

CITY COUNCIL
CITY OF NEW YORK

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TRANSCRIPT OF THE MINUTES

of the

COMMITTEE ON ENVIRONMENTAL PROTECTION

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HELD AT: Hearing Room
 250 Broadway, 14th Floor

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 Chairperson

COUNCIL MEMBERS:
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CHAIRPERSON GENNARO: Good afternoon and welcome. I'm Councilman Jim Gennaro, chair of the Committee on Environmental Protection. Today's hearing focuses on invasive species control in New York City and the barriers to increasing biodiversity.

First, I want to acknowledge the actions of DEC for commencing the process to analyze and New York State plants for invasiveness and for joining the other states in proposing to ban commerce in most invasive plants. Their action was the impetus that brought us to the place we are today.

New York City has committed, as we all know, to plant millions of plants, including one million trees, in the PlaNYC 2030 and in its sustainable stormwater management plan, which was developed pursuant to a bill that was passed through this committee. But nowhere has New York City proposed to speak to the invasive alien species in a comprehensive manner that will protect its massive investment in plantings.

Planting obligations are mentioned 49 times in the sustainable stormwater management

1
2 plan. You probably all knew that. That's a joke,
3 you know. You might not have known it was 49
4 times. You know, I was trying to be funny. It's
5 mentioned once in PlaNYC and twice in the open
6 space update to PlaNYC.

7 However, weeding is mentioned only
8 twice in the sustainable stormwater management
9 plan and is mentioned not at all in PlaNYC.

10 Desired and selective terrestrial planting species
11 will not survive without regular maintenance and
12 weeding.

13 New York City is also considering
14 measures to increase biodiversity in public places
15 and public space and sidewalk plantings. Yet,
16 invasive alien species present the primary threat
17 to biodiversity and to the success of New York's
18 planting commitments.

19 Our new plantings with new soils
20 will be very attractive to these species. Without
21 measures designed to control invasive species in
22 New York City, the success of all our planting
23 initiatives remain in doubt. The plantings
24 proposed in the sustainable stormwater management
25 plan are intended to reduce the cost of a hard

stormwater control infrastructure but those capital costs will be avoided only in the planting commitments succeed. For New York City's planting commitments to be successful, invasive species must be controlled.

Today's oversight hearing will focus on the importance of invasive species control measures in New York City and the relationship between invasive species control and increasing biodiversity in public places and sidewalk plantings.

The Council has put some brain waves into this matter. We have a couple of bills that are being written now. So it is our hope to not only have this hearing today but to have what comes out of this hearing have an impact on the bills that are under development now and maybe we'll come up with some other ideas for bills. This is sort of like the onramp to the legislative process. This is how we get some of our ideas.

The first panel is Michael Fellor from the Parks Department and the other gentleman is also from the Parks Department, is that correct? Just state your name for the record

1
2 because I don't have a sheet for you. This is
3 kind of like a low key hearing. I don't think
4 we're going to swear the witnesses. This is not
5 controversial. Normally it's a practice of the
6 committee to put everyone under oath. We're not
7 going to do that today. We'll just proceed.

8 Mr. Fellor, we're happy to have you
9 here today. We certainly appreciate you putting
10 together your good testimony. We look forward to
11 your views and we thank you for making yourself
12 and other folks from the Parks Department
13 available to answer questions. I'd ask you to
14 state your name for the record and begin with your
15 good testimony.

16 MICHAEL FELLOR: Michael Fellor.
17 Good afternoon, Chair Gennaro and members of the
18 committee. My name is Mike Fellor. I'm the Chief
19 Naturalist of the Department of Parks and
20 Recreation Natural Resources Group, NRG. On
21 behalf of Commissioner Benepe, thank you for
22 inviting Parks to speak about invasive species
23 control in public spaces in New York City.
24 Attending with me today are Bram Gunter, Deputy
25 Chief of Forestry, Horticulture and Natural

Resources; Tim Wenskus, NRG Deputy Director and Senior Forester; and Ed Toth, Director of the Greenbelt Native Plant Center.

