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SUFFOLK COUNTY WATER AUTHORITY
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LONG ISLAND COMMISSION FOR WATER
PROTECTION

PUBLIC HEARING

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October 20, 2016
6:03 p.m.

310 Center Drive
Riverhead, New York

1 B E F O R E:
2 STEPHEN TERRACCIANO - U.S. Geological Survey (USGS)
3 STAN CAREY - Nassau Suffolk Water Commissioners Association
4 JEFFREY SZABO - Suffolk County Water Authority
5 KEN ZEGEL - Suffolk County Department of Health Services
6 MICHAEL WHITE - Suffolk Legislature P.O.
7 JOHN MILAZZO - Attorney for Suffolk County Water Authority
8 STEVE COLABUFO - Suffolk County Water Authority

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1 (LICAP Exhibit A, STATE OF THE AQUIFER REPORT,
2 was marked for identification.)

3 MR. CAREY: Okay, good evening everybody; I think
4 we're ready to get started. My name is Stan Carey; I'm
5 the current vice-chairman of LICAP and superintendant
6 of Massapequa Water District. I'm the representative
7 for the Nassau Suffolk Water Commissioners'
8 Association.

9 Welcome to the final hearing of the three public
10 hearings we are conducting for the Long Island
11 Commission for Aquifer Protection. LICAP was created
12 three years ago by both Nassau and Suffolk Counties to
13 address both quality and quantity issues facing Long
14 Island's aquifer system. LICAP also is seeking a
15 coordinated management approach to the region's sole
16 source groundwater resource.

17 The purpose of these hearings is to collect
18 public input on this topic on the commission's draft
19 State of the Aquifer Report. The draft report has been
20 on the LICAP website, LIAquifercommission.com, for
21 several weeks; we also have copies available tonight.
22 The public comments are an important component to the
23 report; after evaluating the comments, we will then be
24 able to assimilate the points into the finalized State
25 of the Aquifer Report. The report should be completed

1 in December of this year.

2 Anybody wishing to present testimony should fill
3 out an index card listing their name, title and
4 organization. All testimony will be limited to five
5 minutes because we will recognize the order in which
6 cards are received by the appropriate personnel. You
7 can also submit any written testimony to LICAP's e-mail
8 address, LICAP@SCWA.com. I believe we'll leave the
9 written comment period open for two weeks after
10 tonight.

11 Before we begin the public hearing, we have a
12 presentation on the State of the Aquifer Report. Steve
13 Colabufo, who is the water resource manager of Suffolk
14 County Water Authority, has put together an executive
15 summary PowerPoint presentation on the State of the
16 Aquifer Report. Steve is the main author of the
17 report; he has a total of 26 years of experience as a
18 professional hydrogeologist. Since before Steve starts
19 I'll ask the other two people up here to introduce
20 themselves.

21 MR. TERRACCIANO: My name is Stephen Terracciano;
22 I'm an associate director with the New York Water
23 Science Center of the U.S. Geological Survey here on
24 Long Island.

25 MR. ZEGEL: Ken Zegel, Suffolk County Department

1 of Health Services, associate public health engineer on
2 behalf of Walter Dawydiak, our director of
3 environmental quality.

4 MR. CAREY: And Jeff Szabo, who is the
5 representative for the Suffolk County Water Authority
6 -- he's the CEO -- is on his way; he should be joining
7 us shortly. So with that I'll turn it over to Steve.

8 MR. COLABUFO: Okay. Thanks, Stan. Can
9 everybody hear me with the mic? All right. As Stan
10 mentioned, I'm Steve Colabufo; I'm the water resource
11 manager with the Suffolk County Water Authority, and on
12 behalf of LICAP I'm pleased to present a summary of the
13 State of the Aquifer Report.

14 The report is a culmination of about two years
15 worth of work by several many different members of
16 LICAP. It provides some basic information on the water
17 supply, groundwater science and water quality issues
18 facing Long Islanders. For those who may not know,
19 LICAP was formed in 2013, and its main purpose is to
20 address water quality and quantity issues on Long
21 Island on a regional basis. Members represent water
22 suppliers, political office holders, regulators,
23 academics, scientists, civic groups and a whole host of
24 other individuals and organizations from both counties
25 and from all other aspects of the water industry on

1 Long Island.

2 This slide here is a summary of all those who
3 provide to LICAP; it includes all the public water
4 suppliers on Long Island, which is more than 50 between
5 Nassau and Suffolk County. Includes the Nassau and
6 Suffolk Health Departments, Nassau and Suffolk
7 legislatures and county executives as well as the New
8 York City DEC and the U.S. Geological Survey. This
9 slide is kind of a collage of all the logos of all the
10 people who are part of LICAP. My apologies to
11 anybody's logo that didn't fit on the slide; it got
12 pretty crowded in there. Basically there is a large
13 variety of different organizations and groups all
14 throughout Nassau and Suffolk covering all aspects of
15 the water industry.

16 These nine smiling faces are the LICAP voting
17 members; there is voting and non-voting members as part
18 of LICAP. These are the voting members. Non-voting
19 members include participants from numerous Nassau and
20 Suffolk agencies; legislative bodies are also shown up
21 there at the top, sponsors of the legislation that I
22 mentioned who eventually created LICAP. There are two
23 subcommittees that were established early on in LICAP,
24 and their function is to investigate and report on
25 different types of water-related issues as far as

1 overall groundwater resources management plan; that is
2 the next sort of product or project, you might say,
3 after the State of the Aquifer Report and that should
4 be ready within about a year or so.

5 I'm the chair of the Water Resource and
6 Infrastructure Subcommittee; we're investigating
7 long-term risks for Long Island's water resources, and
8 Bill Merklin of Dvirka and Bartilucci who chairs the
9 Water Resources Opportunity Subcommittee, and that
10 subcommittee is investigating the more short-term
11 issues affecting the Long Island water supply.

12 The groundwater resources management plan is in
13 the works and is scheduled for release next year, and
14 it will include an investigation of about 17 different
15 specific topics related to groundwater basics on Long
16 Island; everything from saltwater intrusion to
17 geothermal systems to the word aquifer, and they will
18 be reported on as separate chapters within the plan.
19 So about a year from now, State of the Aquifer Report
20 will be updated.

21 So that sort of brings us to the next topic, the
22 actual State of the Aquifer Report. The latest version
23 is available for reading and printing on LICAP's
24 website, www.LIAquiferCommission.com; the last slide
25 I'll have the web address for you so you don't have to

1 scramble to write that down. Also, this presentation
2 is also posted on the LICAP website as well. The
3 report is a culmination, so far, of about two years
4 worth of work; a collaboration by numerous members of
5 LICAP. I've been the chief author and editor, but a
6 lot of different people, agencies and organizations
7 have contributed to the State of the Aquifer Report.

8 Now, from the outset the report was intended to
9 be a kind of an easy-to-read, informative document
10 providing some information to Long Island's water
11 community -- overall water community. That includes
12 consumers, students, teachers, and others who aren't
13 career water professionals; it includes sections on
14 general groundwater information, we've got sections of
15 water use and conservation, water quality issues and
16 other related things.

17 Like I said, the current draft is available for
18 download. We expect people to submit comments to LICAP
19 about the report; we really won't consider the report
20 finalized until we hear from the public. And it's
21 designed to be updated annually, so next year's State
22 of the Aquifer Report will have some basics to compare
23 to. We'll have hopefully several new sections at that
24 time based on the feedback we get, as well as what may
25 be topical this time next year.

1 So the next couple of minutes I'll summarize
2 what's in the State of the Aquifer Report. So to cut
3 to the chase, early on in the report we have a
4 statement about what we believe to be the actual state
5 of the aquifer; the best way we can really describe it
6 is that as a valued natural resource it certainly does
7 face challenges, both to its overall quality and
8 quantity. Fortunately, there are a variety of agencies
9 that supply and oversee and regulate groundwater and
10 drinking water on Long Island; they're listed briefly
11 here. They include the 50 plus water purveyors, both
12 county health departments, the DEC and the EPA.

13 The actual report itself includes sections on the
14 following topics; as you can see here, basic
15 groundwater information, water quality and quantity, a
16 section on source water affection as well as testing
17 regulations of groundwater in general and drinking
18 water in particular, and a discussion of the water
19 quality and quantity balancing act that occurs between
20 regional sewers and on-site septic systems.

21 So the next few slides here I'll highlight a
22 couple of points on the State of the Aquifer Report.
23 So first thing is we wanted to make sure everyone that
24 reads the report knows where our water comes from,
25 which is basically from right below your feet within

1 Long Island's aquifers. An aquifer is simply a
2 permeable, geological formation that stores and builds
3 water. On Long Island there are three major aquifers
4 shown here in blue writing. If I can get the cursor
5 here -- there's a couple of other minor aquifers that
6 exist within parts of Nassau County; they're not shown
7 on this graph here, but they're there. They play a
8 minor role in water supply.

9 All aquifers consist of unconsolidated sand and
10 gravel deposits, and there's about an estimated 65
11 trillion gallons of water stored within the aquifer
12 system. Only five to ten percent of it is actually
13 being withdrawn or extracted, but that still represents
14 roughly six billion gallons; that's an awful lot of
15 water right below our feet.

16 All the groundwater on Long Island derives
17 strictly from precipitation; there no connecting rivers
18 from Connecticut or any other external sources of water
19 in the aquifer system. Strictly from precipitation,
20 and given the importance of the aquifers to so many
21 people, the EPA designated Long Island's Aquifer System
22 as a sole source aquifer back in 1978.

23 This slide here illustrates what we call the
24 water cycle, which is basically anything and everything
25 that can happen to water from the atmosphere,

1 underground to surface water. There is really no
2 beginning and no end; water is in constant motion
3 throughout the system. Basically, as you can see here,
4 it looks like you have evaporation of water from
5 surface water bodies. A transpiration of water from
6 plant activity, that's how water enters the atmosphere.
7 As the water vapor rises, it cools and forms clouds;
8 eventually the clouds will thicken and rain will fall
9 from them, precipitation will fall them. So a portion
10 of the precipitation, roughly half of it actually
11 enters the groundwater system; the remaining half
12 either runs off or is evaporated back into the
13 atmosphere.

14 Once the water enters the aquifer system it
15 basically flows from areas of high elevation to the low
16 elevation and then the cycle just continues on. Like I
17 said, there is no real beginning or end. As I
18 mentioned earlier, all of the groundwater is derived
19 from precipitation; roughly 50 percent of the
20 precipitation recharges, as the term is, in the aquifer
21 system. And if you average it over the whole year, if
22 you average it over the whole Island, it amounts to
23 about a million gallons per day for every square mile
24 of land. That's the recharge precipitation in the
25 aquifer system.

1 Now, our potable water on Long Island water
2 supply comes from about 13 or 1400 public supply wells
3 located all throughout the Island. In contrast to the
4 New York City system, Long Island's water supply is
5 very decentralized; it's all about local pumping, local
6 distribution, local consumption all within just a
7 couple miles of each other. This slide illustrates the
8 general location of the water supply facilities on Long
9 Island; you can sort of summarize from this the more
10 densely populated parts of the Island -- Nassau,
11 western Suffolk -- have a more dense concentration of
12 water supply structure and, therefore, more intense
13 patterns of water usage.

14 Water use patterns are an interesting phenomenon
15 on Long Island between the suburban landscaping with
16 the fairly large, fairly green lawns. Seasonal summer
17 population increases; that means that there is a
18 greater amount of water used in the summer than in the
19 winter. This slide kind of demonstrates this; I'll
20 describe it in greater detail here. This is the water
21 authority's pumpage; in a 24-hour day -- this is
22 midnight, noon and midnight for six different days in,
23 I believe it was 2007.

24 So on the left-hand side is gallons per minute
25 from the entire water authority system, and the

1 horizontal axis is time. There's a couple of things
2 that are interesting; 5:00 in the morning in the
3 winter, that is the lowest point of water use during
4 course of a winter day. The authority system line
5 pumps about 25,000 gallons a minute all throughout the
6 summer to satisfy the winter demands at 5:00 in the
7 morning. However, 5:00 in the morning in the summer is
8 the high point of water use. During a typical summer
9 day it pumps about 490,000 gallons of water a minute.
10 So it's a 20-fold increase in water use at 5:00 in the
11 morning, most of which is in response to lawn
12 irrigation. And it would suggest, of course, that if
13 there was something like a fire or some major emergency
14 during this time frame when all the water authority
15 wells are on sprinkler system, it could create a public
16 safety issue.

17 So it's important to realize just how much water
18 is used for things like lawn watering and just how dire
19 the situation could be under certain conditions. Even
20 on a rainy summer day, the water authority is still
21 pumping about 300,000 gallons a minute even when it's
22 raining. So it just shows you what the, as we call it,
23 the irrigation situation is like, not only in Suffolk
24 County but also in Nassau. They may not have the same
25 volume of use, but the pattern is very similar; very

1 intense summer pumpage early in the morning.

