have a hearing and try to come up with some steps toward how we solve the problem; or whether -- Senator Smith is out of the room -- but do we refer it to the Environment Committee to come up with it, or both.

SENATOR GORDON: Perhaps a Joint Committee -- a Joint Committee meeting.

SENATOR WEINBERG: Or a Joint Committee. But I would hate to leave here with this kind of just hanging out there.

SENATOR GORDON: Yes.

SENATOR WEINBERG: That there be some kind of a decision by this Committee that when and if that plan comes out, we take a second look and it doesn't just-- You know, this is not such a sexy subject; you can tell by the TV cameras that are crammed into this room (laughter) how interested-- You know, it's a hard subject to translate even to people -- in the appropriate manner in which the gentlemen and lady who have really spent their public careers on this can do.

So I just hope that that's the -- I'm going to have to leave early, because I have another meeting back up north -- that that will be one of the conclusions that you jointly come to on how to take this to its next step.

That's all.

SENATOR GORDON: Senator Kean, do you have thoughts about that?

SENATOR KEAN: I always enjoy when the Majority Leader and the Minority Leader agree. (laughter) I look forward to those discussions. I think that if I-- The Majority Leader and I have to leave, I think, at the same time, and we may, through the Chair -- that that Committee letter will be of great import. And I look forward to working with you going forward in that, as well as a follow-up. Believe me, I think if and when this plan comes out I am sure there will be a lot of people analyzing this plan.

Thank you.

SENATOR GORDON: I do believe we have some consensus on that -- that there will be a letter coming out of this Committee, ideally signed by all the members, calling on the DEP to let us know when the report is coming out, and stressing the importance of it.

And also that there be a follow-up evaluation by this Committee, or the Environment Committee, or perhaps a joint meeting -- all sorts of things happen when you leave, Senator Smith.

SENATOR WEINBERG: We just gave you the responsibility.

SENATOR KEAN: If he stayed out of the room, we could almost be done here. (laughter)

SENATOR WEINBERG: While you were out of the room--

SENATOR SMITH: I'll have it done by next week; no problem. (laughter)

SENATOR WEINBERG: While you were out of the room we gave you the responsibility of executing the water plan when it does come out.

SENATOR SMITH: Okay. (laughter) Thank you.

SENATOR WEINBERG: You're welcome.

SENATOR GORDON: Okay. The hour is getting late, and I'd like to move the process along.

I'd like to call up, as a panel, Tim Dillingham, Executive Director, American Littoral Society; and Dave Pringle, New Jersey Environmental Federation.

Gentlemen.

**TIM DILLINGHAM:** Mr. Chairman, thanks very much for the opportunity to come before you today on Earth Day. Thank you to the Senators. I commend you all; I've known you all, and I know your records on environmental issues. And I appreciate the leadership.

But I think just that last point of conversation is the most important thing that this Committee can do. Clearly the Legislature laid out, in the Water Supply Act, its view on the obligations of the State to protect the waters that are held in trust for the public, as Senator Weinberg quoted earlier. This plan, for all the conversation that has happened today about why it hasn't come out, is-- The fundamental fact is, is that it hasn't come out, and it's not available to be used to address very serious problems that are either before us today or pending on the horizon.

If you look at the 1996 plan, it pointed to a number of potential crises. And so while the television cameras aren't here today as we're trying to take prudent steps to ensure that we're ready for the changes

in water supply, they will be here when we don't have water to drink, or water to water our lawns, or all the other uses we want to make out of that water supply.

So I commend you for your leadership in going forward on this. This is clearly-- The fact that the plan is not out is clearly a policy failure on the part of the Administration and the State. This plan is important; it's a keystone in many decisions -- whether those are where the State invests its money and, by extension, where it invests and tries to promote economic development; or how it responds to the way water is used that might have secondary consequences.

