

1 BEFORE THE NEW YORK STATE
2 LEGISLATIVE COMMISSION ON RURAL RESOURCES

3 PUBLIC HEARING:

4 TO EXAMINE THE EFFECTIVENESS OF CURRENT FLOODING
5 EMERGENCY AND MITIGATION EFFORTS, AND TO DISCUSS THE
6 NEED FOR FUTURE ASSISTANCE DUE TO THE INCREASE IN
7 EXTREME WEATHER EVENTS

8 Legislative Office Building
9 Van Buren Hearing Room A - 2nd Floor
Albany, New York

10 Date: February 25, 2020
11 Time: 10:00 a.m.

12 PRESIDING:

13 Senator Rachel May, Co-Chair

14 Assemblyman Angelo Santabarbara, Co-Chair

15
16 SENATE MEMBERS PRESENT:

17 Senator Pamela Helming

18 Senator Patty Ritchie

19 Senator James Tedisco

20
21 ASSEMBLY MEMBERS PRESENT:

22 Assemblywoman Marianne Buttenschon

23 Assemblyman Robert Smullen

24 Assemblyman Mark Walczyk
25

1	SPEAKERS:	PAGE	QUESTIONS
2			
3	Dan O'Hara	17	20
4	Director		
5	NYS Division of Homeland Security		
6	and Emergency Services		
7	James Tierney	53	61
8	Deputy Commissioner		
9	NYS Dept of Environmental Conservation		
10	Erik Backus	102	111
11	Professor of Civil and Environmental		
12	Engineering, and Director of		
13	Construction Engineering,		
14	Clarkson University		
15	NYS Center of Excellence in		
16	Healthy Water Solutions		
17	Tom Harvey	132	138
18	Director of Planning		
19	Ontario County, New York		
20	Elizabeth Wolters	150	153
21	Deputy Director of Public Policy		
22	New York Farm Bureau		
23	Rob Carpenter	163	170
24	Director		
25	Long Island Farm Bureau		
	Blanche Hurlbutt	172	176
	Executive Director		
	New York Association of		
	Conservation Districts		

1 SENATOR MAY: Hello, everyone, and welcome.

2 Thank you for joining us.

3 I am Senator Rachel May from the
4 53rd Senate District, and I represent Madison
5 and Oneida counties, as well as parts of
6 Onondaga County, including the city of Syracuse.

7 I also chair the Legislative Commission on
8 Rural Resources, which is a joint bipartisan
9 commission of the State Legislature, with a mission
10 to promote the viability of rural communities.

11 On behalf of the Commission, I host this
12 hearing today on flooding, together with my
13 co-chair, Assemblyman Santabarbara.

14 And the purpose of this hearing is to examine
15 the effectiveness of current flooding emergency and
16 mitigation efforts, and to discuss the need for
17 future assistance due to the increase in extreme
18 weather events.

19 Coastal flooding and river flooding pose a
20 growing threat to New York's environmental, social,
21 and economic systems.

22 All across New York, new flooding patterns
23 have revealed vulnerabilities in our infrastructure,
24 our agricultural systems, and ecosystems.

25 Major storms, from "Irene," "Lee" and

1 "Sandy," to the most recent Halloween storm, have
2 inundated communities and inflicted billions of
3 dollars in damage on homeowners, businesses, and
4 communities.

5 The Halloween storm's flash flooding, heavy
6 rains, and strong winds destroyed 18 homes and
7 damaged hundreds more in and around my district.

8 State and local governments estimated that
9 more than \$33 million in response costs and
10 infrastructure damage was caused by the storm.

11 On December 20th, the federal government
12 approved assistance to New York, to allow
13 governments and certain non-profits to receive
14 federal dollars to cover debris removal, implement
15 emergency protective measures, and repair and
16 rebuild infrastructure, such as roads, schools,
17 parks, and hospitals; however, FEMA notified the
18 state that it would deny its request for assistance
19 to individuals.

20 New York has seen an annual increase in
21 precipitation every year since 1900, and extreme
22 storms in the northeastern United States now
23 generate approximately 27 percent more moisture than
24 they did a century ago.

25 Climate change has made heavy rainfall events

1 more frequent and more intense, and this trend is
2 projected only to continue.

3 In addition to heavy downpours, New York's
4 coastline has seen a sea level rise of over a foot
5 in the same time period.

6 It's estimated that precipitation will
7 increase 12 percent by 2050, with sea levels on
8 New York's coastal areas growing by 2 1/2 feet.

9 Continuous flooding of Lake Ontario has
10 prompted emergency declarations to be issued for a
11 number of adjoining counties.

12 It is our duty to protect our constituents,
13 land, and waterways. We must look at strengthening
14 current infrastructure.

15 This is why I've introduced legislation to
16 require water-level monitoring systems to be
17 installed on dams rated as "high hazard," upon the
18 request of nearby municipalities.

19 New York State currently ranks eighth in the
20 country for the most high-hazard dams.

21 The average age of New York's dams is
22 69 years old, well above the average. And I have
23 one in my district that goes back more like
24 150 years.

25 I was excited to see the Governor's Restore

1 Mother Nature Bond Act proposed in this year's
2 Executive budget, that would produce funding for the
3 removal, alteration, and rightsizing of dams and
4 culverts.

5 This proposal would also support stream and
6 wetland restoration, land acquisition, forest and
7 habitat preservation, and water-quality improvement
8 work.

9 We must also look at maximizing funding to
10 combat flooding damage from both federal and state
11 government resources.

12 Unfortunately, the Executive budget proposed
13 discontinuing \$72 million in capital funding for the
14 Governor's Office of Storm Recovery.

15 Today I'm excited to hear from a range of
16 stakeholders, to speak on flooding issues and, what
17 I'm hoping for, potential solutions.

18 We have representatives from the agricultural
19 industry, soil and water conservation districts,
20 local government, state government, and academia.

21 Before I turn it over to my co-chair, I want
22 to welcome Senator Tedisco, and I also want to note
23 about our process.

24 The Chairs will be given 10 minutes per
25 witness for questioning.

1 Each other member will be given five minutes
2 per witness, and witnesses will be limited to
3 10 minutes of opening testimony.

4 We do have copies of your written testimony,
5 which is part of the record. So we encourage you to
6 be concise and visit your main points in your oral
7 testimony.

8 Thank you.

9 SENATOR HELMING: Rachel, I just wanted --

10 SENATOR MAY: Oh, sorry. I didn't see you.
11 Sorry.

12 Senator Helming is here too.

13 ASSEMBLYMAN SANTABARBARA: Thank you,
14 Senator May.

15 Good morning, everybody.

16 I'm Assemblyman Angelo Santabarbara. As
17 Senator May indicated, I'm the Assembly Chair of the
18 Legislative Commission on Rural Resources.

19 I represent the 111th Assembly District,
20 which includes Albany, Montgomery, and Schenectady
21 counties.

22 I'm joined by my colleagues on the
23 Assembly side, Assemblymember Smullen and
24 Assemblymember Walczyk.

25 Thanks for being here, both of you.

1 I want to thank all of you for attending the
2 hearing, and I want to thank Senator May and my
3 Senate colleagues as well.

4 As you heard, today's hearing is very
5 crucial, especially to the rural areas of our state
6 in Upstate New York.

7 Many of those communities that we represent,
8 flooding is a serious, persistent issue, and it
9 poses a real danger.

10 And we have seen over the years, with extreme
11 weather and climate change, how it has really taken
12 a toll on our communities in a number of way.

13 Year after year, floods put health and safety
14 at risk, families at risk. We've seen the damage to
15 homes, to properties.

16 And that toll adds up over time, and our
17 communities not only face the physical challenges of
18 rebuilding, but also the financial aspect that comes
19 with it, following the damage, for repair, response,
20 and recovery.

21 In addition to the extreme weather events
22 that Senator May talked about, I just want to talk
23 about, just quickly also mention, that ice jams have
24 been a persistent problem as well.

25 Many communities live near -- have -- are

1 situated near rivers throughout Montgomery County in
2 my district, Schenectady County. And our waterways
3 continue to be threatened by ice jams around this
4 time of the year when we see the freeze and thaw
5 cycle.

6 In fact, last year, New York ranked number
7 two in ice jams nationally with 20 events.

8 And in 2018 we led the way with 27 ice-jam
9 events.

10 That's very significant.

11 And I've seen the effects of ice jams
12 personally because, in my district in the
13 Schenectady area, and the city of Schenectady,
14 there's been a long history of ice jams along the
15 Mohawk River. A lot of it has made the news because
16 of the damage that it has left behind.

17 But the truth is, it affects generations of
18 families, businesses; forcing people out of their
19 homes.

20 And as I said, that financial component, the
21 millions of dollars in property damage, and the
22 threat to our -- the health and safety of our
23 community.

24 After the last ice jam a few years back,
25 I have a civil engineering background, and I -- I --

1 I know, over time, we have been able to solve
2 problems like this with modern technology.

3 And there is ice-jam mitigation measures that
4 can be installed, and things that we can do to
5 mitigate the damage from flooding.

6 The cost to research these options and
7 implement the effective mitigation measures can
8 actually save a lot of money in the recovery costs,
9 recovery efforts, cleanup costs, and infrastructure
10 repairs.

11 We have to also understand that this flooding
12 damages infrastructure that's already in place.

13 So I know DEC is here.

14 I've written letters to them, and the
15 U.S. Army Corps of Engineers, to urge more research
16 on ice-jam prevention measures, and other mitigation
17 measures, to make our communities more resilient.

18 I'm also encouraged to see, this year, the
19 State's proposal to invest \$300 million in a
20 redesigned Erie Canal, including \$65 million for
21 flood mitigation along the Mohawk River.

22 So that's -- I'm very pleased to see that.

23 That provides us with a pretty good starting
24 point.

25 And although we've seen some progress made,

1 the work of this Commission will focus on what still
2 needs to be done to protect our rural communities.

3 So with that, I welcome stakeholders, state
4 officials, and community members who have come out
5 today, to take the time to speak with us on this
6 issue.

7 It is possible to get ahead of the problems.

8 And your testimony here today will help us
9 plan for the future, and help create feasible,
10 long-lasting solutions to mitigate flooding across
11 the state.

12 Thank you, all, for attending.

13 And with that, I'll turn it back over to
14 Senator May.

15 SENATOR MAY: Great. Thank you.

16 And let me ask my colleagues -- oh, and we've
17 been joined by Senator Ritchie as well.

18 If you have any opening remarks you'd like to
19 make? Anything?

20 SENATOR RITCHIE: I'm all set.

21 SENATOR TEDISCO: Sure.

22 Well, first of all, let me thank you,
23 Senator May and Assemblyman Santabarbara and all my
24 colleagues who represent districts that are rural,
25 and appreciate the significance of this Commission,

1 and the hearing today, and the work you guys are
2 doing.

3 And, Director O'Hara, I thank you for the
4 work you're doing with your office, and for taking
5 the time to be here with us and give us some
6 testimony.

7 I represent the 49th Senatorial District.
8 It's about 4,000 square miles. And the storm was
9 pretty devastating in a large part of that.

10 Part of it did dodge a bullet, but, areas
11 like Saratoga, especially Hamilton and Herkimer
12 counties, got hit by the bullet, and some serious
13 things happened there, but they've happened in the
14 past. And they seem to happen over and over again.

15 Maybe this was the most serious type of
16 flooding and activity that took place in those
17 areas.

18 And I guess what we're saying here, is we
19 want to mitigate the flooding to begin with, in
20 every way possible and any way we can. But we also
21 want to be especially prepared for the floods, and
22 see what we can do after, to bring them back to
23 wholesomeness.

24 And I can't thank the workers in all those
25 counties, in the towns and villages, who worked

1 together to make that -- those communities whole
2 that I represent after this devastation.

3 It was a fantastic thing to see.

4 But we can't continue to count on their
5 efforts because it's only going to get worse if we
6 don't make it better in many ways.

7 This also highlighted another concern I have,
8 and I think many of us have in some of our rural
9 areas, and that is the fact --

10 And maybe you can help us promote some of
11 this.

12 -- is to have a real web infrastructure and a
13 real broadband infrastructure into those areas.

14 We were promised that would be a statewide
15 thing.

16 And I have parts of my district that not only
17 don't have broadband or web infrastructure, they
18 don't have cell phone usage.

19 I get into the middle, in the Adirondacks, of
20 Hamilton County and I have no contact with anybody.

21 And I say this tongue in cheek sometimes, but
22 my constituents in many areas, although it's a
23 serious thing, I suggest that sometimes we think
24 they need homing pigeons or smoke signals in an
25 emergency.

1 And these are emergencies, and we have to
2 know where they are and what's happening in these
3 flooded areas, just like we have to know if a
4 burglary takes place, or if there's a fire, or if
5 there's an accident.

6 And so anything you can do to promote that
7 into our rural districts, and make sure we're
8 covered, we get the coverage, I think that's
9 extremely important.

10 I thank you for the opportunity to be here,
11 and I look forward to listening to your
12 presentation.

13 ASSEMBLYMAN SANTABARBARA: And
14 Assemblymember Smullen will give opening remarks.

15 ASSEMBLYMAN SMULLEN: Thank you,
16 Chairman May, as well Assemblyman Santabarbara, all
17 my colleagues here.

18 I'm Robert Smullen. I represent the
19 118th Assembly District, which is Fulton,
20 Hamilton, the upper part of Herkimer County,
21 nine towns in St. Lawrence, and six towns in
22 Oneida County.

23 Prior to that, I was the executive director
24 of the Hudson River-Black River Regulating District,
25 a New York State public-benefit corporation, which

1 helps manage and regulate the flow of rivers and two
2 watersheds in Upstate New York.

3 And being new to office, but also being not
4 new to emergencies, I want to, first of all, commend
5 all of the -- our state partners who responded to
6 the emergency.

7 The reason I say that is, is that everyone
8 came out.

9 Whether it was the Division of Homeland
10 Security and Emergency Services, the Department of
11 Environmental Conservation, the National Guard, they
12 brought equipment, they brought manpower. They
13 mobilized a lot of the civil-society organizations
14 that the went out and really took care of the people
15 of the district that I represent.

16 They were hard-hit by these two rain bombs,
17 one that hit Hamilton County and one that hit
18 Herkimer County, and caused a lot of flooding and a
19 lot of damage.

20 Now, regarding that damage, one of the
21 lessons that we've learned from this, and I want to
22 address in public so everyone knows, is that we
23 think that preventive stream restoration can be a
24 way to mitigate the problems up front.

25 An ounce of prevention is worth a pound of

1 cure.

2 The old-timers tell you: We used to go out
3 there and we used to clean these creeks and these
4 waterways and these culverts up, and it would reduce
5 the amount of damage that could potentially happen.

6 I've been dialoguing with three separate
7 organizations at the county level: The
8 department -- the Emergency Services Department, the
9 soil and water conservation districts, as well as
10 the county legislators.

11 And we are in a process of initiating a
12 process of stream restoration, which I think the
13 idea is very sound.

14 And we'd appreciate the support of the
15 Commission, but also our state partners, to be able
16 to actualize that, which is, to go in ahead of time,
17 to be able to try to get ahead of these storms, is
18 what we're thinking.

19 But I'm very much looking forward to this
20 conversation, this hearing.

21 The people of the 118th Assembly District
22 were hit very hard, and they're somewhat
23 disappointed that FEMA is not returning federal
24 resources to the community.

25 So that's something that, at the state level,

1 we need to make sure that we double-down on, in
2 making sure that our State goes back to the federal
3 government and makes sure that our citizens are
4 taken care of.

5 Thank you very much, and I appreciate the
6 opportunity to hear your testimony today.

7 SENATOR MAY: Thank you.

8 And just before we get started, I want to
9 acknowledge the staff of the Commission on Rural
10 Resources: Director Hal McCabe and Lucy Shepherd,
11 who have done amazing work to make this happen, but
12 also, in general, to -- to be the eyes and ears
13 about issues of -- that face our rural communities
14 all over the state.

15 So with that, I invite Commissioner O'Hara to
16 begin.

17 DAN O'HARA: Thank you.

18 Good morning, Chairwoman May and
19 distinguished members of the Commission.

20 I'm Dan O'Hara, director of the New York
21 Office of Emergency Management within the Division
22 of Homeland Security and Emergency Services.

23 I appreciate the opportunity to appear before
24 you here today to discuss the tremendous work of our
25 team, as well as how that works, specifically

1 relates to the number-one natural threat facing
2 New York: Flooding.

3 I am sure most, if not everyone, in this room
4 has seen and understands the widespread damage that
5 flooding can cause.

6 From the destruction of property and
7 infrastructure, to the disruption of water, sewer,
8 and telecom services, floodwaters can devastate an
9 entire community in only a few hours.

10 Complicating matters further, not only is
11 New York vulnerable to different forms of flooding
12 given our geography, but approximately 90 percent of
13 the state's population lives in a waterfront
14 community, whether that be near a lake, river,
15 ocean, or otherwise.

16 While these basic realities have made it
17 important that all levels of government work to
18 strengthen their shorelines and infrastructure, as
19 we are seeing under the leadership of Governor Cuomo
20 in the REDI Commission, it is also critical that
21 communities, first responders, and all New Yorkers
22 are prepared and know how to recover.

23 That's where we come in.

24 Throughout the year, state and local
25 emergency management officials are regularly in

1 contact, in working to plan for the next natural
2 disaster; however, planning only goes so far when
3 you are dealing with an unpredictable situation.

4 Whether it is daily update calls with
5 officials, on-the-ground visits by state agency
6 leaders to oversee response operations, or
7 otherwise, New York has made a concerted effort to
8 ensure open lines of communication with our partners
9 before, during, and following a disaster.

10 Through these efforts, state and local
11 partners can work together to identify new and
12 existing flood-prone areas, improve the efficiency
13 of asset delivery and deployment, and ensure a rapid
14 response to unforeseen problems.

15 We must also ensure our first responders are
16 properly trained for flood response.

17 Thanks to your support in previous budgets,
18 the state's preparedness and training center is now
19 home to a world-class swift-water rescue training
20 facility, which provides specialized training
21 opportunities which are difficult to find anywhere
22 else for first responders.

23 Since the facility's inception, more than
24 1100 state and local first responders have been
25 trained.

1 And training isn't just for first responders,
2 either.

3 It's just as important that the public know
4 what to do because, after all, emergencies don't
5 wait for help to arrive.

6 Under the leadership of Governor Cuomo, the
7 division partnered with the National Guard and the
8 Red Cross to establish the Citizens Preparedness
9 Corps in 2014.

10 This program trains New Yorkers in an
11 all-hazards approach to prepare for and respond to
12 emergency situations.

13 Since the program's inception, nearly
14 334,000 New Yorkers have received this training,
15 with more than 56,000 in 2019 alone.

16 I'd like to thank you for the opportunity to
17 appear today, and I will be happy to answer any
18 questions that you may have.

19 Thank you.

20 SENATOR MAY: Thank you, and thank you for
21 your brevity.

22 (Off-the-record discussion.)

23 (Back on the record.)

24 SENATOR MAY: Thank you for your brevity.

25 This is a Tuesday, it's our busiest day at

1 the Capitol. And I know many of us will have to get
2 up and leave for committee meetings every now and
3 then, and that kind of thing; so I appreciate your
4 comments.

5 So I have a few questions.

6 You mentioned coordinating across agencies,
7 or working together.

8 Can you be a little more specific how -- what
9 kinds of lines of communication are there between
10 different agencies when it comes to flooding?

11 DAN O'HARA: Well, there's a couple of
12 approaches, Senator, that we do.

13 When we talk about "state agencies," we have
14 a multiagency coordination call on a regular basis
15 with various key state agencies that are part of the
16 DPC (the Disaster Preparedness Commission); those
17 key agencies that have the right resources and
18 assets to respond to an event.

19 So, for example, we have a potential
20 snowstorm that may hit some of the lake-affected
21 areas up in the western and northern part of the
22 state.

23 So we will do -- today and tomorrow, we will
24 have coordinating calls with those key state
25 agencies, understanding where their assets are, what

1 additional assets they will bring into theater to
2 that impacted area, in the event they need some
3 additional resources.

4 What we also do for the counties, is we
5 connect with the county emergency managers; we talk
6 with them, check in.

7 We have regional directors and regional
8 coordinators out there across the 56 counties in the
9 state of New York, in different regions. And we
10 will talk and communicate with them, to determine
11 what their needs may be.

12 And then we will put our stockpiles on
13 notice, and we will make sure that we have the
14 availability for the right resources should they be
15 needed.

16 SENATOR MAY: Thank you.

17 So that may have answered my second question,
18 because you mentioned that you do planning before,
19 during, and after.

20 When you talk about "before," you mean, when
21 there is a weather prediction of some kind where you
22 can anticipate storm, or do you actually do some
23 kind of gaming out of possible problems way in
24 advance, where you think, this is an area that could
25 get hit, we're going to try to figure out what

1 the --

2 DAN O'HARA: Well, there's four phases in the
3 life cycle of emergency management: You have the
4 preparedness, you have the response, you have the
5 recovery, and the resilience.

6 I like to add a little extra piece to that,
7 and that's called the "awareness end."

8 So our job at the Office of Emergency
9 Management is to make sure that we're tracking --
10 through our watch center and our operations center,
11 that we're tracking weather -- current weather
12 conditions. And we track them, generally, on a week
13 out; we look to see what may be actionable.

14 We'll address those with a particular plan as
15 that storm or potential threat develops.

16 In regards to long range, using Lake Ontario:
17 We're all familiar with 2017.

18 We were lucky in 2018.

19 We had a bad 2019.

20 We're preparing for 2020.

21 We prepared; we were active 125 days.

22 That's, almost, 33, 34 percent of the year we
23 were active in our emergency operations center
24 because of Lake Ontario.

25 As soon as the activation was over, we began

1 planning for 2020, because we can't predict what the
2 lake is going to do.