2 That's an example of a water quantity issue;
3 there is also numerous water quality issues on Long
4 Island, most of which can be tied to specific land
5 uses. Since we're literally right on top of our water
6 supply, everything we do has the possibility, at least,
7 of affecting water quantity, quality or both. And this
8 slide illustrates the type of water quality impacts or
9 contaminant signatures or footprints, as we call it,
10 that can be expected from differently land uses. It's
11 not because of any major catastrophe or a spill or
12 gross mismanagement; it's just the inherent nature of
13 certain land uses.

14 What is illustrated here are a couple of common
15 land uses. So this is residential land use; these are
16 supposed to be cesspools and septic tanks. You can see
17 nitrogen and household chemicals can affect shallow
18 groundwater; agriculture, parks and golf courses has
19 its own type of water quality signature, as well as
20 commercial and industrial usage. And point sources
21 such as landfills also have their own contaminant
22 signature. Again, it's not because of any gross
23 mismanagement; it's just essentially the nature of the
24 beast. Certain land uses create certain contaminant
25 footprints or signatures.

1 The next slide kind of illustrates that. I'll
2 show you -- this is the contaminant footprint or
3 signature for one particular contaminant for several
4 different types of land uses illustrated by these bars
5 at the bottom. As you might expect, agriculture has a
6 pretty high nitrogen footprint; vegetable, row crop
7 agriculture. In shallow groundwater in these fields
8 you might get nitrate levels of 12, 13 milligrams per
9 liter. Vineyards, sort of a new age face of
10 agriculture has a much lower nitrogen footprint, like
11 half that. And then with residential land it all
12 depends whether or not there is a sewer; then it
13 depends, if it's not sewered, on the actual lot size.
14 The larger the lot size, the greater nitrogen
15 footprint, and you can see we've got a bar graph. Of
16 two-acre lots, typically two milligrams per liter for
17 two-acre lots, whereas more than six milligrams in
18 denser areas like in western Suffolk or Nassau; quarter
19 acre lots have nitrogen footprints around about 10 to
20 12 milligrams per liter. So again, it depends on the
21 lot size and things like that.

22 If the area is sewered, then it's a whole
23 different ball game; then its sewage is drained
24 elsewhere, to its own little area or possibly even
25 offshore. So that's sewered areas; the un-sewered

1 areas, that is the typical footprint for residential as
2 well as agricultural land.

3 This slide illustrates the concept of the
4 contributing area or the capture zone, as it's known,
5 to a specific well; how water can get from the surface
6 into a specific well given certain conditions. And
7 kind of the extremes are shown here; this is a case of
8 a shallow glacial well; it's contributing area or
9 source area, which is shown by this reddish or pinkish
10 blob right here, and in this particular case its
11 affected water quality is affected by land uses in
12 close proximity to the well. And this little cartoon
13 shows un-sewered residential land use, so you can
14 expect this to have some type of nitrate issues
15 associated with it.

16 The opposite extreme is also shown; this would be
17 an example of a Magothy Well, possibly seen as one of
18 the more major players, and its water quality or its
19 source area is shown by this gray blob over here. And
20 the source area, in this particular case, is several
21 miles away from where the well is actually located; the
22 travel times from its source area to the well stream is
23 about -- could be anywhere from 75 to 100 years. The
24 more shallow glacial well's travel time is one to maybe
25 ten years. So it kind of shows the differences you

1 have in well depth, geological conditions, things like
2 that; it really makes a difference as to where the
3 water comes from by the well pumps and how long it
4 takes to get there.

5 So fortunately, we've developed over the years
6 computer models to do that difficult work for us, and
7 the computer models can simulate groundwater flow under
8 a variety of conditions for a variety of situations.
9 This is an example of one product, for lack of a better
10 word, that can be produced by the groundwater models
11 that have been developed since about the late 80s in
12 Nassau and about the mid 90s in Suffolk.

13 This is the capture zone for the water authority
14 well in Medford, which is a field located where the red
15 circle is around that point. And here you have
16 different capture zone areas with different travel
17 times. The travel times are shown here; this is five
18 to 25 years, 25 to 50, 50 to 75 and 75 to 100. So
19 these are areas that, in that time frame, will
20 contribute flow to the well stream on those particular
21 spots.

22 The other thing illustrated here is the land uses
23 within each of those time frames. So you can see that
24 we do have some commercial and industrial land use
25 within the 20 to 25 years travel time. So we sort of

1 know that we may be expecting some type of water
2 quality issues in the fairly near future in the distant
3 areas for residential land use. So again, these
4 computer models kind of focus the gun, so to speak, on
5 where we may need to look for water quality issues and
6 how water will travel to these wells.

7 And we can kind of marry this technology to
8 geographical information systems and we can get a real
9 regional approach. The well fields here are indicated
10 by arrows, which are those purple squares. The well
11 fields shown from the previous slide is shown by the
12 red arrow here, and using GIS coverages and marrying
13 that with the existing computer technology, we can get
14 a regional input. This slide shows all of the capture
15 zones, all of the wells in the area kind of in a
16 regional snapshot. You can see these fit in kind of
17 like fingers, so it gives a water supplier or
18 groundwater professional or anybody, really, a regional
19 look at where the water comes from and where certain
20 wells are.

21 You can also notice that that little cartoon
22 diagram I showed you a while back, where the deep well
23 had a capture zone that was several miles away from
24 where the well was streaming, it kind of does model
25 itself out in this particular area. We have this

1 particular well's where capture zone is separated, this
2 one over here, this one over here. There are also many
3 situations where there is a more conventional capture
4 zone. This particular one surrounds the actual well;
5 this one over here too. In the green -- the green
6 square also has glacial wells, and it kind of shows the
7 capture zones in close proximity to the well. So the
8 computer models kind of verify what we already know
9 about capture zones and their proximity to the wells.

10 Drinking water undergoes very extensive testing
11 and regulation. All suppliers are required by law to
12 test for at least 140 compounds and meet the drinking
13 water standards for all of them. Some suppliers hold a
14 standard for more than what is required by law. In
15 case of the water authority, we sample well over 300
16 compounds. But depending on what is going on in the
17 atmosphere, we can sample for more than 140. Some
18 suppliers also impose stricter standards on themselves
19 than what is required by law. We've done that in a few
20 situations in the water authority; I have slides that
21 give additional information on that.

22 The State of the Aquifer Report, we have about
23 two or three pages devoted to testing groundwater
24 generally, drinking water specifically. We talk about
25 parts per million, parts per billion and things like

1 that, so it's mentioned pretty extensively in the
2 report. And there's several sections in the State of
3 the Aquifer Report that do also discuss different water
4 quality problems and issues on Long Island; I'll
5 highlight a couple of them in the next few minutes, but
6 they're shown here on this slide.

7 We talked about chloride contamination, lateral
8 salt water intrusion, which is occurring in western
9 Nassau; we talked about salt water upconing, which is a
10 problem ongoing for the water authority in eastern
11 Suffolk. There's the problem of road salting, which is
12 kind of a new emerging chloride contamination. There
13 are sections that are important about volatile organic
14 compounds, or VOCs. There's also pharmaceuticals and
15 personal care products, PCPPs, which pretty much
16 includes anything and everything you put on or in your
17 body; it can make its way into the groundwater system.
18 We talked about nitrogen impacts on groundwater,
19 surface water and health impacts, and we also have
20 sections in the report on pesticides and emerging
21 contaminants. So I'll just highlight a couple of those
22 in the next few minutes.

23 A lot of people -- probably everybody has heard
24 something about salt water intrusion, whether it's on
25 Long Island or down south or out west. Salt water

1 intrusion of the lateral variety is occurring in Nassau
2 County. It typically occurs slowly in response to over
3 pumping of wells on land; it's a slow landward advance
4 of sea water towards pumping wells. Over pumping of
5 wells reverses the natural outflow; the groundwater
6 flows from land to sea and eventually results in sea
7 water advances. And land water's chloride typically
8 would increase, and that is what happened here in parts
9 of Nassau County. These pieces of diagrams were taken
10 from USGS Report where they get close together to focus
11 on chloride concentrations and the stars kind of show
12 where salt water has already occurred in parts of
13 western Nassau County.

14 Lateral intrusion is also occurring on the south
15 shore of Nassau County; it's mentioned a lot in the
16 report. Several pages are devoted to it; the graph is
17 rather big so I didn't put it in the presentation, but
18 it's described in the State of the Aquifer Report. Out
19 in the eastern Suffolk County area, particularly
20 Montauk and the North Fork, we have a different
21 problem; it's salt water upconing, which happens as far
22 as when an individual well is pumping at too high of a
23 rate, basically.

24 This diagram here is kind of a conceptual idea; a
25 conceptual diagram of what salt water upconing is like.

1 Basically you have the pumps, the salt water interface,
2 which is located at some depth below the well stream.
3 As more and more water is pumped out of the well, salt
4 water interface will rise closer and closer to the well
5 stream; when that happens, the water levels will
6 increase.

7 When you back off the pumpage, typically in the
8 offseason, the winter, chlorides will usually return to
9 close to their original levels; not always, though.
10 And this is a graph here showing the chloride vs.
11 pumping behavior of one particular water authority well
12 out in Montauk. The chloride levels are shown with the
13 black bars; the pumpage is shown with the white graph.
14 And you can see, as we pumped a high volume of water,
15 the chloride levels increased; as we backed the pumpage
16 off, the chloride levels decreased and then they
17 increased even under a much lower pumpage load. The
18 next year chloride levels were pretty high, even when
19 we pumped a lot less than what we did prior to that.

20 Eventually we had to back off the pumpage pretty
21 severely here in this particular well in order to
22 regain control of the chloride situation for that well.
23 Not all wells faired so well; some wells did have
24 chloride increases that continued on even when the
25 pumpage was decreased. The ultimate solution that the

1 water authority has to address these Montauk issues
2 when we installed a pipeline from the Amagansett area
3 to Montauk in order to supply the bulk of Montauk's
4 water from elsewhere and maintain the wells in Montauk
5 at a fairly low pump rate, so we were able to sort of
6 control the chloride behavior of those wells.

7 Road salting is kind of a new twist on the issue
8 of chloride contamination. Obviously we need to salt
9 roads to make them safe in the winter, but in some
10 areas, particularly non-coastal locations, we began to
11 notice elevated chloride levels in those areas where we
12 would not have expected. We also found that road salt
13 has a slightly different chemical signature than either
14 sea water or salty groundwater, so by further analyses
15 of the water quality from certain wells that exhibited
16 this behavior, we were able to kind of determine that
17 there were certain wells that were responding not to
18 salt water intrusion, but actually to road salting.

19 So one of the things the water authority did is
20 enter into a cooperative agreement with the U.S.
21 Geological Survey set up a realtime road salt impact
22 monitoring station in a recharge basin that drains
23 about a half mile or a mile out in Peconic. So a
24 shallow monitor well was installed close to or inside
25 the recharge basin and was able to detect, in this

1 case, a specific inductance of the water as it entered
2 the basin. Specific conductance is an estimation of
3 all the dissolved material in water in this particular
4 case, sodium chloride, because it's road salt we're
5 talking about here.

6 And you can see, a typical conductance of regular
7 normal groundwater is probably 500 to maybe a thousand
8 at the most; you can see just how far the conductivity
9 was in certain snow melting events that occurred in the
10 winter of 2015; it was about the 15 to 20,000 range for
11 brief periods of time. As winter turned to spring the
12 conductivity levels resumed, and back in 2014 we
13 actually had one hit in late winter close to 40,000 --
14 40,000 of conductivity.

15 Now, the interesting thing with that is the
16 conductivity of sea water is around 50,000, so for a
17 very brief period of time the water entering the sump
18 was almost as salty as the ocean. So it just goes to
19 show you two things: A) just how much road salt we use
20 to maintain roads in a safe condition; also the point
21 is that activities on land, no matter how beneficial or
22 seemingly benign, do have water quality and quantity
23 implications, and this is one example of how. We're
24 not going to stop salting our roads, but the salt
25 doesn't just go away; it sits around and it has impacts

1 that we have to deal with.

2 Okay. Volatile organic compounds, or VOC
3 contaminations are pretty common in Nassau and Suffolk
4 all throughout Nassau and Suffolk. There are two main
5 ways of dealing with volatile organic contamination;
6 one of the ways is shown here. Granular activated
7 carbon, or GAC adsorption; that simply means basically
8 these big, 12-foot vessels are filled with sand sized
9 strains of this carbon beading, and the beading
10 consists of a highly Carboniferous material, such as
11 coal or coconut shells or something like that. As
12 water is pumped into the top of the vessel and goes
13 through that column of carbon media at the bottom, the
14 medium takes away or adsorbs the contamination and then
15 the water is then pumped out into the distribution
16 system.

17 Another technique for dealing with VOC
18 contamination is packed tower aeration, or "air
19 stripping." In this particular case water is pumped to
20 the top of a tower, where it cascades through the
21 column in this plastic packing material, which breaks
22 the flow of water up. Simultaneously, water is going
23 upwards through the tower; the water is cascading
24 vertically downwards. The air, moving vertically
25 upwards, removes or strips out the contamination the

1 air and the contamination is then vented into the
2 atmosphere. And then it could be contained in a second
3 column vessel to treat the vapor or it could just be
4 let out into the atmosphere; one or the other,
5 depending on what the water supplier that's utilizing
6 the water stripping does.