We are pleased to have this opportunity to speak on matters related to invasive species management. For more than 25 years, Parks' Natural Resources Group, NRG, has been at the vanguard of invasive species management and urban ecology. NRG was formed in 1984 as a team of expert advisors, including foresters, botanists, wetland and wildlife biologists, geographers, and others to protect and defend New York City's natural areas.

When NRG began in the 1980s to inventory the then 8,000 acres of wild area of New York, it became clear that we were witnessing the steady and, in some cases, rapid unraveling of ecosystems. Landscapes were littered with burnt, rusting car chassis and other dumped debris, and porcelain berry, Asiatic bittersweet, and Japanese honeysuckle engulfed trees and shrubs.

In other areas where fallen trees and other disturbance created light-filled gaps, Norway maples formed canopies so dense that all

groundcover vegetation was suppressed, resulting in the erosion of soil. It was clear that a cohesive management plan for natural areas and a commitment to propagating native species was needed to restore New York City's ecologically important open spaces. Today, I wish to discuss our achievements in invasive species management.

I would like to start by explaining why invasive species require human intervention in the first place. Invasive species are organisms removed from their native ecological context that when relocated are freed from the complex ecological checks and balances, the predators, herbivores, pathogens, and competitors, with which they evolved.

Ecosystems display great capacities for self-organization and self-perpetuation and yet they exhibit great vulnerability to the activities of humankind. Intervention to stop the spread of invasive species is needed, primarily in the form of removal and replacement with appropriate native plants that will resist re-invasion, to forestall the unraveling of native ecosystems and the loss of biodiversity and

ecological services. This is nowhere more critical than in and around cities where habitat fragmentation and isolation diminish ecosystem resilience.

Deciding which native species to return to a community is a difficult task. Ecosystems are complex amalgams of interrelated biotic factors, plants, animals, and microorganisms, and abiotic factors water, minerals, atmosphere, light, that occupy the same habitat and interact with and influence each other. This is not an exercise in historical accuracy, like renovating a historic building. We need to select native plants that help restore ecological processes that nudge ecosystems back onto trajectories that build stability and resilience.

Since 1994, the Parks Department has continuously operated the only municipally-run native plant nursery in the country in support of natural areas management. Today, the Greenbelt Native Plant Center stocks up to 450,000 local ecotypic native plants for use in restoration and management of natural areas and for Parks

horticulture. Safely stored in the Native Plant Center's climate controlled seed bank are over 1,500 collections of seeds including everything from fern spores to our most common trees as well as state listed rare and threatened species from within the five boroughs such as green milkweed from the Greenbelt in Staten Island and gamma grass from Pelham Bay Park in the Bronx.

The Native Plant Center partners regionally, nationally, and globally in the conservation of not only the City's, but the region's flora. Now, Parks and the Greenbelt Native Plant Center are one of six partners in the establishment of a national seed bank for the United States.

The Native Plant Center produces native plants in support of some of the City's most important efforts. The forest restoration and management crews operating in the Bronx as part of the Croton water treatment plant mitigation are supplied with all of their plant material from the Native Plant Center. And in a program initiated four years ago, the Native Plant Center is producing initial stages of bulk seed of

35 species of natives that within five years will yield 5 or 6 mixes of bulk native seed for seeding operations on such City projects as Fresh Kills Park. There is currently no source for local ecotypic bulk seed anywhere in the entire northeast.

Not only must we cultivate native plants, but we must work as a city to reintroduce them to the environment. NRG began identifying and removing invasive plants from Parks' natural areas in the 1990s. Since then, NRG has removed invasive species and restored 700 acres of forest.