3 We have -- we can track, you know, various
4 metrics.

5 We can't fully predict what it will do, but
6 we have to be prepared.

7 We've already been in communication with the
8 eight county emergency managers.

9 The REDI leadership has already been out
10 there, talking to the impacted areas that will be
11 receiving grant awards.

12 We're already making sand bags.

13 We're already pre-deploying at strategic
14 locations.

15 Pumps out into the theater, in anticipation
16 if we don't see a change in the lake levels.

17 So we do forecast things further out, and we
18 take the right preparations in anticipation of what
19 we may see.

20 It's easy to bring things back.

21 It's more difficult to get them out there
22 during the event.

23 SENATOR MAY: Right.

24 Just to change gears just a little, I have a
25 question about floodplain mapping.

1 Do you feel like there's adequate mapping of
2 where the potential flood threats are?

3 DAN O'HARA: In our office, you know, we work
4 well with other state agencies when we look at flood
5 mapping.

6 We have a geographical information system,
7 and we've got good, pretty solid, data of what we've
8 seen out there.

9 You know, one of the things that we
10 continuously work on is the integration, you know,
11 of other data across the state of New York, when
12 local municipalities may make planning and zoning
13 changes, and what impacts that may have on some of
14 the watersheds in those particular areas.

15 So it's a constant evolution of
16 communicating, particularly with the locals, the
17 local county emergency management offices, and
18 making sure that they know what's going down at the
19 lower municipalities, you know, at the villages, the
20 hamlets, and the towns, and any changes that they
21 make, that could have an impact, again, on those
22 river and streams and those watersheds, that
23 ultimately have an effect when volume and velocity.

24 We have, ultimately, more pervious area
25 across the state. Water's got to go somewhere.

1 So it's important that we have that data.

2 SENATOR MAY: And then you mentioned the
3 grants.

4 I know \$30 million were allocated for
5 small-business -- or, business owners, and
6 25 million for -- for homeowners related to the
7 Lake Ontario flooding last year.

8 Are you involved in allocating those?

9 Because I'm getting questions about when
10 those are going to appear.

11 DAN O'HARA: The Office of Emergency
12 Management, our primary responsibility in those four
13 cycles is, really, the preparedness and the response
14 end.

15 SENATOR MAY: Okay.

16 DAN O'HARA: You know, we have -- within the
17 division, we have a section that gets involved in a
18 lot of the recovery and the resiliency end of it.

19 SENATOR MAY: Okay. Thank you.

20 That's all I have.

21 Do you want to take it away?

22 ASSEMBLYMAN SANTABARBARA: Great. Thank you.

23 Thank you, Commissioner; thank you for your
24 testimony.

25 First of all, thanks for-- I want to thank

1 you for the great job on the citizens' preparedness
2 training that's throughout our state.

3 I've held a lot of those events in my
4 district, and people really learn a lot from what
5 the -- the information that's provided, and come up
6 with things they can do on their own while they're
7 waiting for help.

8 So thank you for that.

9 I just wanted to -- I guess on the question,
10 Senator May mentioned, the mapping.

11 So are there -- there -- there is efforts
12 underway to rework the flood mapping, the flood
13 zones?

14 Is that -- I know that was started at some
15 point.

16 And back when I was in civil engineering
17 years ago, I think that was -- that process was done
18 off of crude mapping. And now it's more defined.

19 Is that process still going on?

20 DAN O'HARA: It's my understanding that the
21 state agencies responsible for that, continuously
22 looking at updating those maps. And then they
23 filter it through -- in through the geographical
24 information system into our office so we have those
25 updates.

1 ASSEMBLYMAN SANTABARBARA: And are those
2 flood zones being redefined, as far as where we
3 expect flooding to occur, with the -- with regard to
4 the storm events, the 100- to 500-year storm events?

5 These events are being redefined because
6 they're happening more frequently; right?

7 DAN O'HARA: Right, I can't speak to that.

8 ASSEMBLYMAN SANTABARBARA: Okay.

9 DAN O'HARA: I think that you'll have to --
10 when -- when the other state agencies talk a little
11 bit, with DEC and others, that have more input into
12 that.

13 We're recipient of that data. That helps us
14 in our [indiscernible cross-talking] --

15 ASSEMBLYMAN SANTABARBARA: And that was my
16 question.

17 DAN O'HARA: -- yeah, that -- once we get
18 data, that helps us in our preparedness posture.

19 ASSEMBLYMAN SANTABARBARA: Okay.

20 DAN O'HARA: If we anticipate there's going
21 to be a storm coming, that 100-year inundation, the
22 500-year flooding, that gives us a flavor to overlay
23 what infrastructure is in that potential impacted
24 area.

25 ASSEMBLYMAN SANTABARBARA: So that

1 information does get to your office --

2 DAN O'HARA: Yes.

3 ASSEMBLYMAN SANTABARBARA: -- as it's
4 updated?

5 DAN O'HARA: Yes.

6 ASSEMBLYMAN SANTABARBARA: So the use of
7 stream gauges also, that information, that data,
8 comes to --

9 DAN O'HARA: Yes.

10 ASSEMBLYMAN SANTABARBARA: -- okay.

11 So is that what triggers the response, or is
12 it the weather forecast, and --

13 DAN O'HARA: That can trigger a response.

14 ASSEMBLYMAN SANTABARBARA: -- okay.

15 DAN O'HARA: You know, I believe you
16 mentioned, and I apologize if I get it wrong, but,
17 you know, the -- when we talk about, we have rivers
18 that we're looking at ice jams. We've identified
19 64 locations.

20 And we're very proactive, based on a lot of
21 history and based on a lot of experience.

22 You know, when we have events, we always do
23 an after-action review, and we learn. We want to
24 try to get better at everything that we do and the
25 services that we deliver.

1 And we active -- we have a working group that
2 we kick off early -- early fall. And we monitor,
3 63, 64 locations across the system, using the river
4 gauges, using visual.

5 We have data, a collector wrap, that we feed
6 the information back in, and we can track.

7 And we work with a lot of the locals because
8 they have the intimate knowledge of where some of
9 these risks are.

10 We have strategically located long-arm-reach
11 excavators along some of those higher potential
12 areas.

13 We've done a radius around those particular
14 streambeds, that, if we see an ice jam start to
15 collect, we can strategically partner with DOT, OGS,
16 or another state agency, to move that equipment to
17 the potentially-impacted area, so if we have to
18 break it up before it creates a problem, we're out
19 there doing that.

20 ASSEMBLYMAN SANTABARBARA: And you mentioned
21 a coordination with agencies.

22 The Canal Corporation also is --

23 DAN O'HARA: Yes.

24 ASSEMBLYMAN SANTABARBARA: -- in contact?

25 So that is all coordinated on how

1 [indiscernible cross-talking] --

2 DAN O'HARA: Yes, they're -- they're part of
3 our -- when we do the multiagency coordination
4 calls, they're part of that discussion.

5 ASSEMBLYMAN SANTABARBARA: Stream gauges, we
6 just mentioned.

7 But, are there other measures that could be
8 an early-warning system, that maybe we haven't
9 looked at yet, that could be installed, or be a part
10 of our warning, our preventive measures, down the
11 road, are there things that we're looking at?

12 DAN O'HARA: There may be.

13 We certainly can take a look at that --

14 ASSEMBLYMAN SANTABARBARA: Okay.

15 DAN O'HARA: -- to see if there's some other
16 options.

17 ASSEMBLYMAN SANTABARBARA: But nothing
18 identified now?

19 I know, with ice --

20 DAN O'HARA: Not that I'm -- not that I'm
21 aware of in our office.

22 ASSEMBLYMAN SANTABARBARA: -- with ice jams,
23 I think they're -- in Buffalo there was a --
24 mitigation measures installed, with piers into the
25 river.

1 Is that -- are you -- have you been
2 monitoring --

3 DAN O'HARA: (Shakes head.)

4 ASSEMBLYMAN SANTABARBARA: -- no?

5 DAN O'HARA: I'm not familiar with that.

6 ASSEMBLYMAN SANTABARBARA: Okay, because
7 I thought that might be a solution for some of our
8 areas in our district.

9 Okay.

10 And I think the -- I guess the last question
11 is, as far as budget, you know, the budget is coming
12 up, are there things we should be looking at to
13 support your efforts?

14 DAN O'HARA: You know, one of the things
15 that -- in the budget that I know has been proposed,
16 we've identified a couple of gaps, you know, for
17 equipment across the system.

18 And I would appreciate your support, you
19 know, to fill those, where we've identified the
20 equipment gaps, support for that.

21 ASSEMBLYMAN SANTABARBARA: Okay. Great
22 [indiscernible].

23 That's all I have, Senator May.

24 Thank you, Commissioner.

25 DAN O'HARA: You're welcome.

1 SENATOR MAY: Great. Thank you.

2 Senator Helming has a question.

3 SENATOR HELMING: Thank you, Senator May.

4 Dan, it's great to see you again in dry
5 conditions.

6 DAN O'HARA: Yes.

7 SENATOR HELMING: I want to thank you and
8 your team. You have just been incredible, in terms
9 of dealing with the flooding along the southern
10 shore of Lake Ontario, but, also, the microburst
11 experiences we've had in Seneca County, we've had
12 some in Ontario County.

13 I think we'll hear more about those later.

14 I just wanted to touch a couple of things.

15 Real quick: The REDI Commission, that formed
16 and focused primarily on Lake Ontario and the
17 St. Lawrence River flooding?

18 DAN O'HARA: Yes.

19 SENATOR HELMING: Okay.

20 So is -- then, in terms of microburst
21 planning, and assisting communities with resiliency
22 planning and preventative practices, what -- can you
23 talk about what's being done in that area?

24 DAN O'HARA: Well, Senator, from a
25 preparedness standpoint, one of the things that is

1 very important within the Office of Emergency
2 Management, we have a training and exercise section,
3 and we also have a planning section.

4 And we have hired additional individuals, and
5 put them out in the respective regions, planners and
6 trainers, to assist, because, back -- back several
7 years ago, Governor Cuomo had asked us to put
8 together a program. It was a community assessment,
9 CEPA (the community assessment preparedness
10 assessment).

11 And what we did in the state of New York, as
12 you're familiar, there's 62 counties.

13 If you break those counties -- the
14 five boroughs of New York, you break those out, that
15 you've got the 57.

16 We actually have done assessments in
17 partnership with those counties, and recognized
18 where their strengths are, and where there's
19 opportunities for improvement.

20 And as a result of those opportunities for
21 improvement, we recognize that, planning, continuity
22 of operations, there's critical components and
23 elements that counties just sometimes aren't
24 positioned, given the structure that their emergency
25 management office has set up.

1 So we've been working with them, and as part
2 of that process, it's the preparedness end; it's
3 identifying where their vulnerabilities are, what
4 resources they need ahead of time, to pre-position.

5 And then, in partnership with us, as I -- as
6 I mentioned earlier at the onset of my presentation,
7 you know, when we forecast out, we now know where
8 those gaps are.

9 A few years ago, the approval of the budget
10 authorized additional plow equipment, for example,
11 that we strategically put down on Long Island.

12 We recognize Long Island has a little more
13 challenge with removing snow versus people up in
14 Buffalo.

15 You look at where the equipment --

16 SENATOR HELMING: Dan, I only get
17 five minutes, so I want to keep going. I appreciate
18 it.

19 But -- so when -- I think the planning and
20 the training that your office offers is absolutely
21 fantastic.

22 My concern -- and I think you're very
23 familiar with my district: The six counties, very
24 rural. More miles of canal than any other area.
25 Four of the Finger Lakes. Hundreds and hundreds of

1 Lake Ontario shoreline.

2 My concern, what I've seen, and I think
3 you've probably seen it as well, is that some of our
4 first responders, most of them are volunteer fire
5 departments.

6 I don't believe that they are properly
7 equipped to handle some of the flooding that comes
8 up.

9 I think they need to have more equipment
10 available in the community; not rely so heavily on
11 the State to disburse or figure out where things are
12 going to go.

13 In 20-- last year, over \$500,000 was cut to
14 local volunteer fire departments in my district
15 alone, cut from the budget. They got nothing.

16 So, as part of your risk assessment, when
17 you're in communities, are you assessing what tools
18 they have or don't have, what they do need?

19 And are you helping them secure funding for
20 those needs?

21 And, also, I'm going to take that a step
22 further.

23 Senator Tedisco mentioned the need for
24 broadband services and cellular services.

25 I think we both saw, for instance, in

1 Seneca County, what happens when you have people who
2 are trapped.

3 Trapped, and you don't have cellular service
4 available, it's a very scary situation.

5 And it's been two years now.

6 What are we doing?

7 How are we helping those communities, again,
8 secure the resources that they need?

9 DAN O'HARA: Sure.

10 I can't speak to your budget, the budget
11 cuts.

12 But what I can say is, one of the sections
13 within the Division of Homeland Security and
14 Emergency Services is the Office of Interoperable
15 Emergency Communications.

16 If communications is a gap, we will work with
17 those local communities and help assist what funding
18 options may be, or grant opportunities that may be,
19 available. And we've worked with them in the past.

20 SENATOR MAY: Okay, Assembly.

21 ASSEMBLYMAN SANTABARBARA: I want to just
22 acknowledge Assemblymember Buttenschon is here.

23 And Assemblymember Walczyk will ask the
24 question.

25 ASSEMBLYMAN WALCZYK: Thank you, Co-Chairs.

1 And thank you, Director O'Hara, for your time
2 today.

3 You and your department has done a phenomenal
4 job, I think, in some of the response.

5 I represent northern Jefferson and
6 St. Lawrence counties; everything in America that
7 touches the St. Lawrence River.

8 And I know you've seen firsthand the
9 devastation that the high water has done.

10 You're probably looking at the numbers day by
11 day, as I am and my constituents are. And we're
12 looking at another season of flooding.

13 You talked quite a bit about pre-positioning
14 of equipment, which I'm very encouraged by. And it
15 sounds like your AARs have been successful. And
16 there's a lot of lessons learned.

17 I recently learned that, with FEMA, you can
18 request pre-position to trailers.

19 I'm wondering if you can tell us a little bit
20 about what are our workability is with the federal
21 government right now, and what the trigger points
22 for making those requests are?

23 And then, also, whether there's something the
24 Rural Resources Commission, or the Legislature at
25 large, can do to advocate for additional

1 pre-positioned resources for those huge flooding
2 events that we know are going to be a logistical
3 nightmare?

4 DAN O'HARA: I think the most important
5 thing, the best way I can address, sir, your
6 question, is we work hand in hand with the county
7 emergency managers.

8 We also will communicate with the other
9 municipal officials.

10 We have, the Governor's regional reps are out
11 there communicating.

12 We also have a legislative rep within the
13 Division of Homeland Security and Emergency
14 Services.

15 So the first is, really, to understand, you
16 know, what -- what the local municipality is looking
17 for.

18 We have an incident-management system called
19 New York Responds, which is the database that we
20 collect all the requests that come in.

21 Based on those requests, and we've already,
22 to date, I believe we've got 15 requests already in
23 from various counties along Lake Ontario, asking for
24 pre-positioning of those resources.

25 So we're in preparation right now of doing

1 that.

2 We've already stood up two sandbag operation.
3 We're making sandbags. We already have a stockpile
4 of 56,000-some-odd filled sandbags already that
5 we're going to start.

6 One of the things that we learned last year,
7 was many of these municipalities, during the summer
8 months, their departments of public work don't work
9 on Fridays and Saturdays.

10 So we've gotten smarter in working with them,
11 as part of our planning process, is to set up a
12 methodical system, where we'll start dropping in
13 resources on every Monday or every Tuesday or every
14 Wednesday so they have the supply.

15 With respect to FEMA, you know, we have a
16 partnership with them.

17 If the State, if we get into a catastrophic
18 event, and that we need those additional resources,
19 we will reach to them.

20 ASSEMBLYMAN WALCZYK: A quick follow-up on
21 sandbags, because I think this is important as we
22 talk about hardening the shoreline and the work that
23 we're doing.

24 You know, the Governor has made it very
25 clear, he doesn't want to dump good money after bad.

1 And I see sandbags as that temporary fix.

2 And we're looking at it -- on Lake Ontario,
3 we're looking at a seasonal, perhaps longer-term
4 issue, with high water and flooding.

5 Are there other resources, aside from
6 sandbags and AquaDams, that we can invest in as a
7 state; boulders, riprap, that sort of thing?

8 What's your interface with the
9 REDI Commission and the DEC, talking about some
10 of those things, that harden our shoreline, but
11 that can also be pre-positioned, sort of, for
12 emergency situations?

13 DAN O'HARA: When the REDI Commission, the
14 leadership was out there, you know, a month ago,
15 visiting with a lot of the recipients who received
16 the grants, that was part of the discussion.

17 I was out on the western side of the state.
18 I sent a representative on the eastern side.

19 And when I was there, part of the discussion
20 is exactly that; is part of some of this resiliency
21 effort, they're going to be putting in different
22 types of riprap, different types of boulders.

23 There is a lot of engineering terminology
24 that I'm just not familiar with.

25 But the technology is there, the rocks, the

1 right material is there. To prevent, further
2 dredging will help.

3 You know, if you look at Lake Ontario, it's
4 like an ocean.

5 And if you understand the science behind it,
6 and depending on wind action, creating the wave, the
7 fetch, if there's any obstructions as it travels
8 across the lake, that's what creates some of the
9 waves.

10 If you can put the dredging out off the
11 shoreline, the waves will break under the water body
12 to minimize the impact of wave action.

13 So there's -- a lot of that is being done as
14 part of the scoping and design of these REDI
15 projects currently.

16 ASSEMBLYMAN WALCZYK: Thank you.

17 DAN O'HARA: You're welcome.

18 SENATOR MAY: Thank you.

19 Senator Ritchie.

20 SENATOR RITCHIE: Good morning.

21 DAN O'HARA: Morning, Senator.

22 SENATOR RITCHIE: I'd just like to start off
23 by adding my voice to everyone else who has thanked
24 you for such wonderful, I think, attention that your
25 agency has given to those of us that were dealing

1 with the flooding.

2 I represent 150 miles of shoreline,
3 St. Lawrence River and Lake Ontario, in St. Lawrence
4 County, Jefferson, and Oswego.

5 It has been very trying and very
6 heartbreaking for the people that I represent.

7 In '17, I think all of us believed it was
8 going to be a -- just a short-term event, which did
9 not happen.

10 And in '19, I think we were all better
11 prepared, but I think we still learned a few
12 lessons.

13 I know that I recently have gotten a request
14 from one of my county board of legislators, asking
15 if we could make sure that sandbag and other --
16 sandbags and other resources could be made available
17 earlier.

18 I know you just said that you're deploying
19 some of that now.

20 And sometimes there's a little bit of a
21 disconnect. You know, a lot of the communities that
22 I represent are small. They don't really have maybe
23 the resources or the people to deploy the sandbags
24 and some of the other alternatives.

25 So, do you deal directly with just the

1 emergency management site at the county?

2 And would they already have a list of you
3 know, tentative plans on what you're going to
4 deploy?

5 Since they're asking me to see if I can
6 intercede to get resources out earlier, since it
7 looks like we're going to have another bad year.

8 DAN O'HARA: Senator, what I would say is,
9 we're not going to let bureaucracy get in the way of
10 progress.

11 And the normal protocol would be for the
12 municipal jurisdictions, the lesser municipality --
13 the villages, the hamlets, the towns -- to work
14 through their county emergency management.

15 But our objective is to make sure, from the
16 State's perspective, that everybody is prepared.

17 So, through communications, we will deal with
18 the county, we will deal with other municipal
19 officials, to ensure they get the right resources.

20 The Governor's regional reps are out there
21 communicating -- excuse me -- on a regular basis
22 with the local electeds, to ensure our governor --
23 or, the legislative rep that works within the
24 division is communicating with the Legislature,
25 talking to your staff.

1 If there's anything or any concerns that
2 you're hearing, please let us know, because it's a
3 partnership.

4 I was mayor of a small municipality,
5 Baldwinsville, New York. And we've had our
6 challenges with flooding, and I know how devastating
7 it can be, and it's not pretty.

8 So anything we can do to help people, we want
9 to do.

10 The Governor has made emergency management a
11 top priority.

12 And I can assure you that it's been made
13 clear to me that that is a priority, and we need to
14 make sure the resources are getting out there.

15 SENATOR RITCHIE: Well, I think for some of
16 these small communities, they're just overwhelmed,
17 because the damage is extreme, and they only have so
18 many resources in such a small budget to deal with
19 any of it.

20 One of the issues that we did run up against
21 last year was the AquaDams. There were not enough
22 available for long stretches.

23 So, just wondering, will there be more
24 AquaDams available this time around?

25 DAN O'HARA: We're in the process of

1 purchasing more AquaDam, yes.

2 And one of the lessons that we learned,
3 again, we always do these after-actions, is we've
4 got to find out, and we're working through a
5 process, to better facilitate, you know, getting,
6 particularly, if it creates adjoining properties,
7 where have you've got to get the buy-in, you know,
8 what's the public interest? and working through some
9 of those formalities.

10 But, at the end, yes, we are buying more
11 AquaDam.

12 ASSEMBLYMAN WALCZYK: Okay. Thank you very
13 much.

14 DAN O'HARA: You're welcome.

15 SENATOR MAY: Thanks.

16 The Assembly.

17 ASSEMBLYMAN SANTABARBARA: Assemblywoman
18 Buttenschon.

19 ASSEMBLYWOMAN BUTTENSCHON: Thank you very
20 much.

21 Director O'Hara, my colleagues had stated you
22 were very helpful.

23 I represent the Utica-Rome area, including
24 Frankfort and Whitestown, that was devastated at the
25 Halloween floods of 2019.

1 And you and your team created many updates
2 for us very quickly, so I sincerely appreciate that.

3 We are still faced with the challenges, not
4 only from that flooding, but many of those
5 individuals, that was their sixth time being flooded
6 within that area.