7 Another interesting tool that's been developed by
8 LICAP is known as WaterTraq, which is a software
9 program that allows anyone to map water quality issues
10 throughout Long Island; it's actually up and running on
11 the LICAP website as we speak. This is just a quick
12 illustration of one type of inquiry that anybody can
13 do. These are public wells that have nitrate levels
14 above the drinking water standard of ten; I mentioned
15 earlier there are about 1400 public supply wells all
16 throughout Nassau and Suffolk, so in 2015 there were
17 ten of them that had at least one instance or incidents
18 of being above the drinking water standard of ten.

19 This thing at the bottom of the slide kind of shows
20 what each of the suppliers did, what legal action they
21 took, whether it was blended or abandoned or whatever.

22 This is just an example of one such inquiry that
23 anybody can do; you can search for any compound, and
24 whatever concentration you want you'll get a printout
25 like this of dots indicating the levels that satisfy

1 the criteria that they specify.

2 There are several pages in this State of the
3 Aquifer Report dedicated to describing the differences
4 in both water quality and quantity that occur from
5 regional sewerage. This diagram here shows the extent
6 of sewerage in Nassau and Suffolk Counties. It's kind
7 of like a tale of two counties. You can see that
8 Nassau is about 80 to 90 percent sewerage; Suffolk is
9 only about 40 percent sewerage. 70 percent of the
10 population of Suffolk relies on cesspools or septic
11 systems for domestic waste water disposal, and there is
12 water quality and quantity implications as a result.

13 This slide kind of illustrates that; I focused
14 here on shallow creeks because shallow creeks reflect
15 groundwater conditions in their vicinity. Here you can
16 see an example in Nassau County in Massapequa Creek; as
17 sewers were built out through Nassau County, you can
18 see that the discharge, the quantity of water in
19 Massapequa has decreased over time, as most of that
20 water that would have gone back into the ground has
21 gone to sewage treatment plants and basically
22 discharging them offshore.

23 The good side of that is that nitrate levels in
24 Massapequa Creek have decreased pretty drastically from
25 well above drinking water standards to down in the

1 single digits. So quantity of water has been reduced
2 in the system; the quality of water that remains has
3 improved, at least with respect to nitrates in Nassau
4 County.

5 The Carmans River in eastern Suffolk tells a
6 slightly different story; for those that may not know,
7 the Carmans River is in, I guess, the east end of
8 Suffolk and it's in a fairly lightly populated part of
9 the county, with all the population that lives there,
10 for the most part, uses cesspools and septic systems
11 for waste and water disposal. And you can see here
12 that the discharge, the volume of water in the Carmans
13 River has stayed pretty much the same; it's fluctuated
14 a lot overall, but there's no real concernable upward
15 or downward pattern. It's stayed fairly stable over
16 time. However, the nitrate levels in the water
17 discharged -- in the Carmans River has increased
18 somewhat; still low, still low in milligrams per liter,
19 but a noticeable upward trend. And that's kind of to
20 be expected as you recirculate the same water in the
21 system by cesspools and septic systems.

22 So it's no real surprise here, but it's just a
23 description or an illustration of the way that the
24 water quality and quantity works in the sewered vs.
25 non-sewered areas.

1 There is also several sections or one section,
2 several pages devoted to the Grumman Navy Groundwater
3 Plume that's a significant issue in the Bethpage,
4 Massapequa area in Nassau County. This diagram
5 illustrates the circumstances of the actual plume
6 itself shown by this purple, orange blob; public supply
7 wells are shown by the blue flags here, and the
8 direction of groundwater flow is shown by these arrows.

9 You can see that there are numerous wells in
10 fields that are in the path of the plume and are
11 affecting the septic wells that are affected right now
12 by this Grumman Navy Plume as well others out there
13 established there in the direction of these arrows that
14 will be affected very soon, and over in this area
15 there's a few wells that look like they've already
16 affected the path; the plume has kind of curved around
17 towards them. So it's a significant factor that
18 affects several districts in Nassau County and it's the
19 subject of a lot of publicity, to say the least, in
20 Nassau County.

21 And finally, there is a discussion in the report
22 about pesticide contamination in groundwater; it's
23 mainly an issue in eastern Suffolk. I don't have to
24 tell people here that there is a lot of agriculture in
25 eastern Suffolk; in Nassau when I did this maybe people

1 wouldn't realize that, but there are over 20,000 acres
2 of agricultural land in Suffolk County. Historically,
3 Suffolk has been the number one agricultural county in
4 New York State based on the dollar value of the crops
5 grown; I think it may have slipped to number two in
6 recent years, but it's still a very important resource
7 of land use in Suffolk County. But always productive
8 agriculture does value water quality; a strong
9 attachment, I'd say. Half the water authority wells on
10 the North Fork have some type of treatment for
11 pesticide contamination; earlier I mentioned the
12 nitrate levels of agricultural lands.

13 The other thing is that in eastern Suffolk there
14 is still about 40,000 households utilizing private
15 wells; about 100,000 people relying on their own
16 private household well for their water supply. So
17 agriculture and water supply can coexist, but there are
18 water quality issues in eastern Suffolk. So a couple
19 of pages of the State of the Aquifer Report do mention
20 that.

21 So we can conclude with this; the water quality
22 of your public drinking water is excellent; it meets or
23 exceeds all state and federal standards. But Long
24 Island groundwater does face challenges; past and
25 presently, uses have impacted water quality and

1 quantity. Some impacts have affected drinking water,
2 other impacts have not affected drinking water but are
3 more of an environmental impact; creeks, bays, rivers,
4 things like that. So even though it's not a public
5 health issue, it's an impact that has had some
6 significance.

7 Certain contaminants do represent potential
8 health risks; I mentioned VOCs, nitrates, things like
9 that. But fortunately, public water suppliers are
10 required to meet the standards for all of those
11 contaminants, and LICAP itself was formed with the
12 purpose of addressing these problems in a coordinated,
13 regional matter. And on this last side I have the web
14 address for LICAP. There's also a state of the aquifer
15 web page maintained by the USGS; that's the web address
16 where for state of the aquifer web page. A lot of
17 information for the report and from this presentation
18 was taken from that state of the aquifer web page.
19 Also are the mailing addresses, e-mail addresses and
20 telephone numbers for anyone to leave a question or
21 comment. Okay, so with that I'll conclude; I'll hand
22 the meeting back to Stan and we can continue on.

23 MR. CAREY: Thanks, Steve. Before we get started
24 with the public portion and the comments, we had two
25 additional LICAP members join us and I'll just ask them

1 to introduce themselves.

2 MR. SZABO: Hello there. My name is Jeff Szabo;
3 I'm the chief executive officer of the Suffolk County
4 Water Authority and past chairman of LICAP. I
5 apologize for my late arrival tonight; as CEO of the
6 water authority we had a board meeting, so as soon as
7 it finished I headed out here. But I want to thank you
8 all for coming and for sharing your thoughts; I'm
9 looking forward to hearing some of them.

10 MR. WHITE: Good evening. My name is Michael
11 White; I am a voting member of LICAP appointed by the
12 Suffolk County Legislature Presiding Officer, DuWayne
13 Gregory.

14 MR. CAREY: Okay. We'll get into the public
15 comments. I'm not going to use the clock. It says
16 three minutes; we'll give you five minutes. So we
17 won't cut you off at five minutes, but try to keep it
18 as close to five minutes as you can; we'd appreciate
19 it. First speaker is Michael Collins; please come on
20 up.

21 MR. COLLINS: I only really have one comment. My
22 question is if you can include the attribution for the
23 nitrate levels for selected lands used on page 14 in
24 the final report. Because this shows an outside impact
25 from agriculture; this is a number I've often seen

1 quoted as 13 milligrams per liter of impact of nitrates
2 from agricultural land use.

3 As far as I can tell, the earliest study where
4 this actually comes from dates back to 1987 and there's
5 nothing more recent that I can find; I've seen this
6 quoted in a number of the nitrate management documents
7 that have been produced at both the county and state
8 level for a number of years. The reason I question is
9 that there is a lot of changes in of how farms actually
10 operate over the years.

11 As you can imagine, fertilizer is actually an
12 input; nobody is going to want to use more than they
13 have to, and those changes are probably resulting in a
14 large reduction in the impact of farms. I think this
15 would be akin to 20 years from now having to start to
16 address the large testing system issue we have in
17 Suffolk County, if we still quoted the residential
18 development numbers we had here 20 years from now even
19 knowing that we've changed the way we did business.

20 So I'd like to see that here attributed or
21 perhaps a more updated number, if one exists. Thank
22 you.

23 MR. CAREY: Okay, thank you for your comments.
24 Our next speaker -- and forgive me, it's a little hard
25 to read this -- I believe it's Edward or Edmond

1 Shillingborg or Schillingborg.

2 MR. SCHILLINGBORG: I have no comment.

3 MR. CAREY: I have a card for you. You don't
4 wish to speak?

5 MR. SCHILLINGBORG: I made a card out by mistake.

6 MR. CAREY: Okay, thank you for coming. Next
7 speaker is Brian Herrington.

8 MR. HERRINGTON: Good evening all. Thank you for
9 having me here tonight. My name is Brian Herrington;
10 I'm the director of Scotts Miracle Growth Company, the
11 largest lawn and garden company in the world with roots
12 right here on Long Island. So I have a few comments, a
13 few things that I want to give you an overview about
14 our business.

15 We concur with Mr. Collins and his comments
16 around the water authority's awareness that things have
17 changed over the years. I think it's important that
18 you have that information as you consider your current
19 report and future reports. So I'm just going to start
20 off with letting you know that a lot of people don't
21 realize that we're also the largest green recycler in
22 the United States; we recycle over five billion pounds
23 of green waste a year, so that's materials that would
24 normally end up in landfills or other places that are
25 being reused and put into your lawn and gardens.

1 In reference to our roots right here on Long
2 Island, our CEO, myself and several of our associates,
3 we've raised our families here on Long Island, we were
4 raised here on Long Island, so we're familiar with the
5 sole source aquifer; we are reliant on the sole source
6 aquifer and so we're not strangers to the challenges
7 that we're facing here today. We're glad to see the
8 report recognized the importance of green spaces, which
9 include lawns and gardens around our homes and how they
10 are vital to ensuring that water is clean as it
11 infiltrates the Island and returns to the aquifer.

12 We believe our current product offerings, future
13 innovations and cooperative education programs can help
14 achieve your goal of sustaining this precious sole
15 source aquifer. Just this past summer we had a work
16 positive landscape initiative, which is an integrated
17 program intended to help consumers and communities to
18 make positive impacts on local water resources by
19 growing the landscapes that they want.

20 This program has elements that address many of
21 the water conservation and quality issues your report
22 raises. Number one, Scotts has been actively assisting
23 homeowners and governments in draught-stricken areas,
24 like California and Texas, on water conservation
25 management programs that you all might want to take a

1 look at. This has come in the form of developing
2 partnerships to educate consumers, and in Texas we saw
3 65 percent of Texans reduce their water use because of
4 the outreach program we were involved in around the
5 draught.

6 It is meant also focusing time and resources on
7 organizations like EveryDrop, which is a water
8 maximizer that helps more water enter the soil to
9 reduce the need for supplemental irrigation.

10 Developing a connected yard system with a grow-out,
11 which allows users to manage smart sprinklers through
12 their phone and computer systems to achieve maximum
13 water efficiency.

14 In Irvine, California, the use of the smart
15 irrigation technology surpassed Governor Brown's home
16 water reduction target in the midst of one of the worst
17 draughts ever on record. While products like these are
18 helpful, we also need to work to help landscape
19 managers understand how much water the landscape may
20 need. Most lawns in our region can survive on the
21 natural rainfall, which means residents can reduce most
22 of their outdoor irrigation consumption pretty easily.

23 I would also ask that those in attendance support
24 expansion of EPA's successful WaterSMART program to
25 outdoor water usage products currently contained in

1 S-2012 in the U.S. Senate and HRE in the U.S. House of
2 Representatives. Nutrient pollution is also part of
3 the initiative, and this is an issue we have been
4 working on across the county. We've installed backyard
5 conservation with the National Association of
6 Conservation District to help homeowners understand how
7 proper lawn care can protect our natural resources. We
8 also know stakeholders are concerned with nutrients
9 from lawn foods, which is why we've focused on
10 innovation on evolving new plant varieties that require
11 pure nutrients to be used.

12 We have also reformulated our lawn fertilize
13 products in this region to reduce the risk of the loss
14 of nitrogen by lowering the total amount of nitrogen
15 applied and increase the amount of slow-moving nitrogen
16 that is contained in these products. We have developed
17 new spreaders that make applications easier for
18 do-it-yourself applicators while also lowering the risk
19 of loss of those applications.