And since 2007, when Mayor Bloomberg launched the PlaNYC Reforestation Initiative, NRG has expanded their invasive plant removal efforts in order to prepare sites for restoring multi-story forests at a citywide scale. Through the MillionTreesNYC initiative, we have reforested more than 120 acres, including 166,000 trees. We are well on our way to meeting our goal of reforesting 2,000 acres of parkland by the year 2017.

The PlaNYC Reforestation Initiative has expanded NRG's capacity to remove and control

invasive plants by providing resources for site preparation and by enabling us to plant trees that, once they have reach a mature size and establish a closed canopy, will help shade out and prevent the germination of new invasive plants.

Next week on April 24, 2010, with the help of legions of MillionTreesNYC volunteers, NRG will plant 20,000 trees in forest restoration project sites throughout the city.

The reforestation is part of a comprehensive effort to restore New York's natural areas. Over the past 25 years, NRG has restored hundreds of acres of forests and salt marsh with a combination of city, state, federal, and private funding. What began as a small in-house crew in the Bronx soon became a significant citywide land restoration and reclamation program, which has completed over 50 projects in all five boroughs of the City. Invasive plants have been controlled or contained in 20 Forever Wild parks, and treated in several others.

Between 1934 and 1972, land filling and development destroyed 90 percent of the city's wetlands, tens of thousands of acres. In 1990,

with mitigation funding from a major oil spill, NRG began an aggressive program to restore salt marshes. To date we have completed dozens of projects totaling about 200 acres in which we have removed decade's old landfill, reestablished tidal elevations, and re-planted native *Spartina alterniflora*, salt marsh cord grass, the keystone species of the salt marsh ecosystem.

We continue to perform wetland restoration partnering with the New York Department of State and Department of Environmental Conservation, the US Army Corps of Engineers, and the New York City Department of Environmental Protection. As I speak to you today, I have the satisfaction of knowing that contractors are restoring in Marine Park and Paerdegat Park Preserve, both along Brooklyn's Jamaica Bay shoreline, a total of 30 acres of salt marsh and 60 acres of upland native plant communities.

Invasive species do not only include exotic plants such as *Phragmites*, but also animals without natural predators. As those of you aware of your history know, Dutch Elm Disease,

a fungus spread by the elm bark beetle, blighted the iconic American Elm after being introduced to America in 1928. Entire communities of elms were almost completely destroyed, and battles to preserve elms are still being fought today.

While a catastrophic event for America's tree stock, we have learned much from the spread of the disease. Not only must we pursue a diverse tree planting strategy, but we must aggressively work to eradicate invasive species before they cause irreparable harm to our urban tree canopy.

A more recent example is the Asian long horned beetle. First discovered in Brooklyn in 1996 and subsequently in Illinois, New Jersey, and Massachusetts, the ALB is a local, regional, and national environmental threat, already affecting more than 15,500 trees in urban areas. Nearly half of New York City's trees remain at risk of infestation.

Recent infestations have been discovered on Prall's Island, located in the Arthur Kill off Staten Island's west coast, as well as in the Bloomfield section of Staten Island

and in Woodside, Queens. Currently, the State and Federal quarantine zone, which has been enlarged as new infestations are found, covers 101.6 square miles of Brooklyn, Queens, Manhattan, and Staten Island.

Parks has worked collaboratively with our partner agencies, the Animal and Plant Health Inspection Service, APHIS, a division of the U.S. Department of Agriculture and the New York State Department of Agriculture & Markets, to identify infested trees.

Since 2001, state and federal inspectors have examined more than 830,000 and treated more than 450,000 New York City trees on public and private property. Parks has also established the ALB Residential Wood Debris Pickup Program, which ensures that all residential wood debris within quarantine areas is disposed of in accordance with quarantine regulations, and will prevent further spread of the beetle.