7 So it is a constant issue that needs to be
8 addressed.

9 In your testimony you talk about 64 areas
10 across the state that are identified as areas of
11 concerns or hotspots.

12 Would this -- the Mohawk Valley be one of
13 those?

14 DAN O'HARA: Yes. There's several places
15 along the Mohawk that we check on a regular basis.

16 Sauquoit Creek, there's other areas down in
17 that -- in your jurisdiction that are on the system.

18 ASSEMBLYWOMAN BUTTENSCHON: Okay.

19 And could you tell me specifics of what type
20 of preparedness, training, or steps are being taken
21 within the Mohawk Valley at this time, and,
22 currently, as so many of my colleagues stated, that
23 this will continue?

24 DAN O'HARA: You know, one of the things
25 we're -- you know, as I mentioned, at our state

1 preparedness training center, I talked about the
2 swift water rescue facility that we have out there.

3 We're training a lot more first responders.

4 And we utilized that in the Halloween storm,
5 and we pre-positioned swift water rescue teams
6 strategically across what those potential impacted
7 areas were, or are, to make sure that, if we needed
8 to deploy them, we would.

9 And, again, some of that is, is getting the
10 local emergency first responders to the state
11 preparedness training center, getting them the right
12 training that they need, and, again, working through
13 any of the challenges that they may have.

14 We also identify, we strategically located,
15 down near the Sauquoit Creek, for example, a
16 long-reach-arm excavator.

17 It's -- we've got the ability, that should
18 something accumulate along the CSX bridge area,
19 we've got the capacity and the capability to start
20 removing some of that debris to keep the water
21 flowing.

22 So those are the types of preparedness
23 efforts that we're making.

24 ASSEMBLYWOMAN BUTTENSCHON: And that long-arm
25 is there now? Or you say it's --

1 DAN O'HARA: I'd have to -- it's somewhere in
2 that general vicinity.

3 ASSEMBLYWOMAN BUTTENSCHON: Okay.

4 DAN O'HARA: Somewhere in that general
5 vicinity.

6 ASSEMBLYWOMAN BUTTENSCHON: And that is a
7 follow-up question in regards to, I know my
8 Colleague Santabarbara talked about equipment, and
9 your needs of equipment.

10 And how quickly can those be moved?

11 And, strategically, where they're located?

12 And maybe a little bit more specific of what
13 your equipment needs are?

14 DAN O'HARA: As part of our plan, what we do
15 is, we ensure -- it's great to have a piece of
16 equipment. But if we don't have an operator, or, if
17 you have to move it, you don't have the right truck
18 to move it, that becomes a challenge.

19 So that's always part of our design.

20 Within an hour, we can get somebody to that
21 particular location.

22 We've a great partnership with the Department
23 of Transportation, great partnership with the
24 Canal Corporation. They've got residencies in those
25 jurisdictions, that we can call upon them and

1 they'll dispatch accordingly.

2 ASSEMBLYWOMAN BUTTENSCHON: And more
3 specifically, though, to those equipment ask,
4 because, obviously, if flooding's happening in the
5 Mohawk Valley, it could be happening across other
6 areas at the same time.

7 So your equipment needs are...?

8 DAN O'HARA: One of the -- one of the -- if
9 you look at this year's budget, we put in again, we
10 identified, I'll use 6-inch pumps --

11 ASSEMBLYWOMAN BUTTENSCHON: Okay.

12 DAN O'HARA: -- as an example.

13 That's a gap that we've recognized across,
14 particularly for the Lake Ontario flooding. We had
15 to rent quite a few 6-inch pumps to support the
16 local communities.

17 To ensure their critical infrastructure,
18 their sanitary sewer pump stations, or their water
19 pump stations weren't getting flooding, we had to
20 get more 6-inch pumps.

21 That's a -- some certain trailers, to move,
22 and have the flexibility to move, equipment out of
23 the stockpiles quicker.

24 That's a -- that was a gap that we
25 identified.

1 I'm going to call it "a Bobcat," but there's
2 a more technical term to it, when you start putting
3 AquaDam out along the shoreline, where the terrain
4 is a little different. You know, you may be in
5 sand; you may be some marsh, swamp area. You've got
6 to have the right tracks to your -- to make sure
7 that you can strategically move the equipment that
8 you need to put out to prevent, you know, that flood
9 mitigation barrier, to put it out quickly.

10 ASSEMBLYWOMAN BUTTENSCHON: And you utilize
11 private vendors also if you don't have enough
12 equipment?

13 DAN O'HARA: We follow the State finance
14 rules of engagement. And we'll use private if
15 that's what we have to do, yes.

16 ASSEMBLYWOMAN BUTTENSCHON: And how does that
17 work?

18 Do you feel that the process of getting the
19 equipment you need is substantial?

20 DAN O'HARA: Yes, yes.

21 ASSEMBLYWOMAN BUTTENSCHON: Okay.

22 Thank you very much.

23 DAN O'HARA: You're welcome.

24 SENATOR MAY: Senator Helming had one more
25 question, I think, to ask you.

1 SENATOR HELMING: Thank you.

2 Dan, when we talk about resiliency planning,
3 mitigation measures, and we think about
4 Lake Ontario, I mean, the best thing we could do is
5 release more water.

6 We know right now that the water levels are
7 high. Looks like we are going to flood again.

8 You said we're preparing, but, do you have
9 any idea?

10 I think it was a month or so ago, I sent a
11 letter to the Governor, I reached out to a number of
12 agencies, and strongly suggested that the Governor
13 work to delay the start of the shipping season so
14 that we can continue to release water.

15 Do you have any idea where we are on that?

16 DAN O'HARA: I can't -- I can't speak
17 specifically to it. What I can give you is a
18 general understanding that I have.

19 I know there has been discussion with
20 representatives that are on the IJC, that have made
21 that pitch to delay the shipping season. And I know
22 that dialogue is ongoing right now.

23 What I do know is, they've increased the
24 outflow of Lake Ontario, and that's good.

25 SENATOR HELMING: I have been monitoring the

1 outflows, and it seems like it fluctuates.

2 You know, in one day they may say they
3 increased it, and then they bring it right back down
4 again.

5 So I am very concerned, as are you, I know --

6 DAN O'HARA: Yes.

7 SENATOR HELMING: -- about the potential for
8 flooding this year.

9 Thank you.

10 SENATOR MAY: All right.

11 Well, thank you so much for your testimony,
12 and for your very good work on behalf of
13 New York State, and hope to see you back.

14 You're not quite in my district in
15 Baldwinsville, but pretty close.

16 DAN O'HARA: Well, thank you for having me;
17 I appreciate it.

18 SENATOR HELMING: Thank you.

19 SENATOR MAY: Thank you.

20 And next up we have deputy commissioner for
21 water resources from DEC, James Tierney.

22 JAMES TIERNEY: Good morning.

23 My name is Jim Tierney. I serve as deputy
24 commissioner of the water -- of water resources at
25 the New York State Department of Environmental

1 Conservation.

2 And, Chairwoman May, I respectfully submit
3 this testimony on behalf of DEC concerning flood
4 mitigation.

5 And as you know, it's an increasing concern,
6 particularly in the context of climate change which
7 is worsening flood events and extreme weather.

8 In recognition of the flood risks our
9 communities -- to our communities, and the fact that
10 climate change has arrived, Governor Cuomo has
11 directed an enormous and unprecedented response.

12 And I'll skim through a few of these things
13 because I know you're familiar with them, and I want
14 to be careful of your time.

15 First, of course, is the Restore Mother
16 Nature Bond initiative, a \$3 billion initiative that
17 was one of the highlights of the State of the State
18 Address.

19 Restore Mother Nature funds would be targeted
20 toward proactive measures to make New York the
21 national leader in efforts to adapt to the
22 unavoidable impacts of climate change.

23 With these funds, New York would implement
24 numerous projects that provide co-benefits with
25 respect to flood resilience, water quality, the

1 recreation economy, and aquatic habitat.

2 Much of that work would be in rural
3 communities.

4 You're also familiar with the REDI Commission
5 work, and the \$300 million effort there.

6 DEC was a proud partner in that initiative.

7 And there's some 130 projects that are
8 actually under design and are at the
9 engineering-report phase.

10 That's in addition to the money that's
11 available for homeowners and for businesses that are
12 being operated.

13 DEC is managing about one-third of
14 the projects that were approved under the
15 REDI Commission.

16 There's also, thanks to you, the Clean Water
17 Infrastructure acts, now amounting to \$5 billion
18 goal, over time, subject to your approval. And a
19 lot of that money also works to mitigate flooding.

20 We call it the "green infrastructure
21 approach," which holds and slows water on the
22 landscape; flood mitigation on the landscape. And
23 tens of millions of dollars are being dedicated,
24 both by New York State DEC and the Environmental
25 Facilities Corporation, to those efforts.

1 The \$300 million environmental protection
2 fund, that was in the budget again this year, and
3 thanks to you, was approved last year, includes
4 significant funds that are distributed to flood
5 abatement.

6 Much of that money goes to soil and water
7 conservation districts in that regard, for example.

8 I saw a number of my friends from soil and
9 water conversation districts here today.

10 They are the mainstay of implementation
11 efforts on flood programs around the state.

12 We, of course, with the EPF (the
13 environmental protection fund), have programs for
14 the Mohawk River, the Hudson River, Lake Champlain,
15 and the Great Lakes, and the like.

16 And one of their core missions, as we've
17 designed these programs, is flood mitigation.

18 I can go on about the DEC rangers and the
19 environmental conservation officers, our efforts to
20 manage debris, address oil spills and chemical
21 releases, during storms.

22 DEC runs the dam safety program in New York.
23 We have expert engineers that make sure that nothing
24 goes wrong with those dams when they're under
25 extreme pressure.

1 And I'm sure, as an engineer, you're glad to
2 hear that, Assemblyman Santabarbara.

3 And then we also serve as liaison to FEMA on
4 floodplain maps.

5 And what we -- now, these are FEMA
6 flood-insurance maps. That's a technical term.

7 And, of course, we much like to have updated
8 maps, digitized maps, the 100-year flood, and the
9 500-year flood, which, as many of you know, is not a
10 flood of biblical proportions.

11 If you're within a 500-year flood zone, you
12 have a worse risk of getting a flood than you do --
13 a worse risk of having a flood than your house
14 catching fire.

15 And I think everybody has fire insurance who
16 owns a home.

17 DEC owns and operates 106 Army Corps flood
18 projects, including 100 miles of levies, pumps,
19 gates, and the like. And we manage all the flood
20 control and coastal hazard projects along the coast,
21 stemming from Staten Island, all the way out to
22 Montauk Point.

23 But I want to focus in on what the problem
24 is, and how we're trying to get our arms around it
25 as part of your efforts, and how this affects rural

1 resources.

2 It's obvious that water is very heavy. It's
3 62 pounds per cubic foot.

4 When a wall of water is moving down a valley,
5 or surging to the shore, it can really move things.

6 It moves barns, homes, boulders, businesses,
7 and it can also, importantly, diminish our topsoil.

8 So it's a very important issue for our
9 farmers.

10 Surfaces that shunt water, known as
11 "impervious surfaces," dramatically increase peak
12 flood intensity.

13 Now, a good rule of thumb of that that we use
14 under the engineering protocol, is that about
15 one acre of asphalt generally shunts -- you know, it
16 shunts 13 times the water of an acre of natural
17 meadow or forest.

18 So to give you a sense of how development
19 affects it.

20 Older bridges and culverts are frequently too
21 small to pass high flows, resulting in streams
22 backing up, blowing out the roads, or even heading
23 down Main Street, as we've seen in numbers of rural
24 communities.

25 The National Academy of Sciences has

1 estimated that we've lost 60 percent of our wetlands
2 in New York since colonial times.

3 Wetlands store massive amounts of storm
4 waters on the landscape.

5 And then there's climate change, with the
6 well-documented forecast that we have gotten from
7 the -- you know, the different national academies
8 around the world, and in New York, and from the
9 UN -- I mean, and -- I'm sorry, in the
10 United States, and the UN, the remarkably frequent
11 100-year storms, the intensifying hurricanes, and
12 the unthinkable super-storms.

13 I heard somebody refer to it as a
14 "rain bomb."

15 And that, in fact, is the case, in some
16 instances, with "Hurricane Harvey" dropping just an
17 incredible amount, in one storm, of 45 inches in
18 much of the Greater Houston area.

19 So in the rural environment, one of the key
20 concepts for flood mitigation is a catch phrase we
21 use, "Slow it down, spread it out, and soak it in.
22 Calm the waters."

23 And, frankly, sometimes you just have to get
24 out of the way if you're in a very dangerous area.

25 These projects involve engineering and

1 landscape practices under the school of thought
2 known as "green infrastructure."

3 Think of constructed wetlands, storm
4 detention ponds, stream-side berm removals that
5 allow the streams to flow into their floodplains.

6 Protecting existing wetlands from being
7 filled, retrofitting roads and roadside ditches, so
8 that they hold and slow the water, again, with the
9 overall approach to diminish the peak flood and
10 capture that on the landscape.

11 And just before -- you know, as a final
12 comment, I want to get into one thing I think is
13 very important in our rural communities.

14 It is the New York -- it is Governor Cuomo's
15 Resilient New York Streams Program.

16 DEC is in the phase process of developing
17 61 state-of-the-art flood mitigation and habitat
18 restoration studies. This includes ice-jam
19 abatement.

20 Sauquoit Creek, Assemblywoman, as you
21 mentioned, is one such stream -- or, creek.

22 It involves advanced modeling, hydraulic
23 analysis, and we deploy experts to do this on a
24 watershed basis.

25 It doesn't take forever.

1 It's more like 2 1/2 to 3 months, as opposed
2 to 3 years, for the study to come back.

3 But the goal is to eliminate the flooding
4 that would occur in the 100-year storm, taking into
5 account the impact of climate change and global
6 warming and increased precipitation.

7 And what we do is, we get very specific set
8 of recommendations, on a very specific list of
9 projects, at specific locations, that result in
10 benefits that we can actually quantify for town
11 supervisors and county officials.

12 They love this.

13 And these stream studies are already drawing,
14 as we know in Sauquoit Creek, fairly significant
15 amounts of implementation grants in the field.

16 And, if approved, the Restore Mother Nature
17 Bond Act would allow for a lot of these
18 stream-restoration projects to be implemented across
19 the landscape.

20 Thank you very much for your time.

21 I'd be glad to answer any questions.

22 SENATOR MAY: Thank you.

23 Thank you for that very clear and interesting
24 testimony.

25 So I have a background in environmental

1 sustainability, and so I'm thrilled to hear about
2 the emphasis on looking at whole streams and whole
3 watersheds and green infrastructure.

4 I think they are absolutely key as well.

5 So I had a couple of questions.

6 Oriskany Creek is one, it's in my district.

7 I don't know if that's one you have done this
8 kind of study of, but it certainly could use it.

9 JAMES TIERNEY: Oriskany Creek rings a bell.
10 I think that's on the list.

11 SENATOR MAY: Starts in Madison County, down
12 near the town of Hamilton.

13 JAMES TIERNEY: We -- we -- I will get you --
14 I will get you that, for sure.

15 But I know that that's one's been a problem.

16 And if you had ice jams, we're addressing
17 that as well.

18 I noted the question earlier: Ice jams can
19 also be abated.

20 And we have some of the leading ice-jam
21 experts in the country working on our stream
22 studies.

23 SENATOR MAY: Yeah, it flows through the
24 village of Clinton, and that's where they've had
25 really terrible flooding issues.

1 But -- and this question came up a little bit
2 earlier, but, dredging raises a lot of issues. And
3 that's what they want to do in the village of
4 Clinton, is more dredging. And there's a lot of
5 debate about that.

6 And I'm wondering where you think dredging is
7 useful to manage flooding, especially in creeks?

8 JAMES TIERNEY: Senator, dredging is a
9 case-by-case analysis for what -- sometimes it has
10 caused terrible problems, and sometimes it can be
11 effective when, say, there's a lot of rock cobble
12 that's up against a culvert or a bridge actually
13 causing a barrier.

14 You also don't want to lose the rock cobble
15 in the stream, because you can turn the stream muddy
16 for months on end if you hit a clay lens that isn't
17 protected by a rock cobble.

18 So all the anglers and trout fishers, you
19 know, very annoyed.

20 There are ways of doing that.

21 And what the -- these stream studies, and the
22 approaches that we use, including training, we have
23 emergency stream response training, we have training
24 that we're doing all across the state, on proper
25 sizing of culverts and bridges, and the like.

1 It's an "it depends" type of answer. We have
2 to come in there with the science.

3 We're not against it, we're not for it.

4 But I have seen an instance where somebody --
5 some community in the Catskills spent \$300,000
6 dredging out stone cobble from a stream in the
7 village of Phoenicia. It made flooding worse. And
8 the next storm, it just filled right back in.

9 And it turned out it was two bridges that
10 were causing the real problems for flooding.

11 So it is a case-by-case assessment.

12 SENATOR MAY: I appreciate that diplomatic
13 answer.

14 There is hot debate within my own staff about
15 this, and this will -- you know, everybody will feel
16 better for -- because of your answer.

17 JAMES TIERNEY: Very good.

18 SENATOR MAY: You talked about some of the
19 100-year-flood and 500-year-flood issues.

20 My understanding is, FEMA doesn't do --
21 doesn't have flood maps for a lot of
22 Upstate New York.

23 Is that true, and is that something that
24 you're working on?

25 JAMES TIERNEY: Our goal, and the pressure we

1 put on FEMA, is what we would like, Senator, is maps
2 that are fully digitized; that anybody can pull up
3 on their computer and see in an emergency or another
4 situation.

5 A lot of them are not there yet.

6 We want to have the 500-year-storm and the
7 100-year-storm levels, with the infrastructure
8 that's within it, and know, for example, if there's
9 a hospital or a nursing home or other facilities in
10 danger.

11 Much of that information does exist and it's
12 disbursed.

13 We also want to have on the FEMA maps the
14 high-risk areas; the areas where there's, you know,
15 really violent flows during storms, so that we --
16 our first responders are aware.

17 We have that in some areas, we don't have it
18 in others.

19 A lot of people know where these areas are on
20 the local and county level, and can respond already.

21 But it's -- you know, FEMA -- FEMA puts
22 resources in. They tend to take a long time.

23 We liaison with the communities quite a bit,
24 and it is controversial.

25 If you're not in the FEMA floodplain, and

1 then, all of a sudden you map into, you may have
2 flood-insurance requirements.

3 It's a requirement if you're having a federal
4 mortgage.

5 And so it is controversial.

6 And sometimes I get the sense that there's
7 some -- you know, some hesitancy on the part of FEMA
8 to take that step and put that information out
9 there.

10 SENATOR MAY: Okay. Thanks.

11 And, finally, I just wanted to ask about the
12 grants in -- from the REDI Commission.

13 The business owners and homeowners, when are
14 they going to see that?

15 And did you get more applications than you
16 have funding for?

17 JAMES TIERNEY: You know, I wish I had the
18 answer.

19 I know the entity handling the business
20 grants is, you know, Empire State Development
21 Corporation.

22 The entity handling the homeowner grants is
23 Homes of Community Renewal.

24 OFF-CAMERA SPEAKER: HCR.

25 SENATOR MAY: Oh, okay.

1 JAMES TIERNEY: And, you know, this is --
2 REDI was a very big deal to us.

3 And I just have to say, it was very
4 heartening the way the whole state pulled together;
5 the communities, the partnerships, and the local
6 communities.

7 And what we've learned from the local
8 communities on what to do, and what were the
9 priorities under REDI, it was really something.

10 And what's great is, getting, you know,
11 schooled every day by local officials and local
12 citizens who, you know, after, you know, 30 years of
13 this work -- type of work, I learn something new
14 every day, given what they know and how they would
15 approach it.

16 That was a terrific, you know, endeavor.

17 SENATOR MAY: Great.

18 All right, thank you very much.

19 Assemblywoman Buttenschon.

20 Assemblyman Santabarbara had to go to a
21 committee meeting, but he'll be back.

22 ASSEMBLYWOMAN BUTTENSCHON: Yes.

23 Thank you for your testimony, and
24 I appreciate your comments.

25 Could you elaborate a little bit more on the

1 Sauquoit Creek, because it -- I mean, obviously, it
2 covers so many areas?

3 JAMES TIERNEY: Well, Assemblywoman,
4 I actually went back and looked at the historic data
5 on Sauquoit Creek. They had at least 30 floods of
6 record, and they've been hit hard repeatedly.

7 Working with the town of Whites --

8 ASSEMBLYWOMAN BUTTENSCHON: Whitestown.

9 JAMES TIERNEY: -- Whitestown, and a
10 terrific, you know, supervisor we have there,
11 Shaun Kaleta, we did a stream study, which is the
12 first phase, to identify what to do.

13 We've designed a lot of the projects. We
14 have team -- we have a whole team working on it.
15 And we've gun -- we've begun fairly significant
16 implementation efforts.

17 My rough estimate is, we have probably --
18 it's probably already drawn as much as \$7 million in
19 implementation funds to that program.

20 And if Tom Snow was here, who's one of our
21 lead on the Sauquoit Creek effort, we believe, that
22 after we deal with the CSX rail bridge, the
23 floodplain benches, and the other programs up and
24 down the creek, that we will not have flooding on
25 that creek at the 100-year-level storm after we

1 implement this program.

2 And we're very far along toward that.

3 And Sauquoit Creek would actually be a very
4 good model across the state for coupling state
5 resources with real initiatives by local officials
6 and county officials to make it actually happen.

7 So I find it, probably, you know, one of the
8 most promising, you know, riverine
9 flood-restoration, flood-mitigation --
10 stream-restoration, flood-mitigation, efforts I've
11 seen.