20 I also must point out, again, concurring with
21 Mr. Collins, that it is our belief that practices have
22 changed, and actually we believe that the homeowner
23 lawn fertilizer use estimates on Long Island have been
24 overestimated because of reliance on state punish
25 figures. Many reviewers of this state punish say that

1 DEC recognizes these numbers also incorporates soil
2 products that contain small amounts of nutrients and
3 the soil products overall weight excuse the punished
4 data.

5 However, we can still do more to educate
6 applicators; that they need to apply according to
7 product directions and avoid over-application and
8 reduce any risk of nutrient loss. If you care for
9 landscapes you're caring for a living thing, just like
10 your pet. And this means you will likely encounter
11 pests, like insects, weeds or funguses that can do
12 damage to your landscape. It is important that we
13 recognize this and understand that without tools to
14 manage those pests, homeowners will not be able to
15 address challenges like mosquito-borne diseases,
16 destructive, invasive insects and weeds or just
17 maintain a healthy and desirable vegetative landscape.

18 The first step in ensuring pesticide products is
19 to use responsibility -- are used responsibly, and this
20 is why we have partnered with the Alliance for Consumer
21 Education to bring household products direction
22 messages directly to consumers.

23 In addition, we are working to bring new
24 conventional and organic product innovations to the
25 marketplace, which would allow consumers to use less

1 active ingredients with less risk of loss to waterways
2 and non-target organisms. We at Scotts are also
3 working to develop new varieties of plants that require
4 fewer fertilizers, water inputs and pesticides. We are
5 even seeing success with less mowing in some of these
6 new varieties. These efforts also include development
7 of alternative landscaping plants, like clovers and
8 other plants.

9 I hope this information is helpful to you as you
10 develop this report and pursue your actions to protect
11 our sole source aquifer. Thank you for working to help
12 to protect our families and the water that they use; I
13 hope through this and future conversations you see that
14 our associates are working diligently to protect our
15 natural resources as well. So thank you for having me
16 here tonight, and I look forward to providing you with
17 more information as these reports come out in the
18 future.

19 MR. CAREY: Okay. Thank you, Mr. Herrington. I
20 appreciate your comments.

21 MR. SZABO: Thank you, Brian. We very much
22 appreciate you coming down here and your very
23 thoughtful comments. I think -- for the other
24 commission members here, I think this is something that
25 we need to further discuss amongst ourselves post the

1 hearing. But having public/private partnerships,
2 having entities like LICAP work with the private sector
3 and collaborate and come up with ways that we can both
4 protect our sole source aquifer and also spread the
5 word of conservation and engage the public a little
6 more, I think that is something that may not be fully
7 addressed and developed in the report that we have for
8 the public today. But I think in subsequent years we
9 will be updating the State of the Aquifer Report, and I
10 think it's a very important component that our
11 relationship -- the commission's relationship with
12 entities like Scotts and others that we further develop
13 that. So thank you very much, Brian.

14 MR. WHITE: Jeff, I absolutely and totally agree
15 with you. And I think it's not only, as you say, the
16 update of the State of the Aquifer Report, but as we
17 get into that next step of management issues that is
18 going to be a key part of what we could take action on
19 and really improving and developing those partnerships
20 and using that as a source of information. So
21 absolutely correct; thank you.

22 MR. CAREY: Okay. Our next speaker is Ms. Karen
23 Blumer.

24 MS. BLUMER: Good evening, honorable members of
25 LICAP. My name is Karen Blumer; I represent the

1 non-profit organization Open Space Council,
2 administrator of a legacy fund for the Carmans River
3 Watershed, a major sub-watershed flowing into a
4 national estuary, the Great South Bay. We thank you
5 for this opportunity to comment on what possibly is the
6 most critical issue of our survival on Long Island.
7 The destiny of our drinking water aquifer, which also
8 forms the river and streams which impact our coastal
9 waters.

10 It's been an honor and a pleasure, truly, to be a
11 part of the LICAP process over the last year or so as a
12 citizen, participant and member of a number of LICAP's
13 subcommittees. Kudos, once again, to LICAP leadership
14 for providing an open, public, welcoming process and an
15 environment that offers a space for all -- officials,
16 experts, the public -- to roll up one's sleeves and
17 exchange ideas, however distant we may be on some
18 specific points. That's what the legislature has asked
19 of this commission; to gather the best thoughts based
20 on your experience and expertise and test them in a
21 shared arena for how we are to progress in the future
22 for our sole source aquifer.

23 The welcome page sets a tone for the entire
24 report; we believe its tone must be seriously
25 reconsidered and advised. It is cheery and upbeat;

1 water is declared to be "excellent," and, "will
2 continue to be so in the future." This is as far from
3 the truth as night is from day; if that were really
4 true, then why would bi-county legislature have
5 appointed LICAP with the express message that Long
6 Island is in water crisis and we are asking this
7 commission to present a solution or solutions to
8 reverse this crisis? How long will we be able to
9 continue into the future with potable and usable water
10 if we already have, as presented by LICAP itself in the
11 form of the Suffolk County Water intern, RJ Theofeld,
12 pulling together 16 governmental water reports over
13 nearly 50 years that show a tragic and continuous
14 downward decline of our waters in every form?

15 "Witness just one tiny example, but disturbing."
16 This is the statement that was made at the New York
17 State legislative hearings on September 12th by a
18 scientist from USGS upon questioning from the New York
19 State delegation regarding the capacity of the Lloyd
20 Aquifer. He stated that a few years ago he would have
21 said of its condition, "Excellent, fine, no problem."
22 But within the last year or so, points are showing up
23 in his work that are becoming increasingly of grave
24 concern to him.

25 We feel it's difficult, if not impossible, to

1 promise the public that, "excellent" water is in store
2 for the future. We were in a race against time; a race
3 that everyone must get involved in. Not just
4 regulators or water providers, but every member of the
5 public who flushes a toilet or waters their lawn. We
6 would suggest that this urgent tone be used as a
7 welcoming in the page.

8 Status of the aquifer, we really need some
9 details in this report as just to how bad or good it
10 is; we need those details. Something we can hang our
11 hat on, not just vague generalities. For example, on
12 page 1, the welcome page, we're told that information
13 will be provided regarding the overall quantity of
14 water in our aquifer system in relation to the amount
15 we use. We, therefore, hope to see some details
16 supporting this comment. Hence, we look to page 8,
17 "Will Long Island run out of water?" And find out,
18 cheerily, that of a calculated 65 trillion gallons of
19 groundwater stored within the Nassau-Suffolk aquifer
20 system there is only an approximate bi-county use of a
21 mere 200 billion gallons. 65 trillion versus 200
22 billion? No problem, especially given an annual
23 recharge from rainwater of 300 billion gallons; a drop
24 in the bucket. But what we really need to know and
25 look for and do not find in this report includes the

1 following: Of the 65 trillion gallons, how much water
2 is really available for use? Steve did just mention 5
3 to 10 percent, but what is its practical or real
4 hydro-geological extraction possibility? How much is
5 already contaminated to an unusable degree? Is
6 distribution and availability uniform over the entire
7 aquifer? What is the margin of volumetric safety we
8 need? That hasn't been discussed anywhere.

9 Regarding pumping status reported to be safe, why
10 are we then getting salt water intrusion caused by over
11 pumping in certain areas? We feel that some of those
12 need to be answered. I have a whole section -- I
13 didn't know we were restricted to five minutes -- but
14 water as a limiting developmental factor, we'd like to
15 see a discussion somewhere, probably in the quantity
16 and equitable distribution section, of an issue which
17 came up in the New York State legislative hearings when
18 Michelle Schimel asked Legislator Al Krupski if water
19 as an issue ever came up during application and review
20 of development projects.

21 There was no real answer given at that time, but
22 as an aside in our discussions with water providers
23 we've been told that no, water is not a limiting factor
24 ever. As a matter of fact, by law they have claimed
25 they must provide water to any applicant who requests

1 it. We would, therefore, like to see some exploration
2 and clarification of this issue addressed somewhere in
3 the report, either now or in 2017. It appears that
4 water, as a limiting development factor, can be
5 enforced. Please clarify how water caps set a limit on
6 how much water can be pumped by a district. Would it
7 be up to a district to require conservation and work
8 out a sharing plan among applicants and users? Is DEC
9 enforcing the caps or aren't they? How often and
10 where? It is our understanding that water suppliers
11 are not obligated to supply water to everyone; please
12 clarify.

13 We understand that recently the Riverhead Water
14 District denied an application of one condominium
15 developer based on water availability. In other words,
16 just if we can have some kind of clarification. There
17 is also again, in terms of details, there is reference
18 to water degradation as a result of land use and
19 increased population over time. Again, we'd like to
20 know how many and what percentage of wells are already
21 contaminated? What is their distribution? What is the
22 percent of the total number of wells in Nassau and
23 Suffolk are already contaminated? What percent are
24 already diluting their water to meet federal and state
25 standards? We don't see that in this report.

1 We'd also like to see an easy, comprehensive
2 tracking chart possibly that would really show how
3 we're doing each year on some selected perimeters, such
4 as the few that I just mentioned. Under sewerage vs.
5 septic systems, we'd like to see a discussion by LICAP
6 for a future requirement of a thorough -- I'm not sure
7 if LICAP can do this, but somewhere a thorough analysis
8 of sewerage, weighing whether sewers are a benefit or a
9 detriment -- hydrologically, ecologically and fiscally
10 -- to Long Island.

11 To what extent and at what expense should we
12 continue to upgrade sewer treatment plants; is the
13 trade-off of a 14-foot draw down in water table in
14 Nassau, loss of streams and other water bodies and the
15 pollution of our bays and oceans any longer acceptable?
16 To what extent do we want this type of condition to
17 permeate Suffolk, such as the current proposal for the
18 coastal Shirley-Mastic area? This must be a
19 comprehensive, technical, ecological and public-trust
20 dominated analysis performed by agents free of any
21 conflict of interest.

22 We'd like to see -- in all the 38 pages of the
23 report, and this seems to be a very serious omission,
24 there is no overall analysis of how water is being
25 managed on Long Island, over the years or currently, as

1 we rush towards unspeakable quality and quantity water
2 decline. We are suggesting that no report from a
3 commission asked to serve as a brain trust can be
4 complete without this. We suggest that it will be
5 important to analyze just how fractured and fragile the
6 system is.

7 Water -- just, there is a water elephant and
8 everybody has a little part in it; DEC does pumpage and
9 toxics, the health department, smaller packaged plants
10 and toxics, again, and wastewater treatment. WWT,
11 storm water runoff, and maybe the most impacting is
12 land uses and zoning by myriad municipalities.

13 We've already been told by IBM in Suffolk that
14 there's a total lack of coordination between all these
15 bodies. We needn't even read the report; we simply
16 need to sit at the LICAP table. That is why it would
17 be good to discuss this in the report. Where all those
18 in charge of the management of one part of the water
19 elephant sit and tell us, meeting after meeting, how
20 frustrating their job is without even a simple basic
21 tool as a shared database. Technical access is one
22 thing; however, the real point of the analysis must
23 exist in governance, a central brain and determining
24 who says, "No."

25 We feel it's the job, perhaps the number one job,

1 of LICAP to offer an intelligent analysis by those
2 experts and agencies who must venture this path every
3 day. Again, the time may be too short for the 2016
4 report, but hopefully necessary for any 2017 reports.
5 We currently have the benefit of the new Management
6 Opportunity Subcommittee of LICAP, which has already
7 begun exploring "gaps" in the current system.

8 Finally, we would like an analysis of the make-up
9 of the voting members of the commission. We're
10 requesting that that be done because there is no
11 representation of the public among those voting
12 members. They are, instead, representatives of
13 official governmental agencies that have shown
14 themselves in all meetings up to now committed to
15 maintaining the status quo in terms of water management
16 systems, agencies and often policy. Yet, we're in a
17 crisis of water that has been cemented into existence
18 over half a century and is in dire need of change. We
19 need to find a transformative paradigm, the likes of
20 which may not yet be imaginable. It is impossible to
21 bring change with those who walk in the same path and
22 find it difficult to seek others.

23 Besides being impossible, it maybe illegal under
24 an ancient, sovereign law of the public trust.
25 Certainly, the current makeup of the voting members of

1 the commission is not in the interest of the public
2 trust. New York State does not own our waters, nor do
3 the counties. We own our waters; under sovereign law
4 of the of public trust, we are the rightful
5 owner-beneficiaries of this natural, life-supporting
6 asset, and that asset has been sorely mismanaged and
7 clogged away by our trustees.

8 On behalf of citizens and change we, therefore,
9 are recommending that members of the voting board
10 petition the legislatures to add three voting members
11 to the LICAP Commission Board; the Nassau
12 County/Suffolk Minority Leader appointment, which is
13 Sarah Meyland, the Suffolk County Legislature Presiding
14 Officer appointment, which is Jared Hershkowitz, and a
15 representative for the public trust. The public can,
16 of course, petition this, but it would be so much
17 stronger and forward-looking, consistent with LICAP's
18 mission, for the current voting members to do so.