We have also stepped up our efforts to reach out to residents, to train them to spot signs of the Asian long horned beetle. Since the fall of 2004 when the ALB debris program began,

Parks has sent a mailer to the residents of Brooklyn, Queens, Manhattan and since 2007 Staten Island to increase awareness about this new service and instruct residents on how to schedule an appointment. Each season, Parks has sent just under 1.2 million mailers to residents living in these boroughs.

We offer the following to provide a different frame of reference for those who ask, do we really need to manage our city's natural areas? The two largest national parks in the U.S., Everglades National Park and Yellowstone National Park, each comprising over one million contiguous wilderness acres, require active management and restoration to combat invasive species, over-abundant nutrient sources, and erosion from overuse.

Everglades and Yellowstone National Parks are large wilderness areas surrounded by matrices of wild and rural land. Most of the natural areas in New York City measure in the tens or hundreds of acres, five orders of magnitude smaller than Everglades and Yellowstone, and are situated in a matrix of asphalt and concrete and,

as such, are far less resistant, resilient, and robust. Yes, indeed, they critically require intervention and continued management.

I'm happy to answer any questions the committee may have.

CHAIRPERSON GENNARO: Well thank you, Mr. Fellor. I greatly appreciate everything that NRG has done and is doing to try to get out ahead of some of these phenomena and to try to keep up. That's really terrific.

Some of the statistics that are put forward in your testimony are very amazing. Under the Asian long horned beetle section, since 2001 state and federal inspectors have examined more than 830,000 trees and treated more than 450,000 New York City trees. Who are these people who are doing this? These would be state and federal folks who are doing these examinations and performing these treatments. Is that right?

MICHAEL FELLOR: They're state and federal technicians.

CHAIRPERSON GENNARO: That's really a lot of trees. How many trees are in New York City? Do we even know that?

MICHAEL FELLOR: I don't know.

Perhaps Bram knows.

BRAM GUNTHER: The estimate is 5.2 million trees on public and private property.

CHAIRPERSON GENNARO: I see. That means that they would have had to examine in the last nine years about a sixth of all the trees that exist and treated about a twelfth of the trees.

BRAM GUNTHER: That's a lot.

MICHAEL FELLOR: Even more amazing, some of the trees require climbing to adequately inspect them.

CHAIRPERSON GENNARO: Right. I used to have his name on the tip of my tongue. I think he was the founder of the NRG. Who was that?

BRAM GUNTHER: Marc Matsil.

CHAIRPERSON GENNARO: Yes, marc Matsil. I know he's moved on from the Parks Department. That's when I first became aware of NRG earlier in my city career.

What we should really talk about is the extent to which folks in the Parks Department

or folks in the Bloomberg administration generally believe that there might be a need for some legislation to further combat this problem. We want to have a robust oversight here and find out what you are doing and we're pleased to hear all of the wonderful things that are going on.

It's great to be guided by PlaNYC and all the good work that went into that. But if there's anything more that we should be doing beyond that in the realm of legislation to help this Parks Department and this Administration, but more critically, future folks who will work at the Parks Department and future administration to make sure that all this good work continues. If you have any thoughts on that, I'd be happy to hear that.

MICHAEL FELLOR: Nothing comes to my mind at this point. But I'd be happy to work with you.

CHAIRPERSON GENNARO: Sure. Let me take this opportunity just to be a little bit parochial. In my own district we have a kettle pond in Captain Tilly Park called Goose Pond. Marc and his guys, before I became a Council

Member, put in a system to create the level of oxygen in the water to raise that up a little bit and to aerate it.

It was a pretty good working system, but now it doesn't work anymore. The system was configured so there was about ten or so spouts, or I don't know what you would call them, that would do the aerating. Of all the ones that were deployed, only one continues to work. I would be more than willing to provide ample capital monies and then some to fix that.

I did put money for a project to do that, so I believe I fully funded that and other things that we want to do with the park. But then with the crunch on the capital budget, that got pushed out to like 2013 or something. That's because the project was my idea and not the Parks Department's idea. That's normally how it works. I get the list from the Parks Department every year and they have their projects that they want to do and then projects that I conceive of.