12 ASSEMBLYWOMAN BUTTENSCHON: And I appreciate
13 your efforts.

14 As you understand, do you have a time frame
15 on that?

16 Is -- I speak to my constituents that have --
17 are not in their homes. They're living in hotels,
18 still.

19 So when it happens once, twice, and
20 six times, they've lost faith.

21 JAMES TIERNEY: Right.

22 ASSEMBLYWOMAN BUTTENSCHON: And they're very
23 concerned.

24 I understand the Commission, and the
25 collaboration is wonderful. But the process of that

1 time frame that you just explained, with the
2 benches, with other factors.

3 As you know, the issues we have with the
4 bridge are probably not going to be resolved.

5 They made it quite clear that they have no
6 desire to remedy that bridge.

7 So I'm just looking at it in a sense of what
8 time frame do you see?

9 JAMES TIERNEY: Well, some of the projects
10 are underway.

11 ASSEMBLYWOMAN BUTTENSCHON: Right, we have
12 the Dunham Manor benches.

13 JAMES TIERNEY: And we've managed to purchase
14 the land, thanks to the Town, for a very large
15 floodplain bench restoration project down near the
16 bridge where there's a lot of flooding. It's a CSX
17 bridge.

18 We're punching culverts -- additional
19 culverts under the bridge to move more water
20 through.

21 And we have locations up and down --
22 additional locations up and down that stream where
23 we would do additional work and we know we can get
24 there.

25 There's even talk, I know it's sensitive, but

1 I think the local community wants to do it, on a
2 series of homes that are through, and they would
3 like to be bought out.

4 ASSEMBLYWOMAN BUTTENSCHON: Oh, absolutely.

5 JAMES TIERNEY: And we're looking at, with --
6 the Natural Resource Conservation Services has a
7 program that might allow that.

8 Of course, we would be doing
9 willing buyer-willing seller floodplain management.

10 But that's something that's being actively
11 explored.

12 Until something like Restore Mother Nature's
13 in place, this is sort of, you pull money from
14 different grant programs. You know, the green
15 infrastructure grant program, WQIP, you find a
16 federal grant, and you cobble it together.

17 You know, DOT has some money into this
18 program, for example.

19 ASSEMBLYWOMAN BUTTENSCHON: Yes.

20 JAMES TIERNEY: So we -- we -- it's --
21 it's -- we're pulling this together because we
22 want -- because we know how badly the Sauquoit Creek
23 community has been hit.

24 And we hope that -- again, that that serves
25 as a model, and sort of a template, for how we move

1 forward with Restore Mother Nature.

2 ASSEMBLYWOMAN BUTTENSCHON: So would there be
3 a time frame if you were to --

4 JAMES TIERNEY: Well, I know that -- well --
5 you know, I'll get you that.

6 ASSEMBLYWOMAN BUTTENSCHON: Okay.

7 JAMES TIERNEY: Because, I mean, there's a
8 series of projects underway. And it does take time
9 to -- they've been identified what to do. Then it
10 takes time to design it, get the blueprints and
11 specs, get them out, and then the implementation.

12 ASSEMBLYWOMAN BUTTENSCHON: Okay.

13 JAMES TIERNEY: And so we're going through --
14 we have a number underway. I think a few are done.

15 And then, you know, and another additional
16 plan.

17 You know, getting our hands on the 16-acre
18 parcel was a lot of negotiations for that big
19 floodplain bench down near the bridge.

20 ASSEMBLYWOMAN BUTTENSCHON: And I appreciate
21 your efforts with our farmlands, as I've heard from
22 various farmers throughout the area, and the
23 concerns that you're addressing.

24 I do just have one final comment.

25 They're very concerned, always a priority,

1 as, again, their homes are the concerns they have.

2 And -- and -- and they just look at the
3 balance in regards to ensuring that, our wildlife,
4 and someone's home and quality of life, an equal
5 balance, that they continue to remind me of.

6 JAMES TIERNEY: Health and safety first.

7 ASSEMBLYWOMAN BUTTENSCHON: So thank you
8 again.

9 JAMES TIERNEY: Health and safety first.

10 ASSEMBLYWOMAN BUTTENSCHON: Thank you.

11 SENATOR MAY: Thanks.

12 Senator Helming.

13 SENATOR HELMING: Thank you.

14 JAMES TIERNEY: Hi, Senator.

15 SENATOR HELMING: How are you?

16 JAMES TIERNEY: I'm very good. Thank you.

17 SENATOR HELMING: Good.

18 Just going back to the Environmental Bond Act
19 of 2020, the Restore Mother Nature program, do you
20 know how this funding is going to be broken down, or
21 how it will be awarded?

22 JAMES TIERNEY: I do not.

23 I've seen -- I've read the budget language.

24 And, of course, there's some particular
25 items, like, getting our hatcheries updated and made

1 state-of-the-art.

2 But I think the general rule of thumb that's
3 easiest to remember, Senator, is we are going to be
4 looking for projects at the intersection of
5 resiliency, habitat, possibly the recreational
6 tourism, and water quality.

7 SENATOR HELMING: Okay, good.

8 If I could just stop you there.

9 Probably going to be a competitive-grant
10 program.

11 And as someone who represents very rural
12 areas, small communities, I always have a concern
13 about these small rural communities being able to
14 compete on the same level as larger communities that
15 have full-time staff on board who do nothing but
16 being focus grant-writing.

17 So I ask you to do whatever you can to put
18 language in there, or some sort of assistance, that
19 is going to equalize the playing field and help our
20 rural communities.

21 Do you know if there's money in the budget
22 for the septic-system rebate program?

23 JAMES TIERNEY: There is money.

24 There's original 75 million in the
25 Clean Water Infrastructure Act of 2017 for the

1 septic rebate program.

2 SENATOR HELMING: That was something I was
3 very proud to push to get in there.

4 But -- so it is going to continue to be
5 available?

6 And is it -- are there restrictions to
7 certain locations who may apply?

8 Or --

9 JAMES TIERNEY: The restrictions originally,
10 and we're constantly looking at that, where water
11 bodies that were actually affected, their water
12 quality was affected by septic effluent, under the
13 state DEC's prior water-body list, and a certain
14 distance from there.

15 SENATOR HELMING: I'm not trying to be rude.
16 I only have five minutes.

17 JAMES TIERNEY: Oh, sure, no.

18 SENATOR HELMING: But -- so we just talked
19 about, you mentioned, how flooding impacts
20 infrastructure, including septic systems.

21 So there's -- I get it, that we're looking at
22 water bodies that are impacted by failing septic
23 systems. But the potential is there for that to
24 happen, really, in any community along the lake.

25 So whatever we can do to get more funding for

1 septic-system rebate programs, to get public sewer
2 systems around our lakes, I think is incredibly
3 important.

4 JAMES TIERNEY: Oh, and Senator, there's
5 about 55 million in REDI, it's just that: sewer
6 systems and septic sewerage.

7 SENATOR HELMING: Do you believe that
8 Plan 2014 should be repealed?

9 JAMES TIERNEY: Uhm --

10 SENATOR HELMING: Yes or no?

11 JAMES TIERNEY: -- I'm -- it's a -- it's a --
12 it's a great question.

13 And if it was -- the question would be: If
14 it was repealed, would anything change on the lake
15 right now?

16 And, right now, during this entire flood
17 situation, if the IJC experts were in here, and the
18 Army Corps experts, they've been operating off-plan
19 [indiscernible cross-talking] --

20 SENATOR HELMING: I've talked to them. I've
21 held meetings with them. I've held a public
22 hearing.

23 I am just curious: You, deputy commissioner
24 of the DEC, do you think that Plan 2014 should be
25 repealed?

1 JAMES TIERNEY: Uhm --

2 SENATOR HELMING: And I'll skip over that, so
3 you don't have to answer that.

4 JAMES TIERNEY: Thank you.

5 SENATOR HELMING: But what I do want to talk
6 about is, one of the reasons -- my understanding is,
7 one of the reasons why 2014 was implemented was for
8 the restoration of wetlands.

9 Now, I understand the importance of restoring
10 wetlands.

11 But as the Assemblywoman said, we've got to
12 have balance in some of these things that we do.

13 In the budget that's proposed right now, is
14 there language that changes the way that wetlands --
15 wetland permitting is going to be done, or anything
16 regarding wetlands?

17 JAMES TIERNEY: The budget does have a
18 provision on that.

19 And what the budget would do, is maintain
20 what is generally referred to as the "12.4-acre
21 limit," and say -- and regulate wetlands based on
22 their criteria as opposed to mapping.

23 Wetlands move all over the place.

24 And the estimate is, by -- we have an
25 opportunity to protect wetlands by moving away from

1 regulatory mapping, to regulating them based on, you
2 know: Are they there? Are the hydric soils there?
3 Is it wet? And having moved into a particular area.

4 SENATOR HELMING: And after living through,
5 how many years now, of Plan 2014, with the primary
6 focus being restoring wetlands, I am concerned about
7 the unintended consequences.

8 And I'm wondering who weighed in on the
9 language that's in the budget?

10 A couple of other things.

11 When we talked about communities, and it's
12 great that we get the money in the budget, I think
13 it's a shame how we have to fight to get the money
14 out for our communities, out of the budget.

15 And, also, I think something that doesn't get
16 taken into consideration for our counties or our
17 small villages, our cities, and our towns, is the
18 tax cap.

19 So it's great that this money is being
20 available, but it would be nice -- I guess the
21 question is: If a community is making improvements
22 based on preventative measures, to address flooding,
23 or whether it's to put in updates to sewer systems
24 or septic systems or water-treatment plants, are those
25 expenditures exempt from the tax-cap calculation?

1 JAMES TIERNEY: You know, I'm sorry, Senator,
2 I don't know the exact answer to that question.

3 What I do know is, that the WQIP grant
4 program has been very successful in channeling money
5 to our hard-pressed rural communities for
6 clean-water infrastructure, both for drinking water
7 and for, of course, wastewater.

8 SENATOR HELMING: So do all of our
9 communities now have waste -- or, water-treatment
10 plants that have adequate filtration systems on
11 them, to address the impacts of flooding, whatever
12 may be flushed into the lake, or even for blue-green
13 algae?

14 JAMES TIERNEY: No, but we're getting there.

15 SENATOR HELMING: Are they -- are those
16 communities then prioritized when we apply for
17 grants?

18 JAMES TIERNEY: Yes.

19 SENATOR HELMING: They are?

20 There's like an extra point, or something,
21 they receive?

22 JAMES TIERNEY: There's extra scoring, extra
23 points, if you're -- if the waste-water treatment
24 system is causing a problem.

25 And we're also looking at, we have an

1 asset-management program underway, so people can
2 identify facilities at risk of flooding, to try and
3 get ahead of those as well.

4 SENATOR HELMING: I'm going to try to sneak
5 in one more real quick question.

6 JAMES TIERNEY: Sure.

7 SENATOR HELMING: Do you feel that
8 large-scale solar, wind, and even waste projects
9 have the potential to impact topography and,
10 potentially, contribute to exasperated flooding
11 conditions?

12 JAMES TIERNEY: I don't believe so.

13 If Jared Snyder was here, our deputy
14 commissioner for air and energy, there's engineering
15 techniques to manage those things very effectively
16 on the landscape, I believe.

17 SENATOR HELMING: Okay.

18 I ask that because, in -- the Governor, in
19 his 30-day budget amendment, Section JJJ, has
20 proposed changes to Article 10, the siting process
21 for certain energy projects, which, again, most
22 people talk in terms of solar and wind. But it can
23 include trash burners, waste energy, incinerator
24 projects.

25 And I'm just, again, curious.

1 There's the creation of Article 23, which
2 would, basically, exclude any public input, and what
3 that would do to, sometimes it's the people on the
4 ground. It's the farmers, it's the local
5 homeowners, who know how certain lands work or
6 function, whether they flood or not flood.

7 And when these big projects are proposed, if
8 they don't have the ability to contribute input to
9 it, I'm concerned it could -- this may be a
10 stretch -- but it could -- we could be losing out on
11 valuable information that would help us determine on
12 whether or not an area is prone to flooding if it's
13 stripped for, say, a waste-energy project, or some
14 other large-scale solar or wind project.

15 JAMES TIERNEY: Well, thank you.

16 I'll have to note that as a comment because
17 that's not an area that I'm up to speed enough to
18 testify intelligently.

19 SENATOR HELMING: Thank you.

20 SENATOR MAY: Yeah, I'm going to interrupt,
21 and send it back to the Assembly.

22 ASSEMBLYMAN SANTABARBARA: Yes, I had to step
23 out just for a committee meeting, but I missed some
24 of your testimony.

25 But I do want to circle back on the

1 stormwater pollution prevention.

2 There are new regulations in place now, and
3 I did attend your, sort of, briefing on that in
4 Albany.

5 Are those -- those measures fully implemented
6 at this point? Or is it something that's still in
7 progress, as far as calculating runoff and
8 stormwater basins, and those types of things for
9 development?

10 JAMES TIERNEY: Well, we have something
11 that's called the "stormwater general permit" and
12 "construction activity permit."

13 And what that does is, if there's new
14 construction, it makes you develop a stormwater
15 pollution-prevention plan, to, essentially, hold the
16 water on the landscape.

17 And as an engineer, you know that.

18 From a parking lot, to a big, you know, a
19 mall, and the like, how do you hold it so it doesn't
20 get shunted off?

21 And we have an entire program on exactly how
22 that would work.

23 Now, the green infrastructure program that we
24 mentioned, that's to retrofit a lot of the
25 landscape, between roadways, older parking lots,

1 older development areas, and manage that.

2 ASSEMBLYMAN SANTABARBARA: Is that required,
3 though, for new construction, or just anytime you
4 get a permit?

5 JAMES TIERNEY: If you -- if you have a new
6 construction, you have to get coverage; they call it
7 "coverage."

8 It's sort of an odd term --

9 ASSEMBLYMAN SANTABARBARA: Yeah.

10 JAMES TIERNEY: -- but basically saying, you
11 have to do work within a generally-known rule book
12 on how you manage construction activity, and then
13 the post-construction stormwater runoff.

14 As you know, there -- an incredible amount of
15 sediment can come off a construction site --

16 ASSEMBLYMAN SANTABARBARA: Sure.

17 JAMES TIERNEY: -- during a major storm.

18 And so what we want to is anticipate that,
19 batten down the site. And then, afterwards, make
20 sure that you don't lead to higher peak storm flows
21 in the adjacent streams.

22 ASSEMBLYMAN SANTABARBARA: And, I guess, with
23 regard to what we're talking about here today with
24 flooding, do you believe that's helping mitigate
25 localized flooding?

1 JAMES TIERNEY: Yes.

2 ASSEMBLYMAN SANTABARBARA: It is.

3 Okay, and is that being tracked somewhere?

4 Is there data behind that?

5 JAMES TIERNEY: Well, the data -- the data is
6 that, our "blue book," we call it, which are the
7 engineering practices, can demonstrate, through
8 engineering calculations, how much water is being
9 captured, and the peak runoff reductions.

10 We also were talking a little bit about
11 stream restoration projects --

12 ASSEMBLYMAN SANTABARBARA: Yep.

13 JAMES TIERNEY: -- where we believe, through
14 these green infrastructure practices, floodplain
15 benches, anything and everything [indiscernible]
16 that would hold water on the landscape, slow it down
17 and infiltrate it, also does something that's a
18 quantifiable level of reduction once those projects
19 are implemented in reducing impacts.

20 There's even been instances where, a bridge
21 that was too small acts like a dam during high
22 flows. And I've seen it, you know, back up and go
23 down Main Street Illium.

24 You know, that has to be fixed.

25 So there's all sorts of things that can cause

1 flooding.

2 But when it gets to holding water on the
3 landscape, the school of engineering, landscape
4 architect engineering, known as "green
5 infrastructure," has gotten -- you know, has grown
6 exponentially.

7 ASSEMBLYMAN SANTABARBARA: Yeah.

8 JAMES TIERNEY: And -- and -- and those tools
9 and those techniques are now available.

10 And through programs like Restore Mother
11 Nature, we're on the cusp of getting a lot of
12 that -- you know, having the resources to bring that
13 to scale that we need, particularly in the -- you
14 know, with oncoming, you know, worsening weather,
15 extreme weather, with climate change.

16 ASSEMBLYMAN SANTABARBARA: And -- yeah, and
17 the regular -- I did engineering 15 years ago, so
18 it's changed quite a bit with the new regs.

19 What about wetlands, that's the other factor;
20 right?

21 Are we -- is there more stringent regulations
22 on preserving wetlands?

23 JAMES TIERNEY: Yes, with -- with -- with
24 wetlands, what -- they've always been regulated if
25 they're 12.4 acres in size and mapped.

1 The budget takes away the "and mapped" and
2 says, they're regulated if they're wetlands of
3 12.4 acres in size and they have the -- those --
4 they have those features.

5 So if it -- you -- you know, they would be,
6 you know, hydric soils, wetland vegetation, that
7 capture the spring runoff, we'd like to protect
8 those.

9 And in the budget there's a provision that
10 says, we're going to do that, like we do with
11 salt-water wetlands down on Long Island, where we
12 rate them base -- regulate them based on their
13 features, as opposed to these regulatory maps that
14 can be cumbersome, they can be dated, and not really
15 tell the story of where those wetlands are and what
16 needs to be done to protect them.

17 ASSEMBLYMAN SANTABARBARA: Okay.

18 And I think I'm just about out of time, but
19 one more.

20 I'll ask you the same question I asked the
21 commissioner.

22 So wetland -- or, not the wetland.

23 The -- the flood-zone mapping is being
24 updated.

25 How far along is that? Do you know?

1 Because I know the original maps that
2 I worked with years ago, they were so crude, that
3 you didn't know where that line was.

4 But I know they're more accurate now.

5 Are we -- how far along are we?

6 50 percent? Or --

7 JAMES TIERNEY: I can get you the specific,
8 you know, extent that we're long -- we're along.

9 What we're aiming for with FEMA are digitized
10 maps, where there's a thin line that shows exactly
11 where the 100-year storm is, exactly where the
12 500-year storm; you can pull it up online. You're
13 not dealing with those old blueprints --

14 ASSEMBLYMAN SANTABARBARA: Yeah, yes, yes.

15 JAMES TIERNEY: -- that drive everybody
16 crazy, and with the thick blue line that doesn't
17 really tell you where it is.

18 And we're getting those updated.

19 But as we mentioned a little bit earlier, had
20 a dialogue on this, we are the liaison to FEMA.
21 They're [indiscernible] -- there's FEMA floodplain
22 maps.

23 ASSEMBLYMAN SANTABARBARA: Sure, yeah.

24 JAMES TIERNEY: And we push FEMA to get to
25 the point where we would like them to be, and

1 provide this information.

2 We also do, I think, a good job working with,
3 like, Dan, and other state agencies, and, of course,
4 the county emergency managers, of knowing where
5 these particularly sensitive areas are, in the
6 high-velocity flood zones, so that we can get there
7 during a flood and, you know, warn people, get
8 people out of harm's way, and take proactive
9 measures to try and dissipate that in future storms.

10 ASSEMBLYMAN SANTABARBARA: Those maps are
11 available to the public, you said, digitally?

12 JAMES TIERNEY: Oh, FEMA floodplain maps are
13 available.

14 ASSEMBLYMAN SANTABARBARA: And where could --
15 well, I could follow up
16 [indiscernible cross-talking] --

17 JAMES TIERNEY: They're -- they're -- they're
18 on the website.

19 And, you know, FEMA has them.

20 They're used for all the flood insurance.

21 So it's, really, FEMA, it's sort of
22 interesting, because they look at it as, oh, those
23 are our flood-insurance maps --

24 ASSEMBLYMAN SANTABARBARA: That's what they
25 call them?

1 JAMES TIERNEY: -- as opposed to, our --
2 necessarily, our hazard-response maps.

3 It's really -- you know, it's a gigantic, you
4 know, flood-insurance agency in many ways.

5 ASSEMBLYMAN SANTABARBARA: It's on the
6 website, you said; right?

7 JAMES TIERNEY: Yes.

8 ASSEMBLYMAN SANTABARBARA: Okay.

9 All right, thank you.

10 SENATOR MAY: Thank you.

11 I have a follow-up question about the
12 Restore Mother Nature Bond Act.

13 We've all read the language, but it's pretty
14 vague.

15 And so the question is: How do we advocate
16 for specific things to be in there, and, both,
17 beforehand, so that we make sure it has the support
18 to get in the budget, but also, afterwards, to make
19 sure that it's being used the way we think it should
20 be?

21 JAMES TIERNEY: Oh, in the Restore Mother
22 Nature Bond?

23 SENATOR MAY: Yeah.

24 JAMES TIERNEY: It's -- well -- well, as you
25 might imagine, Senator, there's lots of ideas.

1 And I -- I -- I -- I have to confess
2 ignorance on exactly how the money is going to be
3 deployed, whether it is to specific projects,
4 categories, or regions.

5 And what I can say, given my years of
6 experience, is there's no end of work to be done.

7 What our job, as a technical agency, as sort
8 of a -- you know, a -- a -- you know -- a -- and
9 looking at this, and trying to make sure that the
10 money is deployed to solve the most significant
11 problems.

12 Wherever possible, deploy it in the way that
13 solves co-benefits. If you can solve two, three, or
14 even four problems with one project, that can be
15 done through intelligent design.

16 And to make sure that there's -- as with
17 REDI, that we take advantage of local know-how in
18 how we design the project, so that the local
19 governments and individuals who know best where the
20 problems are can point things out, to make sure that
21 incredibly important intelligence is taken into
22 account in how we use those funds.

23 And that was the rule book that you saw
24 under -- under -- under the Resiliency and Economic
25 Development Initiative.

1 And I have every sense that that type of
2 sensitivity to local interests and concerns will
3 continue forward, ground up.