19 Thank you immensely for all your work and for the
20 opportunity to comment.

21 MR. CAREY: Okay. Thank you very much for your
22 comments, Ms. Blumer. So just a couple of points that
23 I'd like to make based on your comments. You don't
24 have to stay up; just going to give my opinion on a few
25 things that you had discussed.

1 The voting members were specified by Suffolk
2 County and Nassau County law, and I don't know that it
3 would be appropriate for the board, in my opinion, to
4 petition each county legislature at this point. We're
5 two-thirds of the way through in our mission, and to
6 take years off or move the goal post back at this point
7 I think would just put us really in a backwards motion.
8 So I really don't agree with that; as far as your
9 comment about the members of the commission and being
10 happy with the status quo, I really can't say that I
11 agree with that either because we've attended many,
12 many of these committee meetings and subcommittees,
13 just as well as you have, and we've made great progress
14 in identifying a lot of the challenges that are faced
15 with supplying clean water. So I don't know that
16 that's -- I certainly don't agree with it, but I don't
17 know that it's fair either to make that type of
18 assumption.

19 As far as the cheery tone of the report, I don't
20 know what's cheery about our natural resources facing
21 challenges; I don't think that that's suggesting that
22 everything is fine, and that we do have some concerns
23 that we're trying to address and deal with. And
24 lastly, we've always said from the start of LICAP that
25 we were going to let science dictate which direction

1 and what really needs to be addressed from real
2 professionals -- drinking water professionals,
3 engineers and scientists -- and I know that a lot of
4 the elected officials who have spoken recently at the
5 senate and assembly hearings have their own opinions,
6 but we really need to base our reports on facts and not
7 really of one's opinion, and I think we should really
8 follow that.

9 But I do thank you for your comments and would
10 like to point out that you are participating on many of
11 the subcommittees and we really do appreciate all your
12 input.

13 MR. TERRACCIANO: My name, again, is Stephen
14 Terracciano with the U.S. Geological Survey; we are
15 non-voting members of the board, but we do provide data
16 to support the reports that have been produced. And I
17 just wanted to say that we will be developing -- the
18 federal government is founding the development of a
19 renewed groundwater flow model for Long Island. We'll
20 be working with the State to evaluate some of the
21 questions and concerns that Karen has raised,
22 specifically trying to get at sustainability of the
23 current network of wells and the water supply as we
24 move forward from the quantity standpoint. Thank you.

25 MR. CAREY: Okay. Our next speaker is Dennis

1 Kelleher.

2 MR. KELLEHER: Good evening. My name is Dennis
3 Kelleher. I'm the president of H2M; we are consulting
4 engineers and we are the consulting engineers and the
5 engineers on record for about 30 public water suppliers
6 in Nassau and Suffolk County. I personally have 38
7 years of water supply engineering experience, all on
8 Long Island.

9 First I'd like to commend LICAP for the amount of
10 work accomplished to date; you were able to pull
11 together numerous interested parties to evaluate the
12 aquifer system from many different angles. I also want
13 to personally thank Jeff Szabo, Stan Carey and Frank
14 Koch for their leadership to ensure that LICAP meets
15 its goals. It's amazing that all of LICAP's work was
16 conducted by volunteers and existing organizations that
17 donated their time to complete the work. I recommend
18 that LICAP request that New York State fund their
19 continuation of LICAP at a reasonable cost of \$1 per
20 year, per person on Long Island. I think that is a
21 bargain to ensure that aquifer production for our water
22 supply for three million people.

23 The creation of LICAP is actually perfect; for
24 way too long, Long Islanders have taken their water
25 supply for granted. With the issues that have recently

1 occurred in Flint, Michigan and Hoosick Falls, New
2 York, we have learned how important a water supply can
3 be to a community or, more importantly, how much damage
4 a poor water supply can cause to a community.

5 I have a few comments about the State of the
6 Aquifer Report and a few general comments about public
7 water supply in general. The State of the Aquifer
8 Report is an excellent document that gives us a summary
9 of what is now happening to our aquifer system. My
10 recommendation is that this report be updated annually
11 to track trends and changes to our aquifer. LICAP
12 should continue to collect water quality data to allow
13 the water suppliers to track the regional water quality
14 trends and draw conclusions of possible future threats.
15 I just want the LICAP members to know that I'm already
16 starting to use some of the tools that were created by
17 LICAP. For example, WaterTraQ; I'm already using it in
18 my everyday operations.

19 The need for additional sewerage in Suffolk
20 County. I cannot stress the importance of constructing
21 more sewers in Suffolk County, and not just for the
22 nitrate contamination; that is what's mostly discussed
23 in the report. Nitrate is not a major concern from the
24 water supply standpoint; I personally have more
25 concerns with emerging contaminants, including

1 pharmaceuticals and personal care products, most of
2 which we don't even test for now. Sewers are needed in
3 the center of Long Island to protect the deep recharge
4 area more than on the shoreline if we're talking about
5 protecting our groundwater.

6 Water conservation; we use way too much water for
7 irrigation. Long Islanders love their green lawns, but
8 this is creating problems in certain areas where we
9 have a limited supply. In addition, water suppliers
10 need to design and construct their water supply well
11 systems to meet those peak day demands, even though we
12 may only need to use new, additional wells for a couple
13 of days a year. It's just not a cost-effective way to
14 run a water supply system when a new well costs several
15 million dollars to get up and running.

16 There is no reason that 90 percent of the pumpage
17 on a hot summer day has to go to irrigation; my
18 recommendation is LICAP work closely with New York DEC
19 to establish a workable water conservation program.
20 The report touched on the possible need for a new
21 governmental body to oversee the management of the
22 aquifer system. It's my opinion that this management
23 agency is already in place with New York State DEC;
24 however, I recommend and urge LICAP to request that
25 New York State properly fund the New York State DEC so

1 they can properly manage the aquifer system.

2 The State's Superfund program; contamination
3 plumes have had a major impact on our aquifer systems.
4 The existing Superfund program does not properly
5 protect the public water supply; I recommend that LICAP
6 work with New York State DEC to request that the
7 Superfund program be modified so the Superfund monies
8 can be used to provide well-head treatment before a
9 well is impacted or before a well actually exceeds the
10 MCL, where right now the existing regulations require
11 that public supply wells exceed the MCL and have to be
12 taken offline before the Superfund monies would be made
13 available to a public water supply.

14 My last comment is the need for more public
15 education. The people -- as I mentioned before, the
16 people on Long Island take their water supply for
17 granted; many do not even understand the aquifer
18 system. Aquifer protection is not the responsibility
19 of only public water suppliers; it's the responsibility
20 of every Long Islander. LICAP should take a leadership
21 role in establishing an island-wide regional public
22 relation program. With three million people living and
23 working directly with our water supply, we will see
24 contamination and problems with our aquifer system;
25 however, if we all work together and LICAP continues to

1 provide system oversight, I feel confident that the
2 aquifer system will continue to provide Long Island a
3 reliable source of water forever. Thank you.

4 MR. CAREY: Thank you, Dennis. We really
5 appreciate your comments based on all of your years of
6 experience in the water industry. Any comments from
7 any other member? Okay. Our next speaker is Deborah
8 Green and Fred Hoffman.

9 MR. HOFFMAN: Thank you very much, and thank you
10 for all your work on the State of the Aquifer.
11 Excellent. We work with Bartlett Tree Experts, which
12 is the largest residential tree service in the country,
13 maybe in the world. We have offices throughout the
14 country and we have three on Long Island; South
15 Hampton, Westbury and Huntington. And I just -- this
16 is going to be brief -- I just wanted to comment on
17 responsible actions in our industry, along the lines of
18 Mr. Herrington, on the theme that things have been
19 changing in our industry. We're also doing our part,
20 and we wanted to just briefly mention some of that.

21 We take a scientific approach to anything that we
22 put into a landscape, pesticide or fertilizer,
23 nitrates, and as was discussed earlier, in the future I
24 wanted to add that we are very interested in those
25 partnerships that you were speaking about. We'd like

1 to have a part in that.

2 MS. GREEN: Some of the things that we've done in
3 our company that -- particularly on Long Island, we
4 have, over several decades, taken numerous samples of
5 property, and as a result of that it's changed the way
6 we do business as it relates to fertilization. One of
7 the things that we've removed from our fertilizer at
8 least ten years ago was phosphorus, so we no longer put
9 that in there because the rates are so high on the Long
10 Island itself. And that's all based on the soil
11 sampling we've done over decades; we've got a lot of
12 results.

13 Also, as a result of the soil sampling the
14 company has developed a BMP that we use in-house that
15 all of our staff are given. We are big proponents of
16 making sure that the soil management that we do on
17 properties that we reevaluate that soil every two years;
18 it's a requirement that we soil test for any plants
19 that show any deficiency and we focus on those plants
20 alone. We don't always do a broad-based spray as a
21 fertilizer like they've done in the past.

22 Some of the other things that we've changed is
23 the way we do business with pesticides; utilizing the
24 integrated approach as well as using products that are
25 plant-based or using beneficial releases and things

1 like that to change the direction of pesticide use and
2 to mitigate that use.

3 Anyway, so we just wanted to, once again, say
4 that we would really appreciate a partnership in
5 helping develop the BMP for the industry in any way we
6 can. We have a research facility in Charlotte that
7 does a lot of our research for us throughout the world,
8 actually, so we are available for that and we thank you
9 for your time.

10 MR. CAREY: Okay. Thank you for your comments.
11 We appreciate them.

12 MR. WHITE: Just a quick question; so I've had
13 the privilege of working with Mr. Herrington and
14 Scotts. In terms of your industry, is there an overall
15 industry association that we would be able to work with
16 on Long Island?

17 MS. GREEN: There are several associations. Long
18 Island has an industry, Long Island Arborist
19 Association is one, and then internationally we've got
20 the Tree Care Industry, which is an international
21 industry, and then we've also got the International
22 Society for Horticulture, which is an international
23 association.

24 MR. WHITE: Thank you very much.

25 MR. CAREY: Thank you. Our next speaker is Paul

1 Boyce.

2 MR. BOYCE: Good Evening. My name is Paul Boyce.
3 As you mentioned, I'm a consulting engineer here on
4 Long Island; I'm also a groundwater professional for
5 over 20 years now, working primarily here on Long
6 Island and in New York City.

7 I just want to start by commending the commission
8 on doing a great job with this; an excellent start with
9 an evolving document that's expected and hoped to be
10 updated annually. It does a very good job from an
11 educational and informative standpoint; as Steve said
12 earlier, it's easy to read, easy to understand, which I
13 think is good from a public standpoint. But from an
14 engineering standpoint, I do believe it does need to
15 provide more technical information.

16 It does a great job on touching on some of the
17 key issues that affect the groundwater on Long Island
18 today, such as -- you mentioned the emerging
19 contaminants, personal care products, rising sea
20 levels. It's great; it's getting into that, it's
21 thought provoking, I enjoyed reading it, but as an
22 engineer that works in the water waste and water well
23 field, what I feel is contributing to the value of this
24 document is years ago both the county and USGS used to
25 periodically or routinely provide updated contour maps,

1 whether it was a water table map or intra-metric
2 surfaces or some of the deeper aquifers, and we've seem
3 to have gotten away from that.

4 A report like this can be valuable, especially if
5 updated annually. You get that historic trend on
6 what's going on, take a snapshot-type of picture and
7 take a look at where the areas -- what things are
8 changing, how things are evolving; that would be
9 useful.

10 Also the report mentions salt water; Steve did a
11 good job of explaining what upconing is, what salt
12 water intrusion is and also giving a couple of little
13 snaps of where it's occurring; up in northwestern
14 Nassau County like Great Neck, Manhasset, Port
15 Washington. But maybe including some salt water
16 interface maps or updating some of the ones that are
17 already out there annually, that would be helpful as
18 well.

19 Also groundwater quality maps; this may be a pie
20 in the sky, but you get this WaterTraq tool now. That
21 thing looks terrific; we're starting to use it as well.
22 It's a very valuable tool, and if that can start to
23 generate where the hotspots for nitrogen are or the
24 VOCs, iron, whatever. It's endless what that can do,
25 and I'd like to see that evolve more. The report could

1 incorporate some of the stuff that can be generated
2 from that.

3 Also, if the report can point out the data gaps;
4 where on the Island are we lacking better monitoring in
5 these two counties? Where do we need a Lloyd aquifer
6 well or where do we need a Magothy or a cluster;
7 something like that would be useful as well. And
8 something that my firm's involved heavily with is
9 geothermal systems on Long Island. I know in the
10 groundwater management plan that's coming out in the
11 next year or so, as Steve pointed out, there is going
12 to be a chapter on that. But just updates on that;
13 it's becoming more and more popular and that's got the
14 potential to affect groundwater quality and quantity.

15 Also thermally, you guys as water suppliers think
16 about chlorine advance. Temperatures start to go up,
17 people have swimming pools, you put more and more
18 chlorine in and start to heat the aquifer up too much,
19 what happens? Just some other emerging issues to think
20 about.