As you know, my organization works on the coastline, and we're concerned about the status of the bays and estuaries of the state, as well as the natural life, in particular, that depends upon that -- the fish, the crabs, all of those critters which I'm so fond of depend upon clean water, depend upon an adequate supply of water. Estuaries, by definition, are where the rivers meet the sea. And the chemical composition of those bays is dependent upon the freshwater input. That freshwater input and its availability is dependent upon how much we use in the upper parts of the watershed. You all are very well familiar with, and leaders on, the problems that are facing Barnegat Bay. The Delaware Bay has its own problems; the Hudson River and the Raritan Estuary have their own problems.

But clearly there are billions of dollars of economic worth and value that depend upon those estuaries. And the ability of us to ensure that there's the appropriate amount of water flowing into it is a critical part in managing them.

You heard a lot of, sort of, the litany of the potential problems that come from mismanaging our water resources. I provided a written testimony to the Committee; you'll see some of that. You cannot get a better authority than Dr. Van Abs. I served on the Highlands Council when it was first created; Dr. Van Abs was the Science Director there who put that plan together. I was astounded, as we went through that analysis, by the amount of places within the Highlands that were either in deficit or facing deficit in water supply. And I think that that -- sort of that precarious place we are, on this cusp of potential problems, is underappreciated.

And so the release of the plan is an educational device as well. It helps raise the consciousness of people -- whether those are the users, the purveyors, or ultimately the ratepayers who are going to have to pay for the infrastructure to ensure the clean water gets to them. It helps them to understand where we are.

There were a number of, sort of, potential crises that were highlighted in the 1996 plan, which I think compels us to need to act today. That 19 years of not having a plan in place -- even though there may be updates happening to it along the way -- is essentially unconscionable. The Manasquan, the Metedeconk, and the Toms Rivers watersheds, all which feed into Barnegat Bay-- The plan in 1996 said, "Strong population growth, especially in the Toms River watershed, is projected to result in sizable water supply deficits within the planning period." As I said, those anticipated deficits not only affect the water that's available to coastal communities, but because of the nature of coastal aquifers can affect the Bay. The Salem, Cohansey, and Maurice River watersheds -- I'll quote the

plan -- “are estimated to have an existing water supply deficit in 1996. Alternative supplies are constrained by ecological concerns and the potential for saltwater intrusion.”

In the Cape May Coastal watershed -- you know, one of the iconic destinations of the state’s tourism industry -- the plan was unequivocal. It said, “Current and future stresses on this region’s aquifers must be reduced.”

So 20 years ago, there were all these red flags being raised. And it’s a policy failure, but the political accountability goes to the public -- that we have not taken steps to ensure that we’re addressing these problems which are potentially overwhelming once they happen.

On the implementation side of this, you know, we really can’t, in good conscience, base the decisions we’re making today about growth and development -- which are happening -- on data that’s almost 20 years out of date. We don’t benefit from the decades of advances in scientific understanding. Dr. Van Abs talked about the knowledge we gained about aquifers, about the ecological flow requirements for streams to maintain the ecological communities there. We don’t benefit from that understanding of the state’s surface and groundwater plan.

So without an updated plan we’re putting both the natural and the built communities of the state at risk. So I commend you for having this hearing on Earth Day; for highlighting this issue; and for the steps that you’ve been discussing in a bipartisan manner to reassert the Legislature’s oversight role in this, in demanding that the fundamental ideas of the Water Supply Act be moved forward, and that the obligation you have to the public to take care of this public trust be respected and honored.

So I appreciate it. Thank you.

SENATOR GORDON: Thank you, Mr. Dillingham.

Mr. Pringle.

**DAVE PRINGLE:** Thank you, Mr. Chairman. And I'll be brief.

I'm mostly here to talk about the politics. I have to respectfully disagree with this not being about politics. The sole reason the Water Supply Master Plan hasn't been released is because of politics. And that's because the governors -- Democrat and Republican -- can't handle the truth. And the truth is, we don't have enough water in certain places and we're not dealing with it. And they don't want to tell that truth because that means major changes that aren't going to make -- especially -- developers happy. And they can't release something that's a lie because there are enough of us in this room, as you've heard, that we can see through the lies and we would expose it, and they can't get away with that. That's the reality.