4 SENATOR MAY: But you don't have any idea of
5 what portion of that money would be earmarked
6 towards a -- some of these flood-related --

7 JAMES TIERNEY: I do not, Senator.

8 But, it's -- it's -- it's an important
9 question, and I acknowledge it as important.

10 But I personally don't have that information.

11 SENATOR MAY: Okay. Thank you.

12 JAMES TIERNEY: Thank you.

13 ASSEMBLYMAN SANTABARBARA: Assemblymember
14 Walczyk.

15 ASSEMBLYMAN WALCZYK: Thank you for being
16 here.

17 Climate-smart communities have a 50 percent
18 match, which can be especially challenging in areas
19 like I represent, and a lot of the rural areas of
20 New York State.

21 Do you think that that's something that can
22 change in the future, especially, specifically, for
23 rural or impoverished areas?

24 JAMES TIERNEY: Well, of course, we'll bring
25 that back to Jared Snyder, our deputy commissioner

1 for air and energy, who is sort of the chain -- you
2 know, up the chain of command on climate-smart
3 communities.

4 I can say this:

5 Under our WQIP grant program for clean-water
6 infrastructure at New York DEC, just for those
7 concerns, priority issue -- priority matters for
8 hard-pressed rural areas and hard-pressed cities,
9 we've upped the grant, in some instances, to a
10 75 percent grant.

11 And then you can take that and you can go to
12 the Environmental Facilities Corporation, if you're
13 hard-pressed, and get additional grant money and a
14 zero-interest loan.

15 So there are -- there is a template, where
16 you have, you know, communities that -- for a
17 variety of reasons, just don't have the resources to
18 take on these problems. And we've tried to be very
19 sensitive to just those concerns.

20 ASSEMBLYMAN WALCZYK: I want to shift gears
21 and talk about flooding for a second, obviously, the
22 topic of the day.

23 The area that I represent, Jefferson and
24 St. Lawrence counties, the topography is constantly
25 changing. You can go from the sandy, to soil, to

1 rock, you know, in a matter of, you know, feet, let
2 alone miles. And I have a 120-mile border with
3 Canada.

4 What is the -- what's the DEC doing to
5 develop best practices, with homeowners especially?

6 You know, the Governor has had a big
7 investment with the REDI Commission. Wants to make
8 sure that the restorations that we're doing are
9 going to be solid and we have a resilient shoreline
10 for years to come.

11 How do you determine that when there's so
12 many different topographies along the different
13 zones of the REDI Commission?

14 JAMES TIERNEY: That's -- that's a great
15 question.

16 What we -- we did under REDI, is we did have
17 that -- we have a two-pager that, basically, listed
18 all the data that would be available for something
19 like a -- you know, local public-works
20 commissioners, county experts, county engineers,
21 town engineers, and the like.

22 And we have that data out there.

23 We're very far along on specific guidance for
24 homeowners.

25 And we've committed to developing for

1 lakeshore -- for St. Lawrence River and Lake
2 Ontario, a handbook, a full-blown engineering
3 handbook, that's underway, and we have the funding
4 to do it, on exactly what to do in different
5 circumstances.

6 Now, of course, there's 132, I believe,
7 projects that have been identified under REDI.

8 A lot of them address -- are set to address
9 those issues up and down the coast, at least the
10 worst ones that were brought forward during the
11 REDI Commission.

12 I know our work's not done, and we're heading
13 into a bad year, clearly.

14 And so -- you know, so we have gotten a lot
15 of information out there.

16 And as part of the REDI program, we learned a
17 lot.

18 With our -- the consulting engineers we
19 brought in, the consulting engineers that are
20 working on each of individual projects, we're trying
21 to make sure that they're imbued with all the
22 information so that they have, you know, intelligent
23 decision-making.

24 And it can be confounding, because some parts
25 of the lake and river can be higher and lower than

1 other parts. There's not one average water level.

2 If you're sheltered, you have a different
3 need for protective levels than if you're right in,
4 you know, a dynamic wave-action area.

5 So it does come down to, you know, we need
6 our engineers to be really informed, and we need to
7 make sure that they're tuned to the case-specific
8 risks in a particular area.

9 ASSEMBLYMAN WALCZYK: That's encouraging.

10 Do you have a publish date for the -- for the
11 handbook?

12 JAMES TIERNEY: The handbook, I've seen
13 drafts of it. It's fairly far along.

14 I don't want to get my engineering team mad
15 at me, but I think it -- you know, it should be
16 ready soon.

17 ASSEMBLYMAN WALCZYK: Good.

18 Well, yeah, and I'm sure they understand the
19 urgency.

20 JAMES TIERNEY: Absolutely.

21 ASSEMBLYMAN WALCZYK: Your discussion makes
22 me segue into a next point.

23 We know that there will be a lot of permits.

24 The interface with Army Corps has been
25 challenging at times, very functional at other

1 times.

2 Could you talk a little bit about what you're
3 doing to expedite permitting processes for flooded
4 areas?

5 And, also, you know, this is kind of a
6 statewide issue, and not just for permitting here
7 and dealing with REDI Commission issues; but, also,
8 for permits, you know, across your department, and
9 the many things that you handle.

10 Do you think the DEC has adequate staffing?

11 Would you ask the Legislature to provide
12 additional staffing, you know, from SPDES permits,
13 to the things that you're taking on here?

14 Your department seems to take on more and
15 more every year, but I don't necessarily -- I mean,
16 you're doing more with less, is the way that I see
17 it.

18 If you could speak to expediting the
19 permitting process for the flooding, and then to
20 staffing.

21 JAMES TIERNEY: Great question.

22 What we -- what we do, in general, is we have
23 a number of different protocols.

24 We've been through a lot of these rodeos.
25 Right?

1 So we have emergency permits that we issue
2 during major flood events. We've done that,
3 where -- which allows for people to know what is
4 just simply allowed: to stabilize a home, or act in
5 a particular area.

6 And we do training. We do emerge -- in
7 streams, in particular, you have a lot of emergency
8 stream response training.

9 And those general permits can be issued in
10 the field very quickly by our permit staff who are
11 out there. We put people in trailers; we have
12 people very accessible to do that.

13 Our engineering and administrative staff are
14 just, basically, deployed during a high-water event.

15 You know, so we view ourselves as people,
16 respond during the storm with our rangers and
17 ECOs, and we're out there the day after, helping
18 people put pieces back together, and giving them
19 advice on best practices.

20 You know, so, for example, I've -- I -- you
21 know, a number of years ago, one community engaged
22 in what somebody referred to, pejoratively, as
23 "recreational bulldozing" after a storm.

24 They turned a stream that was very sinewy
25 into a straight flume.

1 Well, when that fills up with water, it just
2 hammered the downstream communities.

3 It was a bad practice.

4 So we try and engage to stop that type of
5 activity, while letting people act quickly to
6 protect their home, stabilize things, and keep that
7 in place.

8 We're well-practiced at this point. And it's
9 gotten, obviously, more intense over the past --
10 over the recent years.

11 So I think that we're in a good position on
12 how we handle our administrative functions, our
13 permitting and our regulatory protocols, and deploy
14 very quickly to do that.

15 I also have the Army Corps colonel for the
16 Buffalo district on speed dial. And we have meshed
17 the Department of State, DEC, and the Army Corps
18 crew permitting teams for all the REDI projects, in
19 order to make things as streamlined and rapid as
20 possible.

21 And, frequently, we're able to get to the
22 point where the Army Corps says, within this
23 framework, we'll take your permit.

24 And kind of, basically -- they do still have
25 to issue their own permit. But, basically, okay,

1 Steve, you know, [indiscernible] within that
2 framework, you're good to go.

3 And so you can move forward with a lot more
4 dispatch, which is needed.

5 ASSEMBLYMAN WALCZYK: You didn't -- staffing?

6 JAMES TIERNEY: Staffing?

7 Well, you know, the Governor's budget is my
8 bible on such things.

9 And, you know, DEC did get 47 additional
10 staff in the last budget, and I'm grateful for
11 that -- proposed in the last budget. It hasn't
12 arrived yet.

13 SENATOR HELMING: Why not?

14 ASSEMBLYMAN SANTABARBARA: I'm just going to
15 circle back on one quick question.

16 So, as far as ice jams, there are -- there
17 was at least one project that I know of, where you
18 successfully installed --

19 JAMES TIERNEY: I'm sorry, I missed that?

20 ASSEMBLYMAN SANTABARBARA: -- ice-jam
21 mitigation measures, I think there's one project
22 that I know of, in Buffalo, with the piers that were
23 installed.

24 Was that a project DEC was involved with?

25 JAMES TIERNEY: I -- I -- we -- we did not do

1 the project.

2 ASSEMBLYMAN SANTABARBARA: But you're
3 familiar with it?

4 JAMES TIERNEY: It's -- yeah, there's piers,
5 sometimes they put, like, big pilings --

6 ASSEMBLYMAN SANTABARBARA: Pilings, yes.

7 JAMES TIERNEY: -- out there.

8 There's also, of course, in Schenectady,
9 we're very interested in what can be done with the
10 Visher's Ferry Dam, and -- and -- you know, and as
11 part of the canal -- we mentioned canal task force.

12 ASSEMBLYMAN SANTABARBARA: And that's the one
13 I wrote the letter to you guys about when the
14 flooding happened two years ago.

15 But I think we did get funding to at least
16 look at that.

17 JAMES TIERNEY: Yes.

18 ASSEMBLYMAN SANTABARBARA: But I guess -- are
19 there mitigation measures that are out there that
20 are working, that you know of?

21 JAMES TIERNEY: There's measures out there,
22 that engineers have told me will work. And,
23 basically, the mechanism is to spread the ice out,
24 as opposed to channelize it.

25 And, also -- and certain mechanisms have the

1 water flow with more force in order to clear out the
2 ice on a regular basis.

3 Particularly with the Schenectady area, we
4 have an entire stream --

5 This is very exciting for me. I don't know
6 about everybody else. But for you, probably.

7 -- we have entire -- that stream flood
8 restoration mitigation program, we're doing it for
9 the entire main stem of the Mohawk.

10 ASSEMBLYMAN SANTABARBARA: Oh, okay.

11 JAMES TIERNEY: So that will take into
12 account what conceivably can be done.

13 It's our largest study of the 61 that we have
14 underway.

15 But we have the funding available. We've
16 done a lot of the data and hydraulic analyses
17 already.

18 We got another [indiscernible] of funding
19 from the Mohawk River Basin program.

20 And that is -- you know, we've had
21 engagements with the communities. We've tried to
22 gather up all the local knowledge. And we're seeing
23 what we can do, using this geomorphic stream
24 restoration techniques, for the entire main stem of
25 the Mohawk.

1 That, coupled with what Canals is doing,
2 gives us huge amounts of information that may be
3 very actionable to help hard-pressed Schenectady
4 from flooding.

5 ASSEMBLYMAN SANTABARBARA: Sure.

6 Well, you know Schenectady is my home, so I'm
7 very interested in seeing.

8 The Stockade area really suffers --

9 JAMES TIERNEY: Absolutely.

10 ASSEMBLYMAN SANTABARBARA: -- from flooding.
11 And that ice, when it comes, it just blocks
12 everything.

13 And it's amazing how big those chunks of ice
14 get.

15 I think that's all I have, unless...?

16 JAMES TIERNEY: Thank you very much.

17 ASSEMBLYMAN SANTABARBARA: Thank you for your
18 testimony.

19 Thank you.

20 Next, from Clarkson University, professor of
21 civil and environmental engineering, and director of
22 construction engineering, Professor Backus.

23 Yes, thanks for being here.

24 Welcome.

25 ERIK BACKUS, P.E.: Well, thank you, very

1 much.

2 Well, thank you to the Honorable
3 Senator Rachel May, as well as, of course, yourself,
4 Honorable Assemblymember Angelo Santabarbara, and
5 members of both chambers, and the Commission for
6 Rural Resources, for calling this hearing, accepting
7 both written and oral testimony that we'll be giving
8 today in examining the effectiveness of current
9 flooding and mitigation efforts, and discuss the
10 need for future assistance due to the increase in
11 extreme weather events.

12 On a personal note, I want to extend
13 appreciation to Assemblymember Walczyk who was my
14 company commander in my Army Reserve combat engineer
15 battalion not too long ago.

16 As I'm sure you recall in 2019 budget,
17 New York State designated Clarkson University and
18 SUNY College of Environmental Science and Forestry
19 (ESF) to co-lead a new Center of Excellence in
20 Healthy Water Solutions.

21 This center is charged with delivering
22 synergistic problem-solving on a wide range of water
23 issues impacting the Empire State.

24 Clarkson's world-class technical and
25 engineering expertise in water systems, and ESF's

1 world-class technical in watershed ecosystem
2 management and solution development, uniquely
3 positioned the Center of Excellence, or "CoE," to
4 create and leverage partnerships across public and
5 private partnerships.

6 New York State's water assets are a source of
7 international identity; points of pride for the
8 state and the country, and of strategic importance
9 to the state's global economic position, now, and
10 into the future.

11 New York is rich in uniquely diverse rivers
12 and streams, lakes and ponds, estuaries, the
13 Erie Canal waterways, and major coastlines along the
14 Great Lakes and the Atlantic Ocean, making it the
15 internationally well-known tourist destination that
16 New York State is.

17 Imminent and serious threats of these assets
18 from multiple sources, including, and especially,
19 flooding, call for an integrating and coordinated
20 effort to preserve and improve the quality and
21 quantity of clean and healthy water resources, as
22 well as innovations, to ensure the protection.

23 Flooding, one of the most common natural
24 disasters, can occur at any time of the year, and
25 occurs due to interactions of precipitation, snow

1 and ice melt, soils, and land cover or land use.

2 In New York, many population centers and
3 their associated infrastructure are concentrated
4 along rivers and their valleys, reflecting the value
5 of water as a resource and the importance of
6 strategies to mitigate risk due to floods.

7 Further, many roadways in New York are
8 located within the FEMA's 100-year floodplain.

9 Climate change or climate variation pose
10 significant challenges in forecasting floods, and
11 have been linked to an increase in occurrence of
12 historically low-frequency, but very-large-magnitude
13 events.

14 While this has been typical to focus on
15 precipitation intensity, and how that may increase
16 in the future, it's also critical to understand how
17 precipitation may change in conjunction with other
18 factors.

19 Across New York, these causative flood
20 mechanisms can vary even across very short
21 distances.

22 The economic impact of floods is ultimately
23 linked to the presence of humans and infrastructure.

24 As population and related infrastructure
25 continues to expand along waterways, the economic

1 impact of floods expected to increase in the future.

2 For instance, the average annual loss of the
3 flood damage in the United States for the 20-year
4 period, from 1981 to 2000, was \$4.3 billion
5 according to the U.S. Army Corps of Engineers.

6 Further, EPA has made it clear that failing
7 to protect our waters from pollution has resulted in
8 the loss of over \$1 billion in tourism annually, has
9 caused widespread fish-kills from the result of
10 harmful algal blooms, or "HABs," and has depressed
11 home values, while simultaneously increasing the
12 cost of maintaining clean drinking water for our
13 fellow citizens.

14 As concluded in a 2018 study by the National
15 Institute for Building Sciences, mitigation saves.

16 By "saves" we mean, across the spectrum of
17 mitigation efforts in savings.

18 For instance, the execution of River Rhine
19 flood-mitigation efforts have an up to 8-to-1
20 benefit-to-cost ratio, meaning, for every dollar
21 spent on mitigation, eight dollars are avoided in
22 future costs.

23 Similarly, for [indiscernible] hurricane
24 surges, the ratio is 7-to-1.

25 Making critical investments the right way in

1 the present, therefore, can yield significant public
2 and private financial benefits in the not too
3 distant future.

4 Beyond the economics, we also know that,
5 through mitigation efforts, hundreds of lives have
6 been saved, thousands of cases of storm-related PTSD
7 have been averted, and millions of injuries have
8 been prevented in the past. This will certainly be
9 true in the future.

10 The faculty affiliated with the Clarkson SUNY
11 ESF Center for Excellence in Healthy Water Solutions
12 are currently actively engaged in filling the
13 knowledge gaps that will enable us to develop
14 improved tools to determine the flooding impact on
15 New York State infrastructure, the environment, and
16 the economy.

17 This work is critical to New York State, as
18 it enables us to make the right choices sooner, to
19 know better what resources we need to protect, and
20 what resources will need attention in the future.

21 The following are some of the areas that the
22 faculty and CoE are focusing on:

23 Risk analysis and forecasting;

24 Integration of user-inspired research and
25 development communities -- in communities;

1 Limiting mobilization of contaminants;
2 And my own work in the area of resilience
3 planning.

4 Let me take a few moments to highlight two of
5 these areas that my colleagues are engaged in.

6 First, the National Water Model is a recently
7 developed modeling framework that complements
8 existing National Weather Service flood-forecast
9 models, while also providing potential
10 flood-forecast information at other locations that
11 do not have traditional model forecasts.

12 In New York, about 100 locations on large
13 rivers and waterways have the said traditional flood
14 forecasts.

15 The vast majority of streams and rivers in
16 more remote locations, including rural zones,
17 however, have no flood forecasts.

18 Dr. Charles Kroll, a CoE faculty at SUNY
19 ESF, is currently comparing the National Water Model
20 to observations of low stream flows through droughts
21 as part of a National Oceanic and Atmospheric
22 Administration-funded project.

23 However, future work could include the
24 assessment of the National Water Model against high
25 stream flows, to assess the potential for making

1 flood predictions for numerous inland water bodies
2 across the state, not just large rivers.

3 Secondly, Dr. Ian Knack at Clarkson has
4 worked with a number of industrial partners and
5 government agencies to conduct a series of studies,
6 using numerical models, to understand and evaluate
7 flood risk, potential flood levels under extreme
8 events, and development of operational and forecast
9 tools to assist city planners and emergency-response
10 personnel.

11 For instance, in the North Country, on the
12 St. Regis Mohawk Reservation located at the
13 downstream end of the St. Regis River, Clarkson
14 Drs. Hung Tao Shen and Fengbin Huang, with support
15 of the Mohawks, analyze historic data, and conducted
16 numerical models to evaluate the ice-transport and
17 jamming-process impact, and consequences, of the
18 Hogansburg Dam removal, as well as what possible
19 flooding mitigation approaches could be considered
20 for the situation.

21 The Center of Excellence in Healthy Water
22 Solutions received initial funding allocation of
23 \$125,000 in last year's budget.

24 The first 10 months, the CoE has made
25 significant outreach to public and private

1 [indiscernible] in healthy water solutions across
2 the state.

3 Based on early input and resources, the
4 center has ignited new provisional patents
5 addressing HABs, and field tested new innovation --
6 innovative technologies to treat emerging
7 contaminants of PFAs and PFOs.

8 Responses and requests for support to better
9 manage land resources, to reduce loading of
10 stressors to and from water bodies, including flood
11 prediction, ice-jamming, structural scour, and
12 [indiscernible] mitigation, are also all in
13 progress.

14 Full funding for the Center of Excellence in
15 Healthy Water Solutions, along with all the other
16 CoEs, to a million dollars per year, would
17 significantly increase the center's contributions
18 towards preparing New York State to an ever-changing
19 environment in protecting public health from
20 flooding and land-management issues.

21 Thank you again to the Honorable
22 Senator Rachel May and Honorable Assemblymember
23 Angelo Santabarbara, other Commission members, and
24 the staff, for the opportunity to present testimony
25 at this hearing.

1 As researchers who collaborate with public-
2 and private-sector leaders, and especially as
3 educators of the next generation of technology
4 leaders, we take seriously the public trust from the
5 investments we receive.

6 As emerging problems and projects are
7 identified, we welcome full funding in FY 20-21
8 budget of the Center of Excellence in Healthy Water
9 Solutions, to provide additional support and
10 expertise to align with the State's and the people's
11 needs.

12 We believe, together, we must show the
13 nation, and the world, that New Yorkers can do this
14 important work to protect and preserve healthy
15 waters.

16 It is a work they are depending upon
17 New Yorkers to lead.

18 I look forward to responding to your
19 questions and/or take questions back to my
20 colleagues for an individual follow-up.

21 Thank you.

22 ASSEMBLYMAN SANTABARBARA: Thank you for your
23 testimony.

24 As I was reading through your written
25 testimony, I see the statewide ice-jam challenge

1 that we talked about is discussed in here.

2 And I hope to see that launched, and to get
3 some students engaged in actually trying to identify
4 some -- some -- some newer solutions.

5 But, with regard to a couple things I wanted
6 to mention:

7 You talked about many of the roadways in
8 New York being in the 100-year floodplain.

9 That seems -- I guess, what percentage --
10 based on your analysis, what percentage of the major
11 roadways are actually in that floodplain?

12 Because that seems like something that needs
13 to be looked at.

14 ERIK BACKUS, P.E.: It's a significant
15 number. I don't have the exact number. We can get
16 certainly get that for you, Assemblyman.

17 In regards to the quantity, it's definitely
18 majority.

19 You know, most of our roadways were
20 constructed, if you look at traditional roadway
21 construction in New York State --

22 Again, I was born and raised here.

23 -- they were built along logging trails,
24 especially in places like the Adirondacks and the
25 Catskills. They're often built along -- going to

1 and from towns that along our riverways and
2 streamways, mainly because that's where our industry
3 was.

4 And so the consequence, either they're
5 directly in the floodplain themselves; i.e., the
6 roadbed is in the floodplain, or, it has supporting
7 infrastructure; for instance, bridges, culverts, and
8 so forth, that are in danger of failure, as well as
9 being in the floodplain in a flood event.

10 Again, I can't give you a precise number, but
11 it's certainly, definitely, more than 50 percent.

12 ASSEMBLYMAN SANTABARBARA: That's a good
13 piece of information to know, though.

14 I'm going to be looking into that.

15 And, yeah, with bridges, you know, once the
16 water rises above the bridge, that's it.

17 It's not simply a matter of just raising the
18 roadway either. It may be -- that may not be
19 possible. It may be that you have to relocate or
20 redesign these roads.