21 And I know each of these recommendations I'm
22 putting out there are going to take time, resources and
23 obviously money. As Dennis brought up a good point
24 about funding, it's terrific that it's volunteers right
25 now, but going forward I hope you guys think about

1 having secure funds for this going forward to make sure
2 this program, this State of the Aquifer Report
3 continues. Because it is valuable; I'm not thinking --
4 obviously it's taxpayer dollars and whatnot, and I
5 certainly don't think you guys are going to be
6 over-funded. I think it will be under-funded, so
7 constantly be on the lookout on how do we secure funds,
8 how do we increase funds, how do we make sure it keeps
9 coming; that is very important.

10 Also Dennis mentioned public outreach; I think
11 that is very important for a document like this,
12 especially from a technical aspect. Most of the people
13 I know -- families, friends, neighbors -- they rarely
14 give two thoughts to the groundwater. How do we reach
15 out to those people to become more cognisant of what's
16 going on, why it's important not to dump the
17 paint-thinner out in the backyard; just stuff like
18 that, as simple as that. I pointed out, my neighbor
19 across the street is a smart guy; he owns a gym. Has
20 he ever thought about groundwater? Probably not. He
21 knows I work with it, but that's about the extent of
22 it.

23 The gentleman from the USGS just mentioned
24 updating the regional groundwater model for Long
25 Island; I think that's terrific. Hopefully there will

1 be some way to integrate that with WaterTraq or some
2 sort of web-based application to be available to the
3 public, and also can be tied into the State of the
4 Aquifer Report.

5 Lastly, I just want to say, again, I think you
6 guys did a really good job; taking the right step in
7 the right direction. We just got to keep it going; got
8 to get people involved and we've got to keep plugging.
9 So I'd like to thank you for the opportunity to speak
10 today.

11 MR. CAREY: Okay. Thank you for your comments,
12 Mr. Boyce. Just to point out, you had mentioned
13 WaterTraq; WaterTraq, thanks to the folks at Suffolk
14 County Water Authority, Ty Fuller, that evolved in
15 about a year's time. We have a tremendous amount of
16 information on the WaterTraq and the limits are
17 endless. We hope to keep continuing to expand the
18 information; I know the USGS is sharing information
19 with the Suffolk County Health Department and we're
20 working on Nassau County and some of the monitoring
21 laws for the various plumes. And if we can integrate
22 all that into the GIS mapping we really have a powerful
23 tool.

24 But I think you hit the nail right on the head,
25 it's resources and funding; we can only take it as far

1 as we can. We're all volunteers, but a lot of credit
2 should be given to the folks at the water authority.

3 MR. SZABO: Paul, I just want to thank you for
4 your comments too. Great suggestions; looking forward
5 to working with you to try to implement some of them.
6 I would like to say -- I'm not sure if everyone here
7 knows this, but I believe Steve Colabufo may have
8 covered it in the beginning -- but LICAP was created
9 with a five year mindset. So if we're going to
10 continue this commission we need to go back to both
11 county legislatures and seek reauthorization, so I just
12 wanted to make that point clear.

13 The work that -- the good things that we've seen
14 so far; WaterTraq, one of them, the State of the
15 Aquifer Report, the collaboration between scientific
16 and technical, engineering and all types of different
17 health departments, State DEC, that sort of
18 collaboration that we've seen that has created things
19 like WaterTraq and has worked on putting together the
20 State of the Aquifer Report, that is why we were
21 created.

22 So just to get back to Ms. Blumer's comment
23 earlier that the folks sitting here are satisfied with
24 the status quo, that is absolutely not the case; I
25 don't believe it's fair. This commission was created

1 because we acknowledge that something needs to be done;
2 we acknowledge that there needs to be improved
3 communication, and three years into the mission we're
4 seeing some of the results and we've seen improvements
5 of the labor stuff. So it's working, but long term we
6 need to get other folks involved and we need funding
7 and we have a long mission ahead of us.

8 But so far it's working and looking forward to
9 working with you, Paul. Counsel was just saying that
10 LICAP expires December 2018.

11 MR. CAREY: Okay. Our next speaker is Sean
12 O'Neill.

13 MR. O'NEILL: Okay. My name is Sean O'Neill; I
14 am from Peconic Bay Keeper and would just like to thank
15 LICAP for the opportunity to comment on your plan.
16 Kudos on it. The State of the Aquifer Report has
17 definitely produced some food for thought and I
18 appreciate all the work that went into it.

19 Some specific comments I had on this and maybe
20 some things that can be developed either now or in the
21 future. Particularly, the first comment would be about
22 pesticides. There's very little research and very
23 little in this report about pesticides and their
24 interactions and combinations. We have guidelines and
25 thresholds for each individual compound, but we don't

1 have guidelines and thresholds for these pesticides in
2 combination and we don't really know what they do in
3 combination in working with each other. So since there
4 are 182 pesticides identified in our aquifer, I think
5 some time and some thought needs to go into creating
6 guidelines and thresholds for how they interact with
7 each other and developing standards for cumulative
8 pesticide pollution research.

9 I also think that we need some further research
10 into the effects of pollution in outflow pipes in
11 sewerage, both as it applies to the quality and the
12 quantity of groundwater. If we're planning on spending
13 potential billions in public funds to look to improve
14 bay water quality and surface water quality with ocean
15 outflow pipes, while knowing they also have negative
16 effects on both ground and on ocean water quality, we
17 should look further into the negative effects of said
18 ocean outflow pipes.

19 Third thing, which I'd like to see included, is
20 perhaps some sort of groundwater quality improvement
21 project. To echo what Mr. Collins had said before,
22 agriculture on the east of Long Island is changing;
23 it's evolving and it's innovative. I think we should
24 reward those agricultural practices that are innovative
25 and evolving; practices such as organic farming,

1 vineyards that use recirculating sprayers, collection
2 pads for pesticides and equipment washing. This was
3 done previously to New York DEC Environmental
4 Management Program paid for by pesticide violations
5 that were violated and paid to this fund, and they
6 would use environmental projects to help agriculture
7 innovate and be less harmful for groundwater.

8 Exploring things like that, exploring how we can
9 spur innovation and move agriculture as it has been
10 moving to a less harmful practice into our aquifer, I
11 think that would be something to consider. A couple of
12 just points. One on the presentation; I'd like to
13 point out that on the presentation when talking about
14 the Carmans River, and specifically the effect of the
15 septic systems on the nitrogen levels. Carmans River
16 has stated that it's measuring levels between two and
17 three milligrams per liter, and I think the word was
18 that that's not bad compared to the drinking water
19 standard of ten milligrams per liter; however, for
20 instance, the CCMP recommends only four or five
21 milligrams per liter standard for nitrogen in marine
22 ecosystems for healthy ecosystems. So I don't think
23 two to three milligrams is an indication of something
24 being okay; I think it's an indication of something
25 being very wrong.

1 Lastly, I see on page 30 of the report
2 specifically about nitrogen and looking into well
3 samples in 1987 and again in 2013; you have levels
4 showing the upper glacial aquifer moving from 2.63
5 milligrams per liter to 3.69. In the Magothy you have
6 .95 milligrams moving to 1.7 milligrams. I wonder, and
7 I don't think so, but I wonder if this takes into
8 account wells taken offline since 1987 for excessive
9 nitrogen; again, if you aren't accounting for those
10 wells you're not really having a complete picture of
11 what is going on, and it's hard for me to ascertain
12 whether you are or you aren't. Is it only wells from
13 1987 to 2013 that's been online this whole time or does
14 it take into account those wells that were originally
15 sampled in 1987 that have since been taken offline for
16 excessive nitrogen?

17 For more so just as a public -- to be understood
18 better by the public, I think showing it like that
19 gives a false impression of either minute increases in
20 nitrogen in groundwater, whereas if you showed it in a
21 percentage basis they look like very large increases in
22 nitrogen in the groundwater. It paints more of a
23 realistic picture of what actually happened.

24 So I would just, once again, thank you for this
25 project and I hope we can work together to improve it

1 in the future. Thank you.

2 MR. CAREY: Okay. Thank you for your comments,
3 Mr. O'Neill.

4 MR. SZABO: I would just ask, if you don't mind,
5 Mr. O'Neill, maybe Mr. Colabufo could, just for
6 clarification on the report, answer some of the
7 questions related to wells taken offline over that
8 period of time and whatever is factored into the
9 analysis. Do you mind, Steve?

10 MR. COLABUFO: Yeah, no problem. That data from
11 wells was taken from the recently released
12 Comprehensive Groundwater Management Plan. It was a
13 set of --

14 MR. SZABO: I don't think your microphone is on.

15 MR. COLABUFO: Okay. Can you hear me now? Okay.
16 The information was taken from the recently released
17 Suffolk County Comprehensive Groundwater Management
18 Plan, and it was a set of 390 wells that were sampled
19 in both years. So there was nothing about wells that
20 were taken offline. It was 390 wells in 1987; the same
21 set was sampled in 2013.

22 MR. CAREY: Okay. So it was a direct comparison?

23 MR. COLABUFO: A direct comparison.

24 MR. SZABO: Thank you. We may want to make that
25 very clear in the document.

1 MR. CAREY: Thank you. Okay, our next speaker is
2 Joe Baier.

3 MR. BAIER: Good evening, everyone. I know quite
4 a number of you for quite a long time; I've been in
5 this business of well water, the Suffolk County Health
6 Department and Nassau County Health Department. I've
7 been retired for a number of years and I'm working
8 part-time for a consulting company called DMB
9 Engineers.

10 But most of my life has been involved in water
11 quality and water quantity and groundwater, and so I
12 read with very great interest in your report and I
13 thought it was really excellent. You did a great job
14 in summarizing the state of the aquifer, and there was
15 a lot of good pieces of information. I was especially
16 interested in the salt water intrusion portion; it
17 summarized so many of the things we've known for years
18 and put it out there in a nice, concise fashion.

19 Also learned a little bit from seeing what's
20 going on in the north shore in Nassau County. But the
21 hydrogeology, the water quality and water quantity in
22 the State of the Aquifer Report were really great. I
23 was interested in thinking what is coming next, and
24 some of the previous people touched on that. Realizing
25 now you have a sunset, hopefully that won't continue

1 and you'll be able to continue on because there is a
2 lot of good things that need to be done.

3 One of the things I think you might want to start
4 to look at is underflow; that's a number that always
5 seems to be sketchy and whatever is left over. I don't
6 know if anybody has tried any quantization on it or
7 qualification of it as far as what the water quality
8 is. That impacts your surface waters and that is a
9 real concern for everybody; you might want to begin to
10 look at some data, if there is any such things that
11 might be available, to look at that.

12 There was mention of water conservation; I think
13 that should be a very important part of, let's say,
14 your next report. And when you get into it, put a
15 stress on the ideas brought up by a few of the other
16 speakers. We know that we don't have a quantity
17 problem, but I know from water suppliers that we have a
18 tremendous problem with the data that Steve showed us;
19 at 5 a.m. in the morning, huge amounts of water supply.
20 Nassau County has 30 wells; they run three for seven
21 months of the year and 30 for the rest because of
22 sprinklers.

23 If ideas can come up to begin to reduce some of
24 that load, I think that would help water suppliers not
25 having to go back to the DEC and ask for more wells and

1 also it would become a wise use of your resource. If
2 you don't have to run your wells as much you're going
3 to be saving energy somewhere along the line. I was
4 going to comment on page 30, but you guys just hit it,
5 pretty much. From my own experience and from hearing
6 the other speakers, I don't think that that's a
7 terrible increase. I think it bodes well for us that
8 only .7 in the Magothy and upper glacial as far as the
9 change; I thought it might even be worse. But I do
10 know that in the agricultural areas you're still
11 getting high amounts; tens and 12s and 14s,
12 unfortunately.

13 One of the things I think you might want to look
14 at -- again, another thing -- is surface water quality.
15 I know that there's a lot of talk, a lot of information
16 in those papers about plumes, etc. and nitrogen's
17 impact on surface waters. I think maybe it deserves to
18 take a look at what is available; I know from my own
19 experience that the Suffolk County Health Department
20 has been monitoring the bays for a number of years and
21 has a great deal of surface nitrogen data. I think
22 that that could be brought here to get an idea,
23 historically, what has happened from 1987 to 2010 or
24 something like that, what's been happening with the
25 nitrogen in our bays. I think that might be very

1 interesting and very helpful to those who are
2 investigating our plumes.

3 I personally think that most of that nitrogen
4 information is coming from streams and is also coming
5 from salt water ground. Great strides are being made
6 now through DEC's efforts to look at salt water
7 management and go into towns and villages and find out
8 what they're doing and ask them to do more, and that's
9 one of those things that's going to take a long, long
10 time, but it will certainly benefit our bays.

11 I think that is about all I have to say, but I
12 think you are doing a marvelous job; the report is
13 great, and I hope you'll continue to enter the data
14 that was just mentioned into that groundwater quality
15 system, add some more data now that you've had a few
16 more years and it would really help when we analyze
17 what's going on after. Thank you.