The projects I conceive of don't always have the same priority of the projects that the Parks Department conceives of. Probably

1
2 because they know better what the parks need and I
3 don't mean that in any way facetiously. But at
4 this point I thought it was a really good idea and
5 I put the money.

6 Short of doing a whole capital
7 improvement of the park, which maybe has to get
8 pushed out a little bit even though I did put the
9 money there, maybe we could do something for that
10 kettle pond and fix that system. We have the big
11 device, the engine that drives these pods or
12 whatever it is that create all of the bubbles. To
13 use a technical term there. That all works, but
14 it's only driving one pod. So I'd just like to
15 fix that and see if we could get that to work a
16 little better. The lake just isn't the same as it
17 used to be when it was working up to speed.

18 So maybe we can figure out some way
19 that NRG could work with the Queens office of the
20 Parks Department which whom I have a great
21 relationship and we can figure out a way to get
22 that great natural resource looking better.

23 I know that in the last couple of
24 years I've put in boatloads of money to Middle
25 Lake restoration projects. There was phase one

which is some kind of ecological restoration and then came to me wanting money for phase two and phase two and a half. So there has been phase after phase of funding that's been allocated but no actual restoration project that I have seen happen. And if you could, take a look on what's going on with that or if you know anything about the status of those, I would appreciate it.

MICHAEL FELLOR: The three phases that were funded by state environment quality bond--

CHAIRPERSON GENNARO: [interposing] I know that they came to me for like big chunks of dough.

MICHAEL FELLOR: For the match. It requires a city match.

CHAIRPERSON GENNARO: Right, but it was hefty. One phase was like 775 and the other phase was like 800. It was big chunks of dough from your average like pipsqueak Council Member to come up with. I didn't mean to turn this into a budget hearing.

I know the folks in the Parks Department that I deal with normally have a great

1
2 interest in doing all kinds of different Parks
3 projects from wetlands restoration and other kinds
4 of things to putting in a sprinkler system so the
5 kids could run through the sprinkler on hot days.
6 So they have all kinds of things on their plate.
7 I really would be interested in knowing when some
8 of the stuff is going to happen.

9 I know we're doing stuff on the
10 shoreline at Middle Lake with the boathouse and
11 all of that. The borough president and I put a
12 bunch of money into that, she much more than I.
13 That's proceeding, but the ecological restoration;
14 I still don't know where that's at. Can you give
15 me some sense of that? This is match funds for?

16 MICHAEL FELLOR: Matching for state
17 environmental quality bond act and we needed to
18 get extensions on our state contract. Now that
19 we've moved forward with the extensions on the
20 state contract, we're beginning the design phase.
21 So we are moving forward with a comprehensive look
22 at Middle Lake. It will involve wetland
23 restoration, stormwater control, stormwater
24 treatment from the Grand Central and the Van Wyck
25 and looking at it holistically and producing a

design.

CHAIRPERSON GENNARO: So we're in the phase now where we're going to design what we're going to do. So that will call for planting, some tweaking of the shoreline, kind of like whatever makes sense. When would that work product be done where we've crystallized what we're going to do? That will be the first step.

MICHAEL FELLOR: That I couldn't say at this point. But we will be able to give you a timetable.

CHAIRPERSON GENNARO: The money went in years ago and that would be a great thing. I just want to see that done at the earliest possible time. I will come back for more questions, but Council Member Crowley has joined us. I'm happy to recognize Council Member Crowley for questions.

COUNCIL MEMBER CROWLEY: Thank you, Mr. Chairman. I have a question, what is that Phragmites? Am I saying it right?

MICHAEL FELLOR: Phragmites. It's a tall invasive grass. If you've ever driven the Belt Parkway in Brooklyn and Queens or maybe

around Flushing Airport and also around Alley Pond Park, it dominates hundreds of acres of mostly what had once been salt marsh or in some cases has invaded fresh water wetlands. So it's a very aggressive invasive non-native plant.

COUNCIL MEMBER CROWLEY: Is it sometimes referred to as weeds?

MICHAEL FELLOR: It is a weed. All Phragmites are weeds and not all weeds are Phragmites.

COUNCIL MEMBER CROWLEY: I live in Queens near Forest Park. I recently had somebody from I believe the U.S. Department of Agriculture ring my bell and spray the green in front of my house with something that would deter Asian long horned beetles. But I think that there was also a group that was working for a company called Davey. Are you familiar with that company?

MICHAEL FELLOR: No.

COUNCIL MEMBER CROWLEY: They've spent a lot of time in the community that I represent.

BRAM GUNTHER: It's Davey Tree Company. They're hired out by the feds. They're

a contractor and they hire them out for this work.

COUNCIL MEMBER CROWLEY: It seems as if they come from a long distance.

BRAM GUNTHER: Well they're a national company, so they have outlets or satellite offices throughout the nation. They're on the size of Bartlett. I don't know if you've heard of that company, but they're national, big tree companies that are usually hired out; even the city hires them occasionally for tree and pruning contracts.

COUNCIL MEMBER CROWLEY: Is that because we don't have anybody locally that we could hire?

BRAM GUNTHER: Well most of these contractors are local. They might have a national headquarters but they have local offices. So the people who they hire are from this area.

COUNCIL MEMBER CROWLEY: When I spoke to them in Starbucks recently. I was having a conversation and they said they were from out of state.

BRAM GUNTHER: I don't know how Davey distributes their labor, but I do know that

they have headquarters in the national cities throughout the country.

COUNCIL MEMBER CROWLEY: And they would be paid prevailing wages?

BRAM GUNTHER: If they're working here, absolutely.

COUNCIL MEMBER CROWLEY: Interestingly enough this morning we had a Parks Committee meeting on synthetic turfs. It seems as if this would want for the Parks Department to maximize surfaces to be permeable. Do you know if that surface is permeable?

MICHAEL FELLOR: That's not my expertise. I'm sorry; I don't know much about synthetic turf.

COUNCIL MEMBER CROWLEY: This introduction is to really maximize the capacity for retaining stormwater and it seems that it doesn't make sense for the Parks Department to create fields like that if they can't retain stormwater and then all of the other issues that come from it. So it's not 100% related, but in some ways it could be something for the Parks Department to look into. Thank you.

CHAIRPERSON GENNARO: Thank you.

Let me take this opportunity also, Mr. Fellor, to ask how we're going with the transfer of city-owned wetlands to the Parks Department that resulted from my wetlands transfer bill. There was a task force that was put together. There was a bunch of wetlands that were identified by the task force which didn't at first capture Arlington Marsh Cove but then we got the administration to reconsider and then we got that in which was a really good thing.

I know that most of the properties that were slated for transfer from other agencies to the Parks Department for permanent protection were actually located in Queens. Have those transfers happened or is this a process? Is this something that you're familiar with?

MICHAEL FELLOR: I'm familiar with the Wetland Transfer Task Force. I think most of the major important parcels have been transferred. I think the area where things have not been so much moving are the smaller properties, things like street ends that there were problems related to how they'd be protected or managed. I know

that there were conversations about possibly another city agency, perhaps DEP, adopting those parcels. But I think most of the large important parcels have been transferred.

CHAIRPERSON GENNARO: Let me make a note to staff. Is Bill here?

MALE VOICE: Yes.

CHAIRPERSON GENNARO: We should check in on that. Sometimes there is a tendency to pass the law and do the bill signing and do what needs to be done maybe before the bill signing like fighting to get something like Arlington Marsh Cove brought in with the whole thing. In order to do that we've got to take like Dan Doctoroff out in like a fire boat or something to go and take a look at the marsh. I guess that he was impressed enough to sign off on it being transferred which was great. It was worth the boat ride to make that happen.

We should take a look at how that's going and kind of its companion bill which was the watershed management plan for Jamaica Bay. I kind of check on that from time to time with folks from DEP and folks from NRDC that were active in doing

that. We should take a look at how they're doing.
Council Member Crowley has another question.

COUNCIL MEMBER CROWLEY: Thank you,
Mr. Chair. In regards to the types of plants that
are best used for planting, do you have a list in
the Parks Department?

MICHAEL FELLOR: We do have lists.
It's very context dependent. There are more
appropriate plants for natural areas, more
appropriate plants within wetlands, some more
appropriate as street trees. We do have lists.
We also have the Greenbelt Native Plant Center
that propagates many of these plants. We also
have a list of plants that are not appropriate to
plant. So our Capital Projects division has come
up with guidelines for plants to avoid that could
cause ecological problems.

COUNCIL MEMBER CROWLEY: This will
help with your maintenance?

MICHAEL FELLOR: Absolutely.

COUNCIL MEMBER CROWLEY: How do you
plan to maintain all those that are currently
being planted?

MICHAEL FELLOR: We do have

maintenance crews that are following up. So it's not just to plant and to walk away. We fully recognize that and in the Mayor's Office plan, that was also recognized that these new sites would require maintenance. The maintenance is usually more intense in maybe the first three years. And then if we get it right, the sites become more self-sustaining. Never totally self-sustaining, but the maintenance requirement becomes more diffuse over time.

COUNCIL MEMBER CROWLEY: Would these be plants it would be best for the city to share with city residents if they have their own opportunity of doing plants that they should look to these certain lists depending on where they live?

MICHAEL FELLOR: Yes.

COUNCIL MEMBER CROWLEY: Would they be made public?

BRAM GUNTHER: In fact, twice a year as part of PlaNYC there are tree giveaways. We try to broadcast the message as far and as wide as we can. They're 90% native trees given away at parklands throughout the boroughs and people who

are interested can come and they can get them for free. I think they're smaller sized, obviously. They're not going to be 14-foot trees because they couldn't get them home. We've always sold out. That is twice a year, in the spring and the fall.

COUNCIL MEMBER CROWLEY: I think it would also be helpful if there was a list. If somebody had the opportunity to put some plantings in their backyard or front yard that they knew which ones would be best.

BRAM GUNTHER: We haven't sent a list to everybody, but if you go to the Parks' website there are several lists. If you go to the website for the Native Plant Center, you can see all the plants that are propagated there. There are also right street plants to plant in the MillionTrees website. They're in several places.

COUNCIL MEMBER CROWLEY: Thank you.

CHAIRPERSON GENNARO: Thank you, Council Member Crowley. I was wondering if these tree giveaways are noticed to the local community boards and local Council Members' offices. Does that happen? It seems like the type of thing that were my staff to get some kind of notice of that,

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2 they would probably bring it to my attention. I
3 don't recall every hearing about it. That's the
4 kind of thing where I knew it was going on at
5 Cunningham Park or something, I would go down. I
6 would be part of it. And let folks that are
7 active in the community that I know are like plant
8 people, I would let them know. Do they happen all
9 over the city?

10 MICHAEL FELLOR: They happen in
11 certain places through the city. It's our private
12 partner, the New York Restoration Project, NYRP
13 that is in charge of this particular plant
14 giveaway.

15 CHAIRPERSON GENNARO: I see. I
16 don't think they interact with us. I just don't
17 think they do.

18 MICHAEL FELLOR: But it would still
19 be on the Parks Department or the City's website
20 for PlaNYC and MillionTrees. We can talk to them
21 and try to spread the message further.

22 CHAIRPERSON GENNARO: They should
23 tell the community boards and tell the Council
24 Members. All these partnerships are good things.
25 I know the things that my staff would