21 ERIK BACKUS, P.E.: Yeah, one of the things
22 that we did as a project, I worked with
23 Chase Winston in the town of Sherburne. He's a Town
24 highway superintendent. And we looked at his
25 culverts. We did a whole inventory of every culvert

1 in the town for him as part of a project with him,
2 to then identify all the watersheds that went into
3 it.

4 We actually found that, again, there was a
5 comment made earlier, that there was inadequate
6 culverts in those locations.

7 That kind of project identified quickly that,
8 in addition to thinking about, just, "as I have a
9 culvert problem, to fix it," I need to rethink about
10 what size that is, and adjust things.

11 And a lot of times it's also looking at
12 adjusting infrastructure, like, nearby bioswales
13 that would lead into those culverts, and things of
14 that nature, that you need to look at.

15 So some of the green infrastructure that was
16 mentioned by DEC would be very applicable in those
17 cases.

18 So, again, it's a very contextual-based
19 approach that must be taken in these situations.

20 ASSEMBLYMAN SANTABARBARA: I guess in -- you
21 talk about the storm events, and, certainly, the
22 storm events have changed, with climate change,
23 and -- but what our previous speaker talked about,
24 the localized measures, the stormwater control, the
25 erosion control, preserving wetlands, how much of an

1 impact do you think that has on these major events,
2 or does it -- are these major events going to happen
3 anyways?

4 ERIK BACKUS, P.E.: They -- they -- events
5 are [indiscernible] -- obviously increasing.

6 We can look at the climate models. We
7 understand --

8 ASSEMBLYMAN SANTABARBARA: The stormwater
9 ponds can only hold so much; right?

10 ERIK BACKUS, P.E.: Right, but -- exactly,
11 somewhat.

12 -- but, at the same time, by developing more
13 aggressive stormwater infrastructure that abates the
14 amount of high-volume, high-velocity flows, you have
15 less chance of downstream events occurring as
16 catastrophically.

17 And that's just the -- that's the science and
18 the engineering behind it.

19 So it's a both/and, it's not an either/or.

20 We have to look at both the stormwater
21 measures that are going to abate, and do the best we
22 can to control it, understanding that we're going to
23 have higher-velocity flows and higher-volume flows
24 that are going to occur, Assemblyman.

25 ASSEMBLYMAN SANTABARBARA: And I want to

1 circle back to the challenges, and forecasting these
2 events has been more challenging in recent times.

3 And you mentioned low-frequency,
4 large-magnitude events.

5 Can you just walk me through that?

6 ERIK BACKUS, P.E.: So when we look at risk
7 analysis --

8 And I actually just did a vulnerability
9 assessment for a small municipality in the
10 North Country.

11 -- we look at two factors, primarily.

12 One is:

13 What is the frequency of an event that would
14 occur?

15 What are we seeing?

16 How is that changing?

17 And, we're looking at the magnitude, or the
18 catastrophic nature, of what that is?

19 How bad will it be, if you will, in layman's
20 terms?

21 What we're seeing is, you look at things like
22 the ice storm in '98, and we've seen increasing ice
23 storms because, as temperatures warm, there's
24 actually more moisture in the air. It also means
25 there's heavier ice. So some places in this area,

1 if you're in the Mohawk Valley, as elsewhere, are
2 seeing these storms that are having greater --
3 greater impact when they occur because, instead of
4 snow, which is relatively dry relative to the ice,
5 there is more weight you have to contend with.

6 So those types of things are going to -- so
7 we're seeing more and more of that. And those are
8 just, basically, what's happened.

9 The impacts of that, from the design
10 perspective, you know, National Grid is contending
11 with this in terms of their lines.

12 We're looking at across all of our
13 infrastructure, and what now we have to really
14 evaluate ice weight, not just snow weight, when we
15 start looking at those things.

16 And that's having a huge impact in how we
17 start designing things as engineers.

18 ASSEMBLYMAN SANTABARBARA: Sure.

19 Okay.

20 And I think my time -- I want to ask one more
21 question.

22 So the other thing I wanted to just circle
23 back to: So the flood forecasts don't exist
24 everywhere?

25 ERIK BACKUS, P.E.: In many places they do

1 not.

2 ASSEMBLYMAN SANTABARBARA: So they -- how do
3 we -- what's the best way to catch up on that?

4 I mean, we should have forecasts everywhere.

5 ERIK BACKUS, P.E.: Right, ideally.

6 And that's what I was mentioning to my
7 colleague down at ESF, is working on trying to use
8 the National Water Model, which is a new emerging
9 technique and framework that tries to understand
10 water flows better, to enable us to do better
11 flood -- you know, flood analysis so we can get to
12 those lower-flow places.

13 You know, the Mohawk River's getting -- has a
14 model.

15 But you'll get to someplace, like in the
16 upper to the Chub River, they don't have a model.

17 And that's a huge issue, especially for
18 places like Lake Placid, where I'm working right
19 now. And Whiteface is not getting enough water out
20 of the Ausable River to make up for the snow that's
21 not falling anymore.

22 And so it's a huge cost we have to start
23 thinking about from our tourism perspective.

24 And obviously you know, the Olympic region is
25 a huge part of that tourism drive for the state.

1 ASSEMBLYMAN SANTABARBARA: Is that -- that's
2 something that -- is that something that's underway?
3 Or is it something that is -- I know --

4 ERIK BACKUS, P.E.: It's not --

5 ASSEMBLYMAN SANTABARBARA: -- when I did
6 projects, like, if we looked out a section of the
7 river, we would just turn that over to FEMA, or
8 whoever, to update the maps.

9 But is that how this is progressing, or is
10 there a larger initiative that's underway somewhere?

11 ERIK BACKUS, P.E.: -- so, NOAA (National
12 Oceanic and Atmospheric Administration) does have
13 some grants out. And that's where Dr. McCall [ph.]
14 is working from.

15 It needs more funding. We just don't have
16 adequate funding to support that at this time.

17 ASSEMBLYMAN SANTABARBARA: Does that come
18 from the State, though? Or is that --

19 ERIK BACKUS, P.E.: Right now it's federal
20 funding --

21 ASSEMBLYMAN SANTABARBARA: Federal.

22 ERIK BACKUS, P.E.: -- that's supporting his
23 work.

24 But the Center of Excellence funding would
25 support additional initiatives along those lines.

1 And so being able, again, to get to the
2 one-million-dollar level for the Center of
3 Excellence would be very helpful and to start
4 looking at that.

5 And as you think about the priorities that
6 are put forward to the center, or requests to the
7 center, are probably more appropriate, we can get
8 that into the right mix.

9 And, again, with some of the ice-jamming
10 issues go right along with those as well.

11 ASSEMBLYMAN SANTABARBARA: Got you.

12 Okay, I'm going to turn it over to my
13 colleague because I'm out of time here.

14 ASSEMBLYMAN WALCZYK: Thank you, Chairman.

15 And thank you, sir.

16 We've come a long way from a green tent on
17 Fort Drum --

18 ERIK BACKUS, P.E.: That's right.

19 ASSEMBLYMAN WALCZYK: -- wearing camo, where
20 your battalion's motto, and it was awesome to have
21 you as a battalion commander, was "Fight to Build."

22 And sometimes we fight to build here in
23 Albany, and a big part of that is today.

24 So thank you for your service in uniform.
25 You were an awesome leader there.

1 It's awesome to see you serving out of
2 uniform, and continue to push New York State in the
3 right direction.

4 So, thank you for your written and oral
5 testimony, first and foremost.

6 I recently got named to the
7 Birkholz Institute Nutrition Task Force for
8 St. Lawrence River and the whole Great Lakes system.

9 So, some of your written testimony, I'm
10 probably going to be sharing on a conference call
11 sometime soon, because I think, while we can
12 criticize New York, we're far ahead of many of the
13 midwestern states that eventually are sending us
14 water.

15 And your "contaminant" section is especially
16 pertinent there.

17 Are you familiar with Rates, and the group
18 that's worked on the Rio Grande?

19 ERIK BACKUS, P.E.: Absolutely. Absolutely,
20 very familiar.

21 Well, I knew Jim Bonner very well, who ran
22 that company. And, of course, you know, some of the
23 folks in the program right now.

24 Yes, sir.

25 ASSEMBLYMAN WALCZYK: Can you talk a little

1 bit about monitoring equipment, whether it's
2 contaminants or for flooding, and what we need as
3 far as resources and direct resources, finances from
4 the State, and infrastructure, to put those devices
5 out there?

6 ERIK BACKUS, P.E.: I can speak to some of
7 that, in terms of the general approach and needs
8 that I think makes some sense, from my perspective.
9 And we may need to get back some answers specific to
10 the technology because I'm not the wiz-guy on that.

11 In regards to the needs, we need better
12 understanding of what is in our waters.

13 As you mentioned, Dr. Twist is working in
14 the St. Lawrence, and looking at latents -- latent
15 chemicals that were in there, mercury content, and
16 things like that.

17 Those are going to emerge in the
18 Hudson River, they're going to emerge in the
19 Mohawk River, they're going to emerge out in, you
20 know, the Niagara River; and we need to look at
21 what's going on with that.

22 And so to have the technologies that can look
23 at what's happening in our waterways.

24 Now, Rates has got a suite of different
25 sensing capabilities that have been deployed, for

1 instance, in Rio Grande Valley down in Texas.

2 We've done some of that work in the
3 Hudson River, specifically out of our Beacon Campus.

4 And we are looking to expand that some more.

5 In terms of specifics on what we would need
6 for resources, I think we'll have to get back to you
7 on the specifics on it.

8 ASSEMBLYMAN WALCZYK: Okay, great.

9 And then I wanted to conclude by talking
10 about a thing that is, you know, most important to
11 me, especially as we head into another flooding
12 season on Lake Ontario and St. Lawrence River.

13 And, you know, three years ago people were
14 asking: Is this the new normal?

15 And I think that question is out the window
16 now.

17 Everyone's watching what's going on in the
18 Upper Great Lakes, and that water is all headed this
19 way. And we know what kind of winter we've had, and
20 everyone else has had.

21 So -- and looking at the levels today, what
22 can -- and it's similar to the question that I had
23 for our representative from the Department of
24 Environmental Conservation: What do you think are
25 some best-design practices when we're talking about

1 residents who have built right on the water?

2 And you've seen, you live there, you know all
3 of the various situations that we've got.

4 How do you -- how do you -- from the
5 strategic level, not even the tactical level, how do
6 we tackle this?

7 ERIK BACKUS, P.E.: I think it's going to be
8 a com -- you know, there's no one silver bullet for
9 any of these things.

10 This is a really -- it's a complicated, both,
11 an engineering task, in terms of the immediate
12 triage, if you will, of what's going on with, you
13 know, individual residences, municipal buildings.

14 Infrastructure we've built along our
15 waterways, we built it there for lots of reasons,
16 because that's been an economic-driver. It's been a
17 resource to allows us to get transport to and from
18 our sites. It's really important for the state.

19 So we have to look at the engineering
20 challenges, and some of those best practices are, is
21 some of it is hardening?

22 You had mentioned things like riprap, and
23 things like that, earlier, from the earlier
24 testimony.

25 Those are still only some techniques.

1 We think we need to look at staging,
2 stepping.

3 We have to look at different approaches to,
4 you know, whether it be [indiscernible], or
5 different platforms, that are put out into the
6 waterways to control flows. Some of it can
7 be weather -- for specific ice-jamming, that
8 Assemblyman Santabarbara has -- may have some
9 interest in here, in the Mohawk area.

10 So we have to look at whether the kind of
11 structure is jetties and things like that, that may
12 need to be done.

13 I've been encouraged by a lot of the Corps of
14 Engineer work. We actually had a presentation
15 recently from them, on talking about some different
16 ways they're looking at how they do near-shore
17 construction, to allow for some of these things to
18 be done.

19 So there's that.

20 There's also going to have to be some
21 discussions about, you know:

22 What are the zoning laws?

23 What are some of the guidance you can have
24 about how we think about the riverine areas, and how
25 those are managed more effectively?

1 And it really needs to come from the bottom
2 up, from the local legislation -- local level,
3 whether it be municipalities or at the town and
4 county level, up to the State, and reinforcing,
5 enabling them to really rethink how they have
6 established that layering of guidance and law, to
7 allow them to do that, because that directly affects
8 the -- what people will do and what they won't do.

9 And then, of course, I mean, the challenges
10 and the economy are part of that.

11 And, again, I'm not an expert in any of those
12 areas, so I will hesitate to speak to that. But
13 I think that's definitely another part of it that's
14 part of the play.

15 And I think, if we look at several different
16 aspects of that together, I think it may require
17 additional study. Again, we have expertise, both at
18 ESF and at Clarkson. We can certainly look at these
19 things, to come up with some different things, from
20 the economic, through the engineering, through some
21 of the more social- and policy-related issues.

22 I think that would be very good for the State
23 to understand, and be a model for the nation,
24 frankly, given that we really are a state blessed
25 with everything you've got, from the ocean, to the

1 inner lakes, and everything else.

2 So...

3 ASSEMBLYMAN WALCZYK: Thank you.

4 I just -- I just want to conclude, and I know
5 my time's expired, but, thank you and Clarkson and
6 SUNY ESF for the great work that you've done.

7 I know there's a financial ask here.

8 And, you know, the Governor's made it clear
9 that he doesn't want to throw good money after bad.

10 We know that, in any project, if you cheap
11 out on engineering, you're going to see it in change
12 orders in the end.

13 And when you're talking about
14 New York State's environment and our future, this
15 isn't the time to cheap out.

16 You're the experts. We need to continue to
17 do your R&D that's going to make our water cleaner
18 and our shoreline more resilient.

19 So thank you very much.

20 ERIK BACKUS, P.E.: You're welcome, sir.

21 SENATOR MAY: Yeah, just very quickly:

22 Sorry I was -- I had to be out during most of
23 your testimony. But I want you to know I'm fighting
24 to make sure that we get -- we keep the Center of
25 Excellence going, and -- and get more funding for it

1 next year, because I think the work you're already
2 doing is pretty amazing.

3 And Assemblyman Santabarbara has assured me
4 your testimony was really interesting, so I'm
5 looking forward to reading it.

6 ERIK BACKUS, P.E.: Thank you, Senator.

7 SENATOR MAY: I don't know if this question
8 was asked before, but I am really interested in this
9 3 million -- \$3 billion bond act, and if there are
10 specific things we should be asking for, we should
11 be pushing for, to be included as part of that
12 funding?

13 ERIK BACKUS, P.E.: I can't speak to it; I'm
14 not knowledgeable in the bond act itself, Senator.

15 I apologize, I've not read up on that.

16 I will say that, one of the things to really
17 think about is ways we can use communities as
18 testing beds for different new ideas as we come out
19 of -- what we're coming out of the Center of
20 Excellence.

21 Whether it be our HABs research; whether it
22 be our PFOs, PFAs; whether it be some of these flood
23 mitigations; an opportunity for those communities to
24 try some things that are not in standard practice
25 yet, but we are testing, we have good evidence, and

1 we have good, you know, research being done in those
2 areas.

3 Giving them the opportunity to do that, that
4 would be very helpful.

5 Ah, one last thing, yeah, Kelly's reminding
6 me, we have a Bass Master Tournament coming up. So
7 if you could help with that, that would be great.

8 SENATOR MAY: That would be good to know.

9 OFF-CAMERA SPEAKER: Bass fishing is
10 [inaudible].

11 ERIK BACKUS, P.E.: Yeah, yeah, world-class
12 fishing is an important part of the state too.

13 SENATOR MAY: I'm wondering if, to what
14 extent your -- when you're doing research, and --
15 collaborative research, the kind of collaborative
16 research you do, is governance part of the question
17 that you're looking at?

18 Or is it mostly just, you know, the technical
19 side of things?

20 Because that feels like, in watershed
21 management, for example, something where we really
22 need models and best practices.

23 ERIK BACKUS, P.E.: Certainly, both for our
24 colleagues at SUNY ESF and at Clarkson, we are
25 absolutely looking at that, because one of our

1 questions is: Is the regulatory structure, or is
2 the guidance that's available, the best guidance,
3 and the right guidance, for the situation?

4 As we were -- Assemblyman Santabarbara was
5 bringing up, asking about, kind of, what are the
6 best things to think about?

7 How do we look at, you know, dealing with
8 roadways and adjustments?

9 They're very contextual-based, so there's not
10 always a cookie-cutter answer for these.

11 We need to be able to really adapt to the
12 situation that's there.

13 And, so, as we look at that, we have to look
14 at not just the technical solution, but there's
15 other parts of that that may be limiting us, that
16 enable us to do that.

17 So we are looking at those questions.

18 Sometimes they're not as well-resourced in
19 terms of looking at some of those questions, or
20 there's some things that could be done, not
21 necessarily from the State, but other places, that
22 can enable us to do it.

23 But other than that, they're definitely being
24 looked at, Senator.

25 SENATOR MAY: Great. Thank you.

1 Senator Helming, did you have anything?

2 SENATOR HELMING: Yes, please.

3 I want to thank you for being here, for your
4 testimony.

5 And I'm sorry I had to step out, I had
6 another meeting. But I will read the presentation
7 that you left for us.

8 I too wanted to echo what Senator May said
9 regarding the Centers of Excellence.

10 I think you have a proven model. You're
11 producing excellent information.

12 And I will be a strong supporter and advocate
13 for maintaining those Centers of Excellence.

14 I was curious, on the topic of, you know,
15 working with other agencies, or other organizations,
16 if you will, and thinking about roadways, culverts,
17 and so many of the areas where our -- say, our town
18 highway superintendents or our county highway
19 superintendents are involved, do you partner with
20 the Cornell roads programs?

21 ERIK BACKUS, P.E.: Absolutely.

22 So we actually presented at their annual
23 highway conference two years ago, talking about some
24 of our capabilities.

25 Chase Winston, who is a town supervisor in

1 Oneida County, town of Sherburne, was our
2 co-presenter. And we worked with them to help deal
3 with some of their culvert issues.

4 And so, absolutely, Cornell Local Roads is
5 part of the family of folks we work with.

6 Personally, that's one of my partners. And
7 we've worked through how we can think about
8 roadways, and other infrastructure tied to roadways
9 that can be improved, whether it be for water issues
10 or other issues that they have.

11 SENATOR HELMING: Thank you.

12 ERIK BACKUS, P.E.: No problem.

13 Thank you, Senator.

14 SENATOR MAY: Great.

15 Thank you for your testimony, thank you for
16 being here, and for the good work that you're doing.

17 ERIK BACKUS, P.E.: Thank you.

18 SENATOR MAY: Next up we have the director of
19 planning for Ontario County, Tom Harvey.

20 TOM HARVEY: Thank you.

21 And taking direction from the Chair, I will
22 summarize my comments.

23 And I'm not here today to talk about
24 shoreline mitigation and/or repair and reaction.

25 I'm here to talk about the causal effects.

1 And, you know, you don't solve flooding
2 problems at the shoreline. You solve them up in the
3 watershed.

4 And we need to take a look at what we do in
5 our watersheds, and how our regulations and our
6 programs affect our reactions.

7 The state of our current stormwater
8 regulations, implementation of our stormwater
9 facilities, and those regulations through local
10 planning boards, outdated data on which
11 stormwater-runoff calculations are made by the
12 engineering community, and a scarcity of funding for
13 stormwater remediation projects, all contribute to
14 the problem in our rural areas.

15 So let's talk about the DEC Stormwater
16 Phase II regs.

17 If you're building a new residential
18 subdivision, your standard is a 15-year-design
19 storm.

20 Senate Helming mentioned earlier,
21 microbursts.

22 And I'm telling you right now, those
23 overwhelm a 15-year-design facility.

24 There is no guidance in the regulations from
25 the engineering community to think about, when those

1 facilities are overburdened, how does the water run
2 through that residential subdivision?

3 And I'll tell you what happens now.

4 It runs -- finds the lowest point. It runs
5 into -- down somebody's driveway, into their garage,
6 and in their front door.

7 Happens every year in Ontario County.

8 The regs don't have a clear responsibility or
9 guidance to accommodate existing stormwater flows,
10 and, especially, detention, where there's not a good
11 understanding by the engineering community of that
12 responsibility.

13 We worked on a project in our office with our
14 Office of Economic Development, a redevelopment
15 project straddling the village of Shortsville and
16 the town of Manchester line. It involved a
17 300,000-square-foot new facility. And the first
18 site plans that were submitted completely ignored
19 all the upland stormwater flows.

20 Every spring, there was natural detention
21 that happened on this property.

22 The property was -- you know, the engineering
23 plans were all grated to completely eliminate that
24 stormwater detention.

25 If it wasn't for the fact that county

1 planning was involved in that project, the end of
2 the -- design of the facilities would have been a
3 third of the size that they needed to be, and
4 property -- industrial property neighboring a
5 densely-populated residential area.

6 I think another deficiency in the stormwater
7 regs, is there's no requirement to take a look and
8 model the upland flows.

9 And, again, we talked about that example.
10 And I've got several others, happens every day.

11 There's a lack of understanding and
12 implementation of the DEC in the existing regs by
13 many municipal boards.

14 Once an engineer in front of a local board
15 says, "Hey, the design meets DEC Phase II stormwater
16 requirements," click, off the review goes.

17 And we don't look at the watershed. We don't
18 look at what's happening downstream.

19 We just address what happened in our
20 stormwater mitigation for a 15-year-design storm on
21 our property.

22 Many local boards also errantly assume --

23 And I've got to tell you, it happened to me
24 in a planning board meeting last night.

25 -- that, when each lot in a subdivision is

1 less than an acre, oh, we don't even need to
2 register for the statewide general permit for
3 stormwater discharges during construction.