18 MR. CAREY: Okay. Thank you, Mr. Baier.

19 MR. WHITE: Joe, it was great to see you.
20 Interestingly, in the Hauppauge area we had Paul
21 Pontoro speak, and the underflow discussion in question
22 reminds me of work that we were talking about on
23 underflow in the late 70s, and I will tell you that as
24 of today there is more being done work being done on
25 measuring that I know. I know Andrea Vulchnevich over

1 at Stony Brook University has done of some this work
2 connected to Chris Gobler, so it's taking a little
3 while, but --

4 MR. BAIER: Rodney Balsicks has done a lot with
5 the health department too.

6 MR. WHITE: Yes. And I think also a lot of your
7 comments -- this is something we're going to be
8 discussing as a commission -- is the link between the
9 work we're doing and the Long Island nitrogen action
10 plan that is going on. So when you're talking about
11 those inputs and certain water issues and ultimately
12 that nitrogen control, that is going to be a link that
13 we're going to work with. So I appreciate you bringing
14 that up and it's great to see you.

15 MR. CAREY: Okay. Our next speaker is Andrea
16 Spilka.

17 MS. SPILKA: Good evening. My name is Andrea
18 Spilka; I'm the president of the South Hampton Town
19 Civic Coalition. It's a group of civics in the western
20 part of the South Hampton town, but I'm pretty much a
21 liaison to all of the town civics.

22 I must admit, I am coming at this from a very
23 different standpoint; I do thank you for the
24 opportunity to speak. What I'm coming here with is a
25 wish list. I appreciate, by the way, everyone's

1 comments about education and getting the public
2 involved; I think that is a wonderful idea. Our
3 civics, especially on the east end, nothing is more
4 important to them than water quality. So I thank you
5 for your increased focus on it, but from where we sit
6 there is still so much more that has to be done.

7 So on our list is more stringent septic
8 standards. In our case, Suffolk County shouldn't be
9 approving any outdated kind of septic systems for any
10 new developments. We'd also like them, in addition to
11 stop grandfathering, to also make sure that it's
12 mandated for any large developments that they must use
13 a nitrogen reducing system. What has happened in the
14 past is that they've traded off for extra density or
15 community benefits or something like that. That
16 shouldn't be; times have changed.

17 We'd also like -- as you would, I'm sure -- more
18 money. More money for staff, for oversight of all
19 septic systems, both old and new; certainly they're not
20 as effective -- we're in jeopardy if we think they're
21 working and they're not. In my area we'd also like
22 money for monitoring the Speonk Solvent Plume. There
23 is no responsible party; there is always sort of a
24 lagging. As time goes on it's getting closer and
25 closer to the bay; it's going deeper and deeper into

1 the groundwater.

2 On the east end, too often sewage treatment
3 systems have been exchanged for additional
4 developments, often at the expense of water quality and
5 our rural character, so we'd also like better land
6 decisions. I know you have a section on that; I think
7 we all know you can't protect drinking water if you
8 don't protect the land over it, and certainly your
9 charts show that.

10 What I'm going to ask for is that every zoning
11 decision should be made with an eye towards its impact
12 on water quality. Right now my civics are fighting a
13 very large mega golf resort in the aquifer protection
14 area, half of which is in the Pine Barrens core.
15 Should that be happening? No, it shouldn't. We
16 shouldn't even have to fight it.

17 We don't have an excuse the way we did years ago
18 that we didn't know that water was a problem; we know
19 now that it really is. First, "do no harm," should be
20 the motto for everyone; two years ago I spoke to you
21 again and I used the proverb, "the best time to plant a
22 tree was 20 years ago; the second best time is right
23 now." I certainly hope you will; I know you're doing
24 the best you can, but we're losing ground every day
25 rather than moving ahead with all the effort that

1 everybody has been putting in.

2 So I ask sincerely and respectfully that you do
3 as much as you can as quickly as you can. I love some
4 of these things on the wish list, as would all my
5 civics. Thank you very much.

6 MR. CAREY: Thank you. We appreciate your
7 comments and coming out tonight.

8 MR. WHITE: Just one comment. For the record, I
9 appreciate your comments and the wish list, but, for
10 the record, if there are land use issues that you have
11 you need to attend to that as your land use authority,
12 which is your town or village.

13 I know on my wish list I'd like to be in control
14 of land use or we might look at considering having some
15 power, but that is not the case and it's never going to
16 happen. So I think that what you're pointing out,
17 though, and what I want to respond is that it's our job
18 to show that there is a link. So we have to show as
19 this commission to the land use authorities that there
20 is a link to what they're deciding on to the impact of
21 the aquifer; I think that's really what you're saying.

22 MS. SPILKA: Yes. That is really what -- yes. I
23 accept that to the extent that each of you deals with
24 -- and we deal with the DEC often -- yes. We do fight
25 the good fight; we fight it at every level, but the

1 more -- as you're doing your work, the more that you
2 can show that link and demonstrate it it would
3 certainly be helpful, and the sooner the better. Thank
4 you very much.

5 MR. WHITE: I think that's the point well made.
6 Thank you.

7 MR. CAREY: Okay. Our next speaker is Kevin
8 McAllister.

9 MR. MCALLISTER: Good evening, Mr. Carey,
10 members. My name is Kevin McAllister; I'm the founding
11 president of Defend H2O, which is a clean water
12 advocacy and an educational organization, non-profit.
13 If I may, my professional background includes
14 undergraduate degrees in natural resources, marine
15 biological sciences and a Master's in coastal zoning
16 management.

17 My professional experience spans roughly 30 years
18 in government, resource protection, private consultancy
19 and, more recently, in the role of water protection.
20 Mr. Carey, I want to acknowledge your response; when
21 Ms. Blumer spoke I was pleased to hear you speak or
22 say, essentially, that science will determine policy --
23 and I am paraphrasing -- in the interest of natural
24 resource protection. So I'm pleased to hear that this
25 goes beyond purely drinking water. I do want to read a

1 passage that caught my attention, and this was Source
2 Water Assessment Program: "Major findings that came
3 from the swap was a realization that while many land
4 uses and specific instances of groundwater
5 contamination do have a negative impact on drinking
6 water, there are also a great many instances that are
7 not a threat."

8 I thought this was a little ambiguous, quite
9 frankly. Again, to the point of resource protection,
10 you know, groundwater, as you know, is critical to the
11 ecological productivity of our bays, and I use an
12 expression, "Where goes groundwater, there goes our
13 bays." And of course you're dealing with a host of
14 issues; nitrate reports, the VOCs, pesticides, personal
15 care products and pharmaceuticals. And I will resonate
16 the earlier speaker, while we are testing -- and I'll
17 say the testing is rigorous for the specific
18 contaminants -- we're not necessarily taking into
19 consideration the synergistic effects of the degrades
20 and, again, in combination. I can tell you -- I mean,
21 I've had enough organic chemistry to say that this
22 cocktail mix could be very problematic, particularly an
23 ecological problem for our systems.

24 So bear that in mind, I think, as we go forward
25 that we have to be very thoughtful and cognisant of

1 that fact and find the means to recognize, again, the
2 synergistic effects.

3 I'd like to speak on the salt water intrusion,
4 and certainly my work and area of expertise in coastal
5 zone management and some of my professional experience
6 is in South Florida. I know the report certainly sites
7 salt water intrusion, and having lived there for over
8 15 years I can tell you it's a real problem and we're
9 not immune to that locally here. And particularly with
10 sea level rising occurring, salt water intrusion and
11 upconing will only get worse.

12 A real factor to this is, of course, draw down,
13 and you are recognizing this. But going forward this
14 is going to be a real issue for Long Island for our
15 coastal fringe, low-lying areas and we're going to have
16 to grapple with it. So while the report certainly pays
17 close attention to it and acknowledges it, I strongly
18 urge you to follow suit with that path because it will
19 be critical.

20 The factor of sewerage, and I certainly have, I
21 think, in many ways, been at the forefront of
22 innovative and alternative systems, starting in 2005 on
23 the Forge River. And I'll say as a scientist I figured
24 it out in the sense -- it's the homes, stupid.
25 Recognizing the density of the housing and, ultimately,

1 the enrichment of groundwater and then causing water
2 quality problems. Of recent we are hearing that
3 sewerage is the answer, and I will say to you it's no
4 panacea.

5 With respect to the loss of that important
6 groundwater recharge, we are talking about offshore
7 discharges that we're losing at a great volume. The
8 gentleman that provided that very thorough presentation
9 talked about the nitrogen reduction in Nassau County;
10 in recognition, a lot of the streams that are
11 discharging to the south shore that have also been put
12 on the water table have dried up in many cases. So
13 there is downside certainly to the water volume side of
14 things, and I will point out on the nitrogen reduction
15 side, we have to be careful what we wish for; again, to
16 jump on the bandwagon with sewerage in saying that
17 we're going to reduce nitrogen.

18 I will give you a perfect example of the
19 Mastic-Shirley district that has been proposed
20 essentially along the Montauk Highway with a flag that
21 is a portion of the residential for the upper Forge
22 River. It suggested that -- and I read the report and
23 the analysis -- that there will be a 15 percent
24 reduction in nitrogen going to the Forge River. But
25 what the report has not factored in, the town of

1 Brookhaven, approximately two years ago or thereabouts,
2 has up-zoned the business corridor that would include
3 multifamily housing and expansion of wet use. So I
4 submit that that 15 percent will be further contracted
5 and perhaps a net positive at the end of full build-out
6 in whatever period of time that is.

7 So in the, I guess, the analysis and the
8 promotion of sewer districts, recharge and being
9 thoughtful about exactly what the end result will be
10 relative to the build-out to ensure that we are, in
11 fact, reducing nitrogen and it just doesn't -- the
12 appearance -- for appearance sake it sounds good, but
13 maybe it doesn't have the results that we're seeking.
14 The recommendation I would strongly urge with the
15 testing and the mapping, and, again, I think Suffolk
16 County has done certainly a outstanding job and Nassau
17 County and we have to build on that, as I've described,
18 with the combination of the -- and the myriad of those
19 contaminants that are in our water.

20 Water conservation -- and this goes to salt water
21 intrusion -- with the draw down what I feel is wanton,
22 wasteful use of water for residential irrigation. And
23 I heard this statistic recently of a Hampton's property
24 and it was mind boggling of what the annual daily usage
25 was of pumpage purely for the grounds. We have to find

1 a means to ensure that we are implementing water
2 conservation, and this goes to really, I think, the
3 role of your group. Science drives the policy, and I
4 think politically you have to have a bit of blinders on
5 and you have to have the courage, quite frankly, to
6 make some strong recommendations.

7 I don't know what the answers are for ensuring
8 water conservation; is it taxing on water hogs?
9 Perhaps it is. Are there other means, but the point
10 I'm trying to emphasize is we have to get that fresh
11 water back into the ground to ensure that we have some
12 protection from salt water intrusion or at least we're
13 doing our part to ensure that it's not going to affect
14 our coastal areas; very important points there.

15 I'm very pleased; I laud the goals of LICAP. I
16 do hope your sunset is extended; I think you play a
17 very important role. And again, I urge you; science
18 drives policy. Try to -- while we're talking about
19 partners, and of course everyone has a seat at the
20 table -- the business interests, etc., etc., but at the
21 end of the day this is going to have to be real strong
22 science that is, in fact, providing some directive to
23 your elected officials that are going to provide the
24 protection for, again, not only our drinking water
25 supply but the ecological health of our surface water

1 rimming Long Island.

2 Because, again, we all know what kind of economic
3 engine that means, certainly for our economy here. So
4 thank you for your consideration to my thoughts.

5 MR. CAREY: Thank you, Mr. McAllister. You bring
6 up some excellent points that we will certainly bring
7 back. One that may be very noteworthy is you mentioned
8 the recharge when you consider the effects of sewerage
9 everywhere and how that can help, potentially, the salt
10 water intrusion situation along the shorelines. So I
11 would agree that that's definitely something we should
12 look at, especially in the center of the island.

13 MR. MCALLISTER: Let me just, as a quick
14 addendum, the town of Riverhead where the STP was using
15 a recharge on a nearby golf course in partnership with
16 Suffolk County; that's a perfect example of where we
17 need to go. So thank you.

18 MR. CAREY: Our next speaker is Peter Tischner.

19 MR. TISCHNER: Well, I have nothing formal
20 prepared here; I just wanted to take the opportunity to
21 say thank you for -- all of you for hearing our
22 frustrations and concerns. It's not an easy position
23 to put yourselves in, but I do appreciate you seeing
24 how important it is. I would ask that as part of the
25 LICAP you would not hesitate to go forward immediately

1 in seeking out more funding so that this program can
2 continue, because it is of the utmost importance. And
3 we're fortunate to have a lot of professionals here in
4 the industry come and be a part of this and make more
5 awareness. And I think that was spoken on a number of
6 times and that was one of my major concerns, just that
7 we need to move forward with educating people on Long
8 Island on what the problems are.