That said, lots of folks are guilty on both sides of the aisle. Yes, Governors McGreevey, and Corzine, and others could have done some more; but, as Jeff pointed out, they've done a lot of other things. What is (indiscernible) different under this Governor is he isn't doing those other things; and every year we don't deal with this, the situation gets worse. There are fewer solutions; the solutions cost more, and it's harder.

To put it in context -- and many governors have said something equivalent to this. I want to read to you, into the record, an answer to a question from a gubernatorial questionnaire we asked a candidate. And I want to see if anybody can guess which gubernatorial candidate answered this question this way.

The question is, “Will your Administration update and implement a strong Water Supply Master Plan?” The candidate’s response: “It is outrageous that the current Administration continues to delay the required review of the State Water Supply Master Plan. We will wait to see their conclusions if, in fact, they release a plan this fall. However, there can be no more serious environmental issue facing our state. We must ensure a safe, adequate, sustainable supply of water. All of these issues -- Open Space, urban sprawl, COAH, clean water -- work hand in hand. We need to stop viewing them disjointedly, and focus on the fact that they are all connected. One action affects the other. And without a proper vision we will never be able to secure the needed buy-in and funding to accomplish our goals.

“That being said, for too long we have been flying blind when it comes to clean water availability. At the start of my Administration, we will assess the state of our drinking water -- both quality and quantity. Even though a study is required every five years, the last time one was in place was in 1995. It’s not enough just to throw money at the problem and shrug your shoulders, assuming the problem has been fixed, without quantifiable evidence. It’s time to identify where our water shortage problems are, before we can go about fixing them.

“The DEP has already told the Clean Water Council that they hope to release a new State Master Plan. It will confirm that there is a looming crisis in several sections of the state.”

Any guess who the candidate is?

SENATOR SMITH: Yes, that would be Chris Daggett.

(laughter)

MR. PRINGLE: Unfortunately, no. It is our current Governor, in the summer of 2009.

SENATOR GORDON: Mr. Pringle, who did you endorse that year?

MR. PRINGLE: Excuse me?

SENATOR GORDON: Who did you endorse that year?

MR. PRINGLE: One of the reasons we did -- as people keep wanting us to apologize, we're not sorry about the endorsement. We're sorry about this Governor's record since then.

So I take zero comfort -- and I appreciate you getting the statement from DEP -- but I take zero comfort and I have zero belief that there's any reality to them releasing that document any time soon. The Christie Administration has promised repeatedly, in the last five years, that "it's months away." Governor Corzine did the same thing. Governor Codey did the same thing; Governor McGreevey did the same thing. And again, it's because they don't like what that document would say, if it's credible; and if it's not credible, they're going to get nailed on that too.

And I have to-- Dan Van Abs obviously knows a ton more on the details of the science here. But I have to respectfully disagree with him about 2011 being the first plan. In 2003 and 2004, McGreevey had a plan ready to roll under Brad Campbell. In 2005, there was one ready to roll under Governor Codey. Repeatedly during the Corzine Administration there was a plan ready to roll. Governor Christie just acknowledged it in our questionnaire; he said he was ready to roll. Most recently, Commissioner Campbell (*sic*) is saying that it's because of Sandy we had to

divert resources. He had two full years to get this done; it was ready. The reason wasn't Sandy -- that provided a convenient excuse.

SENATOR SMITH: You mean Commissioner Martin.

MR. PRINGLE: Excuse me -- what did I say?

SENATOR SMITH: You said Commissioner Campbell.

MR. PRINGLE: Oh, excuse me; thank you. Commissioner Martin.

Just one or two consequences that really haven't been mentioned yet. In addition to Bob's statement about generally one-third already overallocated; shortly, two-thirds overallocated. In the McGreevey Administration -- and Tim, and Jeff, and others were in the room too -- the DEP acknowledged to us that the majority of the Highlands was already overallocated. But again, they don't put that documentation down or release it publicly because of the consequences.