4 Blatantly not true, but local boards don't
5 understand that.

6 There are very few zoning laws and
7 subdivision regulations that have language in them
8 that talk about no net increase in stormwater flows.

9 And when they do, they still rely on a
10 10-year- or 15-year-design storm.

11 They concentrate mostly on positive drainage;
12 get the water off of your property.

13 Rainfall intensity, those engineering calcs,
14 or standards, that are used for calculating runoff
15 amounts, they need updating.

16 You know, I'm glad to hear there's work being
17 done on that, but that's part of the problem.

18 We've taken advantage in Ontario County, many
19 times, and many of our partner agencies as well, of
20 water-quality-improvement program funding. And
21 we've done several very successful projects over the
22 years.

23 Unfortunately, last year, some changes in
24 that program seemed to make some of our projects
25 ineligible, such as the Kashong Creek detention

1 project called for in the Seneca Lake Watershed
2 Management Plan. It was rejected as a strictly
3 stormwater-management project, and not eligible for
4 funding, just at the time when, again, the problems
5 in the watershed, fix it in the watershed.

6 And it's making it harder for to us get
7 funding.

8 And, again, the long history of being
9 involved in agricultural operations personally, and
10 a big fan of agriculture, very important for our
11 rural character, a good healthy environment, but,
12 some of our practices that are accepted, tiling,
13 ditching, there is no requirement to replace that
14 stormwater detention that happens naturally on our
15 agricultural land.

16 And those pieces of the project, even when a
17 farmer wants to do it, they're not eligible for
18 funding.

19 You know, we want to get -- be very efficient
20 in our agricultural operations, and in our doling
21 out of scarce financial resources.

22 But some of those little niceties that really
23 impact downstream need to be funded, and taken a
24 look at.

25 And I'm not saying that happens -- has to

1 happen on every individual farm. But, again, the
2 watershed, or that local stream's watershed, or --
3 needs to be reviewed, and detention built into that.

4 So I'm just going to summarize:

5 You know, expanded funding is needed for
6 stormwater mitigation projects up in the watershed
7 where it's the most effective.

8 State regulations do need to be updated, and
9 to ensure that new development is having no net
10 impact on stormwater discharge rates and quality, to
11 eliminate the need for future after-the-fact
12 mitigation.

13 More education and guidance is needed for
14 local planning boards and design professionals, to
15 clearly understand the state regulations and
16 properly implement those stormwater regulations at
17 the local level.

18 And, again, we need to stop approving designs
19 for new facilities that don't adequately incorporate
20 stormwater-mitigation projects throughout our
21 watershed.

22 The problem just isn't at the shoreline.

23 Thank you.

24 SENATOR MAY: All right, thank you.

25 It's great to hear from a fellow stumpy.

1 I read your recommendations as, basically, we
2 need more SUNY ESF graduates in local government and
3 zoning.

4 Is that -- would it be summarized to that?

5 TOM HARVEY: Thank you. Good to hear.

6 SENATOR MAY: Yeah.

7 So do you have a recommendation?

8 So you have a lot of complaints about using
9 the 15-year design.

10 What design, what would you replace it with?

11 TOM HARVEY: Oh, that's a great.

12 And, again, I will defer to my engineering
13 colleagues.

14 But it's certainly something that needs to be
15 looked at in the guidelines.

16 I know it's 15 years a foot of, you know,
17 free board, et cetera, et cetera.

18 But, you know, we're seeing, again and again,
19 we work very closely with our emergency management
20 office.

21 It's our department that wrote the County's
22 emergency management plan.

23 And, again, every year we see the results of
24 these little microbursts, even in a small watershed,
25 bigger watershed. And it impacts people that have

1 those 30-year mortgages. They're getting flooded
2 two or three times during that period. And it's
3 because those stormwater infrastructure in their
4 neighborhood is overburdened. And no thought was,
5 how does that excess water move through a
6 subdivision?

7 SENATOR MAY: Yeah.

8 TOM HARVEY: And -- yep.

9 SENATOR MAY: Well, thank you for calling
10 attention to that.

11 And I do know, you know, a lot of our local
12 governance in New York makes it hard to do
13 sustainability planning at a regional level, or to
14 address issues upstream, or, you know, up in the
15 watershed, before they get to the shore.

16 But I appreciate your work on doing that.

17 And I'm trying to do it here in the
18 Legislature too, so I know I'm not alone.

19 So, are there any other questions?

20 SENATOR HELMING: Yes.

21 Go ahead.

22 ASSEMBLYMAN SANTABARBARA: I just wanted
23 to -- well, I want to thank you for your testimony,
24 and, yeah, I'm going to look into that 15-year.

25 I wonder how they came up with that

1 [indiscernible cross-talking] --

2 TOM HARVEY: Well, it's kind of a compromise,
3 you know.

4 And -- and -- you know, in New York State, we
5 have a long history of wanting to encourage
6 development. And, in many cases, you know, we don't
7 have a lot of impact fees, and other things. And
8 the people are very afraid of the fact that, if new
9 development had to carry its actual cost of its
10 impact, we would discourage development.

11 But, you know, we need to think about that.

12 You know, my brother, many years ago, moved
13 to Michigan. And, visiting one time, and he said,
14 Well, you know, how much is a lot?

15 And I said, Well, you know, an acre, you can
16 buy that, you know, put a house on it. You know,
17 buy in a rural area for, you know, ten,
18 fifteen thousand dollars.

19 And he looks at me and he goes, In Michigan,
20 you'd pay \$80,000 for that lot, because you'd have a
21 school impact fee and a drainage impact fee.

22 And, you know, he couldn't believe how
23 inexpensive it was to develop.

24 And this is from, you know, a state that, you
25 know, has a lot of gray-belt issues, and not a lot

1 of new development. But, still, they understand
2 that new development carries impacts, and it's
3 cumulative.

4 ASSEMBLYMAN SANTABARBARA: Sure.

5 And rainfall intensity, I think you're right,
6 because when I was doing engineering, I don't think
7 those numbers -- those number -- the calculations
8 have been the same for a very long time as far as
9 calculating rainfall.

10 TOM HARVEY: Yes, they have.

11 ASSEMBLYMAN SANTABARBARA: I don't think it's
12 ever changed, even before my time.

13 And I guess they're the same calculations
14 now.

15 So that's a good thing to point out, that it
16 should be looked at at this point, because we are
17 seeing changes, climate change, and
18 [indiscernible cross-talking] --

19 TOM HARVEY: Yeah, you scratch your head.

20 And, again, I'm a chair of a local planning
21 board. And, you know, I look at a subdivision that
22 we approved, and was constructed 15 years ago, or, a
23 stormwater facility that we designed on the FL --
24 Finger Lakes Community College campus. And design
25 exceed those standards.

1 But, you know, in 15 years, the 50-year, the
2 100-year, storm has been exceeded, you know, six, or
3 four, times.

4 And, obviously, in the small watershed of,
5 you know, a couple hundred acres, or 20 acres, those
6 numbers just, you know, don't add up to reality.

7 ASSEMBLYMAN SANTABARBARA: Yeah, and that's a
8 good question for DEC and the engineers, if that's
9 something --

10 TOM HARVEY: Community.

11 ASSEMBLYMAN SANTABARBARA: -- we have more
12 data now too. So, I mean, there's more history, as
13 far as how rainfall behave -- you know, rainfall
14 behavior, and what these patterns are.

15 So I think that's something I will look into,
16 and ask them if they have plans do that at some
17 point, just update those numbers.

18 And, we'll look into the grants --
19 water-quality grants being more accessible.

20 And I think the -- the agriculture, you
21 talked about, yeah, that's interesting to me.

22 So that they're kind of exempt from a lot of
23 these regulations?

24 Is that --

25 TOM HARVEY: Yeah, I mean, you know, you get

1 funding, or you do a project to tile your field.
2 And, you know, it takes away that water-retention
3 capacity of the soils because, you know, you're
4 trying to get on the good farmland, and you get a
5 short window of opportunity there -- right? -- and
6 appreciate the motivation of the agricultural
7 operators.

8 But at the same time, there are downstream
9 impacts that go along with that. Right?

10 And, you know, again, those are -- there is
11 no requirement to think about that, or plan it at a
12 watershed basis. So that throws back to the local
13 municipality.

14 And larger-project grant funding, to say,
15 gee, you know, water quality in the Canandaigua Lake
16 watershed is an issue. We need to -- you know,
17 we're getting too much erosion from this particular
18 stream. We've got to go looking for a site and do a
19 stormwater and water-quality improvement mitigation
20 project somewhere.

21 And those cost -- you know, those additive
22 little decisions that get made create the need for
23 these big projects.

24 ASSEMBLYMAN SANTABARBARA: And I know there's
25 been some funding, at least in my district, for

1 erosion control and water quality, that farms have
2 applied for and received on a project-by-project
3 basis.

4 But the Farm Bureaus I think are up next, so
5 maybe that's a question we can ask them.

6 But, thank you for your testimony.

7 That's all I have.

8 TOM HARVEY: Thank you, sir.

9 SENATOR HELMING: Thank you for being here
10 today, Tom. I really appreciate you making the
11 trip.

12 You had talked about local land-use boards,
13 planning boards, zoning boards, et cetera.

14 In your opinion, it sounds like you believe
15 that they play a role in helping to prevent
16 flooding.

17 What can the State do to help?

18 I think you mentioned, like, possibly
19 educating local planning board members? local town
20 board members?

21 TOM HARVEY: Yeah, I think, you know,
22 certainly, and, you know, we do have -- we host
23 every year training from the state -- department of
24 state, local government services.

25 But, there's not a lot of targeted training,

1 even from that group, that talks about stormwater
2 issues and stormwater mitigation.

3 A lot of the code enforcement officers get
4 training through -- sponsored by the soil and water
5 conservation districts, and other programs, even
6 Cornell Cooperative Extension. But it often doesn't
7 translate to what's available for planning boards.

8 And -- and I think -- you know, I'll just say
9 it:

10 Oftentimes these rural boards don't have a
11 lot of resources. They try to keep costs down.

12 They may not have a town engineer looking at,
13 or engineer hired by the town looking at, these
14 plans and bringing up these issues, because they're,
15 again, trying not to discourage development.

16 And, you just don't see a depth of review of
17 the -- of stormwater mitigation in these projects,
18 and they all add up.

19 SENATOR HELMING: Tom, I just want to have
20 you clarify for me: Is there any reason why that
21 the local land-use boards couldn't add review
22 criteria for looking at the entire watershed?

23 TOM HARVEY: Well, again, it's an entire
24 watershed for the stream, the ditch, the upland
25 area.

1 But, you know, you have to carefully word it
2 so you're not asking somebody to look at the whole
3 Canandaigua Lake watershed. Right?

4 But, you know, there is nothing preventing
5 that.

6 I think the fear is, that they're adding
7 engineering costs and burden on individual
8 applicants.

9 And I see a very -- a reluctance to do that.

10 SENATOR HELMING: Yep.

11 And just if you would, if you're comfortable
12 with it, just talking for a moment on watershed
13 organizations; watershed councils, watershed boards,
14 and the role that they play in flood prevention,
15 mitigation, et cetera.

16 TOM HARVEY: One of our very significant
17 partners are the local watershed agencies, such as
18 Canandaigua Watershed Council, and they do projects
19 independently.

20 We team with them.

21 We're doing one now on the FLCC campus to
22 address Fallbrook and their stormwater projects.

23 They're very important.

24 We work with Honeoye, we work with the Seneca
25 Lake Intermunicipal Organization as well, that

1 watershed management group, and SLAP 5 partners in
2 the past.

3 So, you know, very, very important work that
4 volunteers do, in many cases, to elevate the
5 public's understanding of the issues, and the
6 importance, whether it's, you know, home lawn
7 fertilization, or these bigger stormwater projects.

8 So, great partners, and very important.

9 SENATOR HELMING: I just wanted to mention
10 too, I agree with you that, the watershed councils,
11 the watershed boards, around the Finger Lakes play
12 an incredible role in protecting water quality,
13 flood mitigation, et cetera.

14 And it's incredibly important that the
15 funding be restored, or maintained, in the budget
16 for the employees of those watersheds.

17 You have to have someone who's a full-time
18 employee, who's really rounding up all of the
19 municipal agencies and organization.

20 In Ontario County, around Canandaigua Lake,
21 how many municipalities do you work with?

22 It's got to be, 14? 17?

23 TOM HARVEY: You know, I think there are
24 seven in the watershed.

25 There are 26 municipalities just in

1 Ontario County.

2 The Seneca Lake Intermunicipal Organization,
3 you know --

4 SENATOR HELMING: So there are a number?

5 TOM HARVEY: -- that one is, like, 52.
6 I mean, it's a staggering number.

7 SENATOR HELMING: And I believe they got
8 funding one year, and it wasn't [indiscernible] --

9 TOM HARVEY: Yes, and we're working with
10 that. We're administering the grant on behalf of
11 that organization.

12 SENATOR HELMING: And then, just real quick,
13 how has past flooding impacted the county's
14 infrastructure?

15 TOM HARVEY: And that certainly is always a
16 challenge. And we're always looking for matching
17 funding, and -- to -- because of all these -- these
18 programs are -- require the matching funding.

19 And it hurts the counties, and I'll be
20 perfectly honest, it probably hurts the soil and
21 water conservation districts the worst, not so much
22 the tax cap, but the fact that so many of these
23 programs are reimbursement grants. And the
24 districts have limited resources on which to pull
25 and front those costs.

1 SENATOR HELMING: Thank you.

2 SENATOR MAY: Thank you.

3 Thank you for your testimony.

4 TOM HARVEY: Thank you very much as well.

5 SENATOR MAY: Next up we have

6 Elizabeth Wolters from the New York Farm Bureau.

7 Welcome.

8 ELIZABETH WOLTERS: Thank you for having me.

9 I'll be brief, as the day is getting long.

10 My name is Elizabeth Wolters. I'm the deputy
11 director of public policy for New York Farm Bureau.

12 Our farmers are on the forefront every day of
13 these adverse -- increased adverse weather events
14 across the state.

15 And I wanted to draw attention to not only
16 the national-headline storms, like "Irene," "Sandy,"
17 and "Lee," the instance that we're seeing on
18 Lake Ontario, but our daily farming activities have
19 been impacted by these, particularly up by the lake.

20 I talked to one farmer who said: You know,
21 yeah, the lake level rising is a concern for
22 infrastructure and the obvious effects.

23 But one of the big effects that it's having
24 on agriculture is the saturation of the soils by the
25 lake. It is increasing the time it takes for the

1 lake soils to drain, so it's delaying the planting
2 season even further.

3 Couple on that, additional rainfall, and
4 those types of activities, we're seeing that getting
5 out on field is a much more difficult process in the
6 spring.

7 It happens on Lake Ontario. It happens on
8 many of the creeks, rivers and streams that our
9 farmland is adjacent to.

10 So I wanted to make just that point as an
11 aside, and I want to be brief and not read my
12 comments.

13 I do want to draw attention to the fact that
14 crop losses are needed in order to receive federal
15 assistance.

16 So, emergency declarations are very
17 important, timely ones are very important.

18 But there needs to be an understanding that
19 these losses aren't necessarily covered by any of
20 our federal programs because of the difficulty.

21 And accounting for the losses, the range,
22 depending on the crop-insurance program at the
23 federal level, can range anywhere from a 15 percent
24 loss up to a 50 percent loss, depending on the
25 program.

1 So that is a challenge.

2 There is a challenge with making sure that,
3 if it's in an area where crop production is for
4 feed, ensuring that there is feed available for
5 animals.

6 We are very lucky to have the eat-in network,
7 which is run through Cornell Cooperative Extension
8 here in New York.

9 That does have a communications-forum
10 platform as part of the program. It helps connect
11 farmers with feed from other areas in the state, so
12 that they can supplement, and find those resources,
13 in order to ensure the welfare of their animals.

14 I'll just close by saying that, you know,
15 we've been really fortunate with the coordination of
16 all the agencies in these events, even down to
17 Department of Agriculture [indiscernible].

18 I won't diminish their work at all, because
19 these are really -- really critical services that
20 they help provide, in communication to our farmers,
21 in communicating the needs of farmers, impacted by
22 these adverse weather events and flooding.

23 So I will open up to questions.

24 Really appreciate you having us here today,
25 and you have my testimony, so...

1 SENATOR MAY: Oh, thank you so much.

2 Thanks for being here, thanks for your
3 testimony.

4 I know farmers are the victims of a lot
5 flooding damage.

6 Farmers also can play a real role in
7 preventing flooding by their land management, and
8 that kind of thing.

9 I don't know if that's something the
10 Farm Bureau is involved in, sort of helping farmers
11 understand how managing their own land has an impact
12 downstream on flooding, and making sure, you know,
13 whether it's no till or cover crops or -- or having
14 buffers along -- along waterways.

15 How involved is the Farm Bureau in that kind
16 of education for farmers?

17 ELIZABETH WOLTERS: So, our farmers are
18 really -- the education component of all those
19 practices really comes out of our land grant
20 university, our Cornell Cooperative Extension; those
21 people are the boots on the ground.

22 What Farm Bureau does is try to help connect
23 those folks advocate here in Albany in terms of
24 programs that are needed in order to adopt those
25 good practices.

1 We were happy to participate a couple of
2 weeks ago at the soil-health roundtable, to talk
3 about, you know, soil health, because that has such
4 a large component on how much water the soil can
5 hold.

6 We know more organic material, the better it
7 acts as a sponge.

8 There are a lot of practices, whether they're
9 cover crops to prevent, you know, that quick runoff,
10 riparian buffers around streams and other
11 environmentally-sensitive areas.

12 So we don't necessarily do the education of
13 the farmers. We leave that to Cornell.

14 But we advocate for all the programs and the
15 research that those folks need in order to provide
16 those services to the farmers.

17 SENATOR MAY: All right. Thank you.

18 ELIZABETH WOLTERS: Yep.

19 ASSEMBLYMAN SANTABARBARA: Thank you for your
20 testimony, thank you for being here.

21 Just -- I guess, just a couple of questions.

22 The -- I know there's -- in my district, and
23 particularly in Montgomery County, there have been
24 recipients of a lot of the water-quality grants,
25 erosion-control grants.

1 Have those been helpful?

2 Have you heard feedback, is that -- are those
3 grants working?

4 Are those projects actually helping manage
5 the -- manage the land?

6 Because [indiscernible] -- you know, a lot
7 this comes down to funding, whether or not you can
8 do these practices -- these best practices.

9 ELIZABETH WOLTERS: Yeah, and depending on
10 what practices they're doing, most of them are
11 cost-share. So, in the farm economy right now that
12 can be a challenge.

13 But, yes, they are very helpful.

14 We advocate for that funding.

15 We have been supportive of the bond act
16 that's going through now because it could provide
17 for more resources.

18 There is a mention in the brief language
19 there about, you know, on farm practices.

20 And we want to make sure that there is enough
21 resources for farmers who want to participate in
22 water-quality projects.

23 ASSEMBLYMAN SANTABARBARA: Yeah, and,
24 unfortunately, they're competitive grants, so not
25 everybody is able to secure them, depending on

1 certain conditions.

2 I -- I guess I would ask you, in the budget,
3 would it be helpful to fund more of these projects,
4 these competitive grants, or have another source
5 of -- source of accessing this type of funding?

6 ELIZABETH WOLTERS: Yes, more money is always
7 great.

8 We're happy with where the EPF is right now.
9 The Governor put in full funding for a majority
10 of -- I think all of the programs that we look at
11 for these types of water-quality projects.

12 I guess we're careful of asking for too much
13 because there's -- they can only get the money out
14 so quickly.

15 So making sure that we have a consistent
16 year-to-year funding source I think is important
17 over just big large sums in one or two given years.

18 ASSEMBLYMAN SANTABARBARA: And you mentioned
19 declaring a state of emergency.

20 Is that something the State has not done?

21 Is that -- I guess -- you know, the county
22 can do it, and then the state can do it.

23 Is there -- you mentioned there have been
24 some -- maybe some issues as far as timeliness of
25 that.

1 Could you just talk about that a little more?

2 ELIZABETH WOLTERS: Yeah, so I think the
3 State -- the counties and the states have responded.

4 I think we just, I believe it was last week,
5 got the final declaration from the federal
6 government on a couple of the areas around Ontario,
7 and then also in the Fulton-Montgomery area, for the
8 Halloween storm.

9 So it does take time because a lot of it is
10 just based on the regulations, and what losses, and
11 kind of the proof process.

12 ASSEMBLYMAN SANTABARBARA: Sure.

13 ELIZABETH WOLTERS: So we encourage farmers,
14 if you do have losses, even if you don't think that
15 you're going to qualify for programs, that you
16 report those losses, because it does help impact
17 those decisions at the federal level.

18 ASSEMBLYMAN SANTABARBARA: Okay. That's all
19 I have.

20 Thank you.

21 ELIZABETH WOLTERS: Uh-huh.

22 SENATOR MAY: Senator Helming?

23 SENATOR HELMING: Elizabeth, I just want to
24 thank you for being here, and for your testimony.

25 I feel that all too often, when we talk about

1 flooding or we talk about runoff, the finger's
2 pointed at the farmer, and that's not always the
3 case.

4 What I found from traveling around the state
5 in my work on several water boards, is that the
6 farmers are great partners. They have been so
7 receptive to new best-management practices.

8 And to the Assemblyman's point, you're right,
9 it's very helpful when the farmland/the FPIG
10 programs are available, or the manure-storage
11 program funding is available.

12 And the more opportunities that we can
13 embrace to help the farmers, I think it's going to
14 help with flooding and water-quality mitigation.

15 So I just want to thank you again.

16 I know you're always available should any
17 questions arise.

18 ELIZABETH WOLTERS: Uh-huh.

19 SENATOR HELMING: I also want to compliment,
20 although Farm Bureau maybe wasn't a presenter, they
21 have been -- they've had a presence at a number of
22 local events, where farmers get together with people
23 from watershed groups, and they talk about
24 best-management practices and how to implement
25 those.

1 And I think the more we promote that, all of
2 us getting together and talking about that, the more
3 success we're going have.

4 ELIZABETH WOLTERS: And we work in close
5 concert with Soil and Water Conservation, NRCS, DEC,
6 all of these folks, to make sure there is a
7 conversation throughout the different levels.

8 We're very lucky here in New York State to
9 have such a robust soil and water, and active soil
10 and water, conservation districts.

11 ASSEMBLYMAN SANTABARBARA: Assemblyman
12 Walczyk, please.

13 ASSEMBLYMAN WALCZYK: Thank you so much for
14 sticking up for New York's -- (turns on microphone).

15 Oh, I got it now. Plenty loud.

16 Thank you so much for sticking up for
17 New York's farmers.

18 I think we've been working in a place where
19 it has been exceedingly difficult, on the policy
20 end, to make sure that their voice is heard loud and
21 clear here.

22 And while -- Senator Pam Helming and I, we
23 sit on the Birkholz Institute Nutrient Task Force
24 for the Great Lakes-St. Lawrence watershed. And,
25 you know, everyone, statewide, agriculture industry

1 included, is concerned about having clean water.

2 Unfortunately, not all the votes in Albany
3 are concerned with the success of the agriculture
4 industry.

5 It's, certainly, us in the Rural Resources
6 Commission are.

7 So, first, I guess, my question is kind of
8 open-ended, because I think there are times where
9 agriculture and the goal of clean water can come
10 into conflict. And I'm hoping you can just kind
11 speak to that.

12 How can -- how can we push agriculture
13 forward -- well, push clean water forward without
14 harming our agriculture industry?

15 ELIZABETH WOLTERS: Well, I think, you know,
16 I'll bring up the "tile drainage" comment that was
17 made previously, that, you know, there isn't a large
18 conversation when a tilage [ph.] project is
19 completed on a farm.

20 There are numerous agencies in the state,
21 from, you know, local soil and water, NRCS, DEC,
22 that all are involved with that type of project.

23 I think, as any landowner, something that you
24 do on your land is going to impact, potentially,
25 something downstream.

1 And our farmers do try to be good stewards,
2 and they do tile drainage or other water-quality
3 projects because they know that.

4 And tile drainage is also done -- is often
5 done to prevent large runoff events which have a
6 larger impact than would happen from having drainage
7 available.

8 You know, there are nutrient runoff that
9 still comes from tilage [ph.] drainage, but it does
10 help mitigate a lot of the sediment. You don't
11 lose, you know, the years of work that you've done
12 in growing the biological material in your soils
13 that help further hold water.

14 So I think the first-and-foremost thing is
15 just to talk to farmers, talk about the practices
16 that they're doing, because I think there's a lack
17 of understanding.

18 You know, I think oftentimes we read about
19 farming, and it's not about New York farming; it's
20 not the practices that we're doing here in New York.

21 It -- we have a breadth and depth of
22 different practices, different types of agriculture,
23 in New York. We have so many unique soil
24 conditions, that we have been doing research for
25 decades on this, and trying to be good stewards of

1 the land, including water quality.

2 We're fortunate to have the Miner Institute
3 up in northern New York doing probably one of only
4 two research projects in the nation on tile
5 drainage.

6 So it's constantly evolving science, and
7 learning more on how to better manage our farms.

8 But I think that the biggest request is to
9 talk to different farmers; talk about their
10 practices, and don't make assumptions that, you
11 know, they're just trying to throw fertilizer down,
12 throw nutrients down, without a plan, because they
13 have plans. And they work with a lot of
14 professionals for guidance and advice on those
15 plans.

16 And, yeah, talk to us.

17 Don't talk to me; talk to them.

18 ASSEMBLYMAN WALCZYK: Very well said.

19 And I think the more we on the Legislative
20 Commission on Rural Resources can amplify that
21 message to our colleagues is going to be critically
22 important for New York's farmers, moving forward.

23 And I thank you again for your testimony, and
24 for sticking up for New York's farmers.

25 ELIZABETH WOLTERS: Appreciate it.

1 SENATOR MAY: Yeah, thank you very much.

2 Next we have Rob Carpenter from the
3 Long Island Farm Bureau.

4 And after that, just one more,
5 Blanche Hurlbutt.

6 Is she here?

7 Hi.

8 ROB CARPENTER: Yeah, I guess it is
9 afternoon.

10 So, good afternoon.

11 I wanted to take this opportunity, first, to
12 recognize the great staff of the Rural Resources
13 Commission.

14 They've been doing a great job on a number of
15 different issues. And I know they don't always get
16 all the credit.

17 But I also wanted to thank you for holding
18 this hearing.

19 This is a very important matter that affects
20 farmers and residents of New York State.

21 My name is Rob Carpenter, and I'm the
22 director of Long Island Farm Bureau.

23 As a county farm bureau, we represent the
24 remaining 550 farm operations on Long Island,
25 primarily in eastern Suffolk County where over

1 30,000 acres of farmland are still in production.

2 Despite the general perception of
3 Long Island, we consider eastern Suffolk to still be
4 rural.

5 So we're very glad that you're having us here
6 to speak for the Long Island area.

7 In my visits and conversations with farmers,
8 we routinely discuss their growing production
9 season, and how farmers have changed planting times
10 in the spring, and harvesting later in the fall,
11 first frost coming later into November, and the
12 increased amount of heavy rain events of two or more
13 inches over a 24-hour period.

14 Additionally, our Suffolk County Legislature
15 has begun a task force to look at how new
16 infrastructure, or reconstruction of our road and
17 infrastructure of transportation, now take into
18 account these heavy rainstorms that are coming into
19 play.

20 Over the last decades, farmers have been very
21 fortunate that more crops have not been lost to
22 these heavy-rain events, impacting farm operations
23 with catastrophic loss.

24 However, we recognize these heavy-rain events
25 are becoming more frequent, and have the potential

1 to create excessive crop damage in the future.

2 Currently, as Elizabeth mentioned, there are
3 few, if any, effective programs to help farmers
4 recover from flood damage should a disaster be
5 declared by the Governor due to a heavy rainstorm.

6 The first and main program in place is a
7 federal program through the USDA Farm Service
8 Agency.

9 If the Governor does declare a county a
10 disaster area, FSA programs are open to farmers who
11 must thoroughly document damage.

12 And, if accepted by FSA, basically, all they
13 are offered is low-interest loans, which the farmers
14 on Long Island generally don't use, because all it
15 does is add to their existing debt burdens, if any.

16 Farmers on Long Island do participate in the
17 crop-insurance program to some extent.

18 But even that program is not effective as it
19 could be, because nothing compares to actually
20 growing a crop and bringing it to market, and
21 allowing the market to run things, versus a
22 crop-insurance program that may pay, for example,
23 the state average in yield or a lower price as
24 compared to free-market.

25 So I did make a couple of recommendations in

1 my testimony, just for your guidance.

2 The first recommendation that I would like to
3 make is, to encourage the Legislature to ask the
4 Commissioner of New York Ag and Markets to develop a
5 New York State crop-insurance or crop-loss program
6 to help our farmers, knowing that these future rain
7 events are going to happen, and find an appropriate
8 source of funding.

9 That local community helping local farmers
10 would go a tremendous way, versus some of the FSA
11 programs or federal programs that are out there.

12 We also believe the best way to handle
13 flooding issues is to prevent them before they
14 happen.

15 The soil and water districts in each county
16 across New York and the United States have already
17 been working towards that goal.

18 Our soil and water districts, to my
19 knowledge, are the only entity in New York that is
20 established to work with both private landowners and
21 public landowners at the same time.

22 And that's a very valuable resource.

23 Districts are currently implementing
24 programs, including, but not limited to, floodplain
25 restoration, stream bank and river restoration,

1 drainage and irrigation systems. They work with the
2 county on MS4 programs, as well as emergency flood
3 planning and preparedness.

4 And I understand that executive director of
5 NYACD, Blanche Hurlbutt, is due to speak. And she's
6 going to talk more about all of the programs that
7 the districts do.

8 But, with that in mind, one of the
9 recommendations that we would like to bring forth
10 from Long Island, is to work to help the soil and
11 water districts by increasing their funding.

12 And we're just suggesting an amount of
13 three to five million dollars annually, so that the
14 districts can continue to do the work of mitigating
15 the flood damage before it happens by utilizing
16 existing staffing and program.

17 And I know it's a tight budget year, and it's
18 just a recommendation, but any help to the districts
19 that you can provide would be tremendous for the
20 great work that they do.

21 Also, the New York State Legislature passed
22 last year the Climate Leadership and Community
23 Protection Act, a very historic piece of legislation
24 with ambitious goals for the next number of years.

25 One of the ways that our farm community will

1 potentially be engaged in this legislation is
2 through carbon sequestration, a/k/a maintaining or
3 sequestering the carbon right in the soils, along
4 with some of the other components that go with
5 farming.

6 Composting has been shown to be an effective
7 tool in adding organic matter to soils, as well as
8 reducing compaction, all while allowing nitrogen and
9 carbon to be sequestered so it can be utilized by
10 the crop that's being planted on that land.

11 Less compaction in the soils will also allow
12 more water to be absorbed and retained, thus,
13 preventing runoff, as well as allowing recharge to
14 watersheds, and in particular on Long Island, our
15 sole-source aquifer.

16 And this is one of the programs that our
17 farmers on Long Island have embraced greatly because
18 they do realize that the agricultural lands are a
19 major source of recharge into our sole-source
20 aquifer.

21 Many farmers are voluntarily embracing
22 soil-health practices, as it's good for the
23 environment, as well as economically beneficial for
24 the farm operations.

25 SENATOR MAY: Mr. Carpenter --

1 ROB CARPENTER: However, investment in new
2 machinery, such as no-till drills, compost
3 spreaders, machinery to actually work the compost,
4 as well as siting issues, need to be made more
5 effective to add these practices to farm operations.

6 SENATOR MAY: Mr. Carpenter, let me just
7 interrupt because you just have two minutes left.

8 So can you jump ahead just to your
9 recommendations?

10 ROB CARPENTER: Yep.

11 SENATOR MAY: I think that would be helpful.

12 ROB CARPENTER: I'm just about finished.

13 SENATOR MAY: Thanks.

14 ROB CARPENTER: So one of the things that we
15 would like to ask for is additional funding for our
16 compost research; additional help with farmers for
17 nutrient management plan and soil-health plans, and
18 capital investment for farmers to be able to do
19 these issues.

20 And, finally, in wrapping up, one of the
21 other things that we've noticed is, in asking the
22 question about being prepared and dealing with
23 things before, could be, some of the regulations
24 that are in place might actually hurt more than is
25 helping, as far as permitting processes or being

1 able to deal with situations.

2 And one recommendation that we have would be,
3 to have the state soil and water committee work with
4 DEC to make recommendations to you as the
5 Legislature, to say, hey, some of these permits or
6 some of these regulations might be better off if we
7 were able to tweak them in certain ways.

8 So thank you very much for the opportunity,
9 and I welcome any questions you might have.

10 SENATOR MAY: Thank you very much.

11 I don't have any questions.

12 Does anyone have questions?

13 ASSEMBLYMAN SANTABARBARA: Assemblymember
14 Smullen?

15 ASSEMBLYMAN SMULLEN: Mr. Carpenter, thanks
16 so much for coming up and telling us the view from
17 Long Island.

18 One of the things that we learned in the
19 Halloween flooding is that an ounce of prevention is
20 worth a pound of cure.

21 And you mentioned specifically the soil and
22 water conservation districts.

23 Could you elaborate a bit further on some of
24 the stream restoration, I guess you could say,
25 authorities that the soil and water conservation

1 districts have in regards to both public and private
2 entities, to be able to coordinate, and to try to
3 get ahead of these issues so we can actually save
4 public resources by not having to do so much after
5 the fact?

6 ROB CARPENTER: Sure.

7 I am not a technical technical expert as much
8 as some of the district managers are.

9 But I do know the districts work very closely
10 with many highway departments and town boards to
11 work on these dream recommendations.

12 And I think that Blanche is going to talk a
13 little bit about maybe one or two of the issues that
14 the we're having with regards to that.

15 And Blanche, I think, can also better fill
16 you in on some of the technical aspects of what the
17 districts do.

18 On Long Island, we don't necessarily have as
19 many streams going around farms more than we do
20 lakes and ponds.

21 So it's not something I'm absolutely familiar
22 with as I probably should be.

23 ASSEMBLYMAN SMULLEN: Thank you.

24 SENATOR MAY: Thank you very much for your
25 testimony; appreciate it.

1 ROB CARPENTER: Great. Thank you.

2 SENATOR MAY: And last, but not least,
3 Blanche Hurlbutt of the New York Association of
4 Conservation Districts.

5 BLANCHE HURLBUT: Hi.

6 SENATOR MAY: Thank you for being here.

7 BLANCHE HURLBUT: Save the best for the last.
8 Right?

9 I'd like to thank you so much for allowing me
10 to be here today to discuss these -- the current
11 flooding emergency and mitigation efforts that need
12 to -- for the future assistance, due to the increase
13 in the extreme weather.

14 I would like to share with you the best-kept
15 secret within New York State, and that is the soil
16 and water conservation districts.

17 There are 62 soil and water conservation
18 districts within New York, counting the
19 five New York City boroughs.

20 These districts work alongside farmers,
21 landowners, counties, towns, and state highway
22 departments to continue to protect New York's soil
23 and water.

24 And I would like to share with you a small
25 portion of the programs and projects in place that

1 soil and water districts provide as a service in
2 New York State.

3 Delaware County is one of them that has
4 created a flood emergency plan which is countywide.
5 And this plan is now being used as a model for other
6 soil and water district counties and town and
7 highway departments.

8 With this flood emergency plan in place, they
9 are being proactive and prepared for the next flood.

10 Other things that Delaware County, right now,
11 has 30 declared flooding events they are working on.

12 Water quality is a great concern due to the
13 erosion issues and the stream -- along the streams
14 and riverbanks.

15 And Delaware County has a -- soil and water
16 district has a pilot project in place, where they're
17 analyzing the water for loads of phosphorous,
18 nutrients, et cetera, due to the erosion, which is
19 another real concern, and will be in the future.

20 Tioga County, just in one year, completed
21 25 -- 24 projects; stream-bank stabilization and
22 rehabilitation over 4,780 feet.

23 They worked with culverts and post-flood
24 emergency intervention training.

25 They worked with New York DEC stream

1 distribution and received six permits.

2 They received 13 DEC emergency authorization
3 permits.

4 They worked with the Army Corps and received
5 24 stream permits.

6 And they received 45 -- 44 advice technical
7 assistance to landowners and municipalities.

8 And they've overseen construction for NRCS
9 EQUIP streams stabilization projects.

10 And there's others that I've listed, that
11 I won't mention.

12 And as well as all these projects that soil
13 and water provide, they also provide:

14 Monitoring and mapping of stream issues;

15 Education and outreach;

16 Technical assistance and advice;

17 They help with permit -- farm and landowners
18 and counties with permitting assistance;

19 They help them with grant writing;

20 They design and work in engineering;

21 They construct oversight;

22 They work on hazard mitigation plannings;

23 Culvert inventory, analysis, and designs;

24 And flood response.

25 As you can see, soil and water conservation

1 districts are working hard to protect, care, and
2 preserve the soil and water of New York.

3 With the climate changes and the state
4 legislation passed, and the increase of flooding
5 concerns with 5, 6, 7 inches of rainfall in a
6 24-hour period, and how we are having a lot more
7 100-year storms, it is vitally important to solve
8 these issues and problems before the flooding
9 happens.

10 U.S. legislators can utilize soil and water
11 conservation districts, because this is what they
12 have been, and are doing, by proactive, not
13 reactive, to a very serious flooding issue and
14 concern.

15 For SWCDs to have the ability to help
16 farmers, landowners, counties, towns, and state, is
17 to beef-up their ability to do their job by
18 increasing funding, to provide additional staff to
19 handle the workload and increase their flooding
20 programs.

21 The soil and water conservation districts are
22 only -- are the only entity that can work with
23 public and private landowners.

24 Thank you, sincerely, for having me here
25 today, and to be heard on behalf of the New York's

1 best-kept secret.

2 SENATOR MAY: Thank you.

3 I love that framing.

4 So do you agree that three to five million
5 dollars is the appropriate amount to be asking for
6 additional funding?

7 BLANCHE HURLBUT: Yes.

8 SENATOR MAY: I do agree that soil and water
9 conservation districts do amazing work.

10 And I appreciate you calling our attention to
11 it, and making sure that we know the whole range of
12 it.

13 Anyone else have questions?

14 SENATOR HELMING: I have a quick one.

15 SENATOR MAY: Hold on.

16 ASSEMBLYMAN SANTABARBARA: Assemblymember
17 Smullen.

18 ASSEMBLYMAN SMULLEN: Blanche, thank you so
19 much for coming today.

20 I wanted to go back to the question that we
21 asked our friend from the Long Island Farm Bureau.
22 He sort of deferred to you on it, regarding stream
23 restoration, but doing it ahead of time so we would
24 limit the damage sort of thing.

25 One of the things that we've been talking

1 about in regards to the Halloween storm in Hamilton,
2 Fulton, and Herkimer counties, is trying to get
3 ahead of the issue by having the soil and water
4 conservation districts, with the emergency managers,
5 with the towns and municipalities, to go ahead and
6 try to do what they used to do in the old times, so
7 to speak, is to get ahead of these things, and make
8 sure that the streams were ready for the -- you
9 know, the larger events that we've been -- that
10 we've had, and that we will certainly have in the
11 future.

12 Can you see that the soil and water
13 conservation districts are equipped to be able to
14 share the service across counties?

15 That seems to be the theme that I'm hearing,
16 and how we might make a plan to get some resources,
17 to be able to address this from a regional
18 perspective.

19 BLANCHE HURLBUT: And they're working hard --
20 soil and water districts all throughout the state
21 work very hard to work with everyone.

22 With not having enough resources, sometimes
23 it limits them to be able to work with their
24 counties and towns to do a major project.

25 Helping them with the general permitting that

1 they sometimes get from DEC cuts that time down so
2 that they can step out quicker, and be more of a
3 resource to the towns, the counties, the landowners,
4 that are having any of these issues.

5 ASSEMBLYMAN SMULLEN: And I do really
6 appreciate the soil and water conservation
7 districts' ability to work with other agencies,
8 including DEC for permitting.

9 That always -- that seems to be a major fear
10 of landowners, is that they can't do work on private
11 property because of a concern about having a DEC
12 permit.

13 Now, as far as equipment goes, are the soil
14 and water conservation districts today, are they
15 equipped to be able to do this, or would they need
16 additional plant or equipment to be able to do so?

17 BLANCHE HURLBUT: They definitely would need
18 additional equipment.

19 In certain projects, certain areas that they
20 work with, they sometimes do need equipment.

21 They're a good buddy system.

22 If another sewer and water district has a
23 piece of equipment, and is willing to share,
24 sometimes they share it, sometimes they rent it.

25 But having their own, or the access or

1 ability to get that piece of equipment quickly,
2 would certainly help them.

3 ASSEMBLYMAN SMULLEN: Thank you so much for
4 coming.

5 BLANCHE HURLBUT: You're welcome.
6 Thank you.

7 SENATOR HELMING: Blanche, I think we're just
8 about out of time, but I want to take an opportunity
9 to publicly thank you for being here, and to thank
10 all of the members at conservation districts for
11 always being available.

12 You are the leaders in natural-resource
13 management, whether we're talking about flooding or
14 anything else.

15 I -- in the interest of time, I would love to
16 set up a meeting with you and to go through some of
17 my questions.

18 BLANCHE HURLBUT: Okay.

19 SENATOR HELMING: All right?

20 Thank you.

21 BLANCHE HURLBUT: That would be great.

22 Thank you.

23 SENATOR MAY: Let me just follow up with one
24 final question, thinking about this "best-kept
25 secret" idea.

1 Do you think that that's intentional by the
2 soil and water, sort of flying under the radar makes
3 it -- you're able to work more nimbly, or would you
4 like to be better known?

5 And if so, should we be doing more public
6 information [indiscernible cross-talking] --

7 BLANCHE HURLBUT: I would like to see us
8 better known, because I think we can do a lot more,
9 and people are not aware of what we can do.

10 You know, a lot of people are not aware that
11 soil and water districts can work with landowners
12 and municipalities, and go onto property where
13 municipalities can't.

14 SENATOR MAY: So is public information -- so
15 some budgetary ask for that kind of thing
16 appropriate, do you think?

17 BLANCHE HURLBUT: That would be appropriate.

18 SENATOR MAY: Okay.

19 Well, thank you very much for being here, and
20 for the important work that you and all the soil and
21 water conservation districts do.

22 BLANCHE HURLBUT: Thank you.

23 SENATOR MAY: Thanks.

24 Anyone have closing statements?

25 ASSEMBLYMAN WALCZYK: I just want to thank

1 both Chairs and the staff for putting this together.

2 I thought it was very productive, as we
3 continue to be concerned about flooding and clean
4 water. We hit a lot of great topics today, and
5 I think it was really productive.

6 So thank you, Madam Chair.

7 And NYPA's also has been a great partner.

8 Just wanted to get that out there.

9 Thank you.

10 SENATOR MAY: Well, you know, thank you to
11 all my colleagues:

12 To Senator Helming who did chair the
13 Rural Resources for a long time, and did great
14 work there to;

15 And to the staff, again, for being here, and
16 being an inspiration for this, and making it happen
17 and making it happen so efficiently.

18 And to all of you who have been here, and
19 those who are watching, thank you again.

20 That concludes the hearing on flooding.

21 Thank you.

22 (Whereupon, the public hearing held before
23 the Legislative Commission on Rural Resources
24 concluded, and adjourned.)

25 --oOo--