9 And they're really -- our force, the people out
10 there are really, unfortunately, very ignorant. I deal
11 with them all the time; I work in the industry myself,
12 kind of on the front lines. I'm very aware, by
13 speaking with many of them, how much they don't know,
14 and I think really if there should be one major focus
15 of what you're doing it is to seek out funding for
16 public education as part of our schools.

17 Thank you all for doing what you're doing; I
18 appreciate it and I hope to be a part of this in the
19 future in some capacity. Thank you.

20 MR. CAREY: Thank you, Peter. I appreciate your
21 comments and I appreciate you coming tonight, and maybe
22 I will just point out that Peter is a certified water
23 treatment operator at a water district in Suffolk
24 County. I've never met him before, but he is a local
25 resident here, so it's nice that you came out and

1 spoke. Thank you.

2 Our next speaker is Anthony Graves.

3 MR. GRAVES: Hi. Thank you for hosting this
4 meeting; I'm here to read a letter from Supervisor
5 Edward Romaine, supervisor of the town of Brookhaven,
6 who regrets he was unable to attend tonight.

7 "RE: The first State of the Aquifer Report. I
8 thank the members of the commission and commend you for
9 the critically important work you are doing. The
10 future of Long Island is dependent on having clean
11 aquifers, and the publication of the first ever State
12 of the Aquifer Report in 2016 is as welcome as it is
13 overdue.

14 Let me quote to you from an article that appeared
15 in the New York Times on December 20, 1981, 'Nearly
16 three years after a comprehensive study recommended
17 immediate action to clean up the Island's polluted bays
18 and safeguard its drinking water, major portions of the
19 bays are still closed to shellfishing and known sources
20 of toxic chemicals still threaten the drinking water.'
21 That article was by Frances Cerra.

22 When a Long Island Sound Study was completed
23 almost 30 years ago, the issues affecting our surface
24 waters and our drinking water came into focus and we
25 made the connections between our land use and our

1 aquifers. We have made progress; 25,000 acres within
2 the core area of the Long Island Pine Barriers have
3 been protected to preserve water quality and habitat.
4 Suffolk County and the town of Brookhaven and, in
5 particular, the east end towns through the Community
6 Preservation Fund have preserved additional lands that
7 protect our aquifers and our surface waters. Hundreds
8 of millions of dollars in public funds have been spent
9 on these achievements; measures to protect our waters
10 have consistently had tremendous public support, which
11 is evidence by unanimous votes of both the Nassau and
12 Suffolk legislatures to create your commission.

13 The State of the Aquifer Report shows that we
14 have not done enough. The water use statistics show
15 that our firefighting and drinking water supply system
16 is vulnerable to overuse by lawn irrigation systems.
17 Data on nitrogen in groundwater shows far too much is
18 leeching into the glacial aquifer from agriculture and
19 sanitary systems. The information on herbicides and
20 pesticides show the aquifer is still being affected by
21 chemicals that were used decades ago.

22 Data on numerous contaminants, such as MTBE and
23 PFOA, show that new threats to our drinking water
24 supplies are a constant and ongoing concern. Large
25 plumes of contaminants from sources such as Grumman

1 Navy Bethpage Plume, the Calverton Plume and plumes
2 that originated at Brookhaven National Laboratory show
3 that our aquifers remain vulnerable to contamination
4 from a multitude of government and industrial
5 operations.

6 We must have a robust system in place to monitor
7 the quality and quantity of the water in our aquifers.
8 We must enact measures that encourage water
9 conservation in order to protect water quantity and
10 prevent over pumping that can lead to salt water
11 intrusion. We must continue to research and better
12 understand the connections between the glacial, Magothy
13 and Lloyd aquifers that are allowing contaminants to
14 move into even our most pristine groundwater.

15 We must address the impacts of nitrogen from
16 agriculture by working with the industry on new
17 treatment management plans similar to the approach New
18 York City has enacted to protect its water supplies.
19 We must continue working to bring innovative,
20 alternative sanitary systems into widespread use to
21 reduce impacts from residential sanitary systems. We
22 must insist on the highest standards for new and
23 existing sewage treatment plants.

24 The technology that's produced drinking water
25 from waste water; we should employ the best available

1 technology when citing new sewage treatment plans.
2 Treatment plans, particularly those situated in deep
3 recharge areas, should be require to recharge water
4 that has been treated to better than drinking water
5 standards to replenish our aquifers.

6 If we take these measures and more, we will
7 fulfill our responsibility to provide clean water to
8 future generations. Once again, I thank the commission
9 members for this important opportunity to speak on a
10 topic critical to our futures. Sincerely, Edward P.
11 Romaine, Supervisor, Town of Brookhaven." Thank you.

12 MR. CAREY: Okay. Thank you for your comments,
13 Mr. Graves and Supervisor Romaine. Any comments?

14 MR. WHITE: I would just like to say on behalf of
15 the commission, if I could, thank you to Supervisor
16 Romaine for taking the time to put something together
17 and to have you come tonight to speak before us. Thank
18 you very much.

19 MR. GRAVES: You're welcome. I'll convey that to
20 him.

21 MR. CAREY: Thank you. The final speaker that I
22 have a card for tonight is Frank Gibbons.

23 MR. GIBBONS: Good evening. I'm Frank Gibbons; I
24 am a member of the executive board of the Port
25 Jefferson Station/ Terryville Civic Association.

1 And we're in the middle of a process of
2 development, and we know that without sewers we can't
3 redevelop our older areas. But with sewers we have to
4 be smart, and Kevin spoke to some of that and
5 Supervisor Romaine's letter said the same thing. If
6 you take the southwest sewer district, it sucks tons of
7 water out of the ground and pumps to the ocean.
8 Hewlett Bay Park does the same thing. Your problem on
9 the north shore of Nassau County is mainly because the
10 sewers are pumping the water out into the sound, into
11 the bays. If you take Huntington, Northport, Port
12 Jefferson, they all pump to the bay.

13 Now, you said science should drive the policy;
14 the science exists, as Supervisor Romaine said. The
15 City of San Diego takes waste water and turns it into
16 potable water. Battery Park City in New York City
17 takes waste water and turns it into potable water.
18 Suffolk Community College takes waste water and turns
19 it into potable water. And last but not least, the
20 orbiting space station, guess what they drink? Waste
21 water.

22 Why can't we be doing that right here? Why can't
23 that be the recommendation, that we put in
24 state-of-the-art facilities that provide potable water
25 and mix it into our system? Right now it's my

1 understanding Suffolk County water takes water that is
2 not so good and water that is better and mixes it to
3 get a potable product, a product that is safe. Why
4 can't we be doing that with waste water right here on
5 Long Island? Thank you.

6 MR. CAREY: Okay. Thank you for your comments.
7 Those are all the cards that I have tonight; if anyone
8 else wishes to speak, I will ask you to come up forward
9 now, please.

10 MR. KRUPSKI: I've been following the progress of
11 your work. My aid attends most, if not all, the
12 meetings and we've been following it with a lot of
13 interest. I read the State of the Aquifer Report, and
14 I have to commend you on a timely report; all too often
15 these things are started and never completed, so it's a
16 really good accomplishment.

17 So a couple of the speakers -- I like what the
18 last speaker had to say about treating the waste water
19 to a better standard and recharging it into the
20 groundwater. It's something that is going to have to
21 happen; pumping it into the ocean or into the bay or
22 into another confined water body surface water
23 obviously isn't very sustainable. In Suffolk County,
24 Nassau County or worldwide, and that obviously has to
25 change. You do address rainwater runoff and recharge,

1 and it should be addressed, I think, in your
2 groundwater re-sewerage management plan in a meaningful
3 way. The more clean rainwater you get to recharge the
4 aquifer, the easier it makes everyone's life, really.

5 So two of the speakers this evening spoke -- they
6 were both engineers -- they spoke about better
7 monitoring, and I'm going to reference the graph on
8 page 14. And I have to wonder because it mentions all
9 this nitrogen contributions to agriculture, and yet on
10 page 29 your water quality mapping only shows one well,
11 the one in Brown's Hills on the North Fork where all
12 the agriculture is. That's impaired by nitrates over
13 ten parts per million, so I think you need to do -- and
14 I know Suffolk County has done a lot of groundwater
15 monitoring -- and I think you need to provide the
16 commission with updated information so that maybe you
17 can take a closer look at the contributions there.

18 Thank you for bringing up the road salting issue;
19 the one in Peconic, that was disturbing. I don't think
20 most people know that road salt contributes that much
21 chloride to the aquifer, and that is something that we
22 really need to address, both the Suffolk County's DBW,
23 but also the towns and New York State DOT. That is
24 obviously very important. One thing I'm not sure you
25 covered in here is wildlife control; right now all the

1 farm fields are being cover-cropped. The cover-crop is
2 there to prevent the dirt from blowing away in the
3 winter, but it also serves a great purpose in taking
4 out the excess nitrogen and all the nutrients from the
5 crop seeding.

6 The problem there is that you've got this goose
7 season that doesn't start until the end of November,
8 and right now you have the local population of geese
9 coming and feeding on that newly sprouted cover-crop.
10 Once those sprouts are gone, the geese march across the
11 fields, the plants can't recover and they're not going
12 to use any of the nutrients left over and they're going
13 to be subject to leeching.

14 So it's a really simple solution -- I've been
15 appealing to New York State DEC for years, even though
16 it's federally regulated problem, all you need to do is
17 increase the bag limit and increase the harvest season
18 earlier to prevent the Canada geese from de-vegetating
19 the farms and that would make a big difference.

20 So certainly that's one of the things I'd like to
21 see addressed in your research management plan. And
22 also one thing I think that you should address is you
23 should encourage more land preservation because a lot
24 of the comparatives that you've mentioned come from
25 development and come from residential analyses and I

1 think you should encourage increased land preservation
2 to try to minimize those impacts. Thank you.

3 MR. CAREY: Okay. Thank you for your comments,
4 Legislator Krupski. Any questions for the board?
5 Okay, so --

6 MR. SZABO: I just want to note that we have
7 received some correspondence from individuals
8 electronically over the last couple of weeks or since
9 the first hearing in Hauppauge, but we will make all of
10 the information and testimony provided electronically
11 available to all the members of the public, everything
12 that has been submitted before the commission considers
13 any possible amended drafts to the report. We'll make
14 sure to do that.

15 MR. CAREY: Okay. So that will --

16 MR. WHITE: Stan, I just want to make one more
17 comment, sort of in the close of our public hearing
18 sessions. And I know we're going to continue to review
19 and deliberations, but I really feel strongly that we
20 need to commend the Suffolk County Water Authority
21 strongly. I mean, everybody on the commission -- USGS
22 and the health department has worked so hard, but I
23 think specifically the combination of the Suffolk
24 County Water Authority and Jeff's leadership is really
25 producing a lot of work product and a lot of

1 information and, as we called out before, the WaterTrag
2 asset is one of the most astounding work products I've
3 ever seen come from a commission like this.

4 I think we have to thank the water authority and
5 their technical skills and assets for that. So I just
6 wanted to put that on the record.

7 MR. SZABO: Thank you, Mike.

8 MR. CAREY: I agree. Without the resources and
9 horsepower of the Suffolk County Water Authority we
10 certainly wouldn't be where we are today. Although we
11 accomplished quite a bit in Nassau County, it was a
12 little more difficult dealing with all the districts; I
13 happen to work for one, but coordination was an issue,
14 but we managed to get it done.

15 But again, thanks to the water authority for all
16 their resources. So I believe what we'll do is we'll
17 leave the written comment period open for two more
18 weeks, but tonight we'll conclude the public comment
19 period. So as long as the board agrees, we'll receive
20 comments for two more weeks written to our website at
21 LICAP.

22 Before we close just, I guess, a public
23 announcement: Saturday, October 22nd is the medication
24 take-back day here in Riverhead. So please don't flush
25 any of your unused medications down the toilet or throw

1 them in the garbage; you can take them to Peconic Bay
2 Medical Center between 10 a.m. and 2 a.m.; also the
3 police department accepts -- has a medication drop box.

4 So just a little announcement; I got this in the
5 mail yesterday, so I thought it would be good to bring
6 it up today. So unless anyone has anything else, that
7 will conclude the meeting tonight. I just want to
8 thank everyone for coming. Thank you, have a good
9 night.

10 (LICAP Exhibit B, OPEN COUNCIL LETTER, was marked
11 for identification.)

12 (Whereupon the meeting was adjourned at
13 8:19 p.m.)

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C E R T I F I C A T E

I, JILLIAN BARRICELLI, a Notary Public in and for the State of New York, do hereby certify:

THAT the witness(es) whose testimony is hereinbefore set forth, was duly sworn by me; and

THAT the within transcript is a true record of the testimony given by said witness(es).

I further certify that I am not related, either by blood or marriage, to any of the parties in this action; and

THAT I am in no way interested in the outcome of this matter.

IN WITNESS WHEREOF, I have hereunto set my hand this 20th day of October, 2016.



JILLIAN BARRICELLI