There are property tax ramifications for this now. People talk about how -- this hard cap that passed over the last few years. It's not a hard cap; my property taxes are going up in Cranford; they are significantly more than what the public claims because they took the sewer out of property taxes. When you throw the sewer and the water supply in there, property taxes are going up. So this has a lot of ramifications when it comes to pricing.

And it's not just about a drought from the 1960s. I don't know the exact year -- it was the early 1970s -- but I remember, in Cranford, having to store our shower water and use buckets, and putting it in garbage cans and using that to flush the toilets just for pressure. And there have

been three significant droughts in the last 15 years. So it's not a question of if; it's a question of when and how bad.

And if you believe the 98 percent of climate scientists out there, climate change is happening. There's going to be more droughts; the rainfall patterns are going to change -- an additional reason we need to be dealing with this. And that we're not dealing with it.

And with that, I will close. And thank you again for holding this hearing. And please, we have to hold everyone's feet to the fire. So I look for, and I am very confident that, this Committee will do it. If the four people on this Committee today were fully representative of the Senate we'd be in a much better place today than we are.

So thank you.

SENATOR GORDON: Thank you very much, Mr. Pringle.

The hour is getting late, but we've had two individuals who requested an opportunity to testify: Ed Potosnak of the League of Conservation Voters; and Mike Pisauero, representing the Stony Brook-Millstone Watershed Association.

I would ask, if you can, to try to keep your comments to under five minutes each, if you can.

**MICHAEL L. PISAURO Jr.** Thank you very much.

My name is Mike Pisauero, on behalf of the Stony Brook-Millstone Watershed Association. I want to thank you for having this hearing.

In light of the late hour, I just would like to note we had submitted a letter on behalf of multiple organizations asking that this plan

be released, and that we start to work on the process of addressing those problems and concerns.

So thank you again, and I look forward to working with this Committee and with the Environment Committee in resolving the problems that this plan will ultimately reveal.

SENATOR GORDON: Okay.

**E D P O T O S N A K:** Ed Potosnak with the New Jersey League of Conservation Voters. I'm going to follow Mr. Pisauro's lead and be brief.

You know, we've had a great dialogue going with Majority Leader Weinberg around environmental issues, with many members of the environmental community. And this came up -- the lack of a plan, or an update to the plan -- as one of the issues to look at. And I just want to thank the Chairman and members of the Committee for taking on this oversight role. It's critical that we get a plan going, obviously, for the myriad of reasons that we heard.

You know, I think as the environmental community works well together around different issues, + we can really move the community and the voters to call for action. And they're the ones, at the end of the day, who end up paying the price for inaction -- both from the bills and everything else.

So I just want to thank you for your leadership -- Senator Weinberg had an opportunity to be here earlier -- to thank her and Chairman Smith, who has been a great champion for the environment. This is a wonderful collection of individuals -- and with Senator Kean -- to take this issue on. And we look forward to working with you to continue to make progress towards getting a plan.

SENATOR GORDON: Thank you, thank you both very much.

And let me thank my colleagues who came to Trenton on a non-legislative day; and to all of those who attended this meeting, particularly those who offered their insights as witnesses.

I will simply repeat, as I close, that we will send that letter to the Commissioner requesting -- we may use stronger language than that (laughter) -- to learn when the plan is, in fact, going to be released. Certainly after it is released, the Legislature will focus attention on it -- either this Committee, or the Environment Committee, or perhaps jointly with our Assembly partners.

And I agree with the sentiment that's been expressed here today -- which is that the water needs to be managed in trust for our citizens. It's the responsibility of State government to do that. And we have an obligation to our citizens, the people who sent us here, to manage that resource wisely and in a way that allows them to afford its use.

So with that, I will close the hearing. Thank you all for being here.

The Committee is adjourned. Thank you.

**(MEETING CONCLUDED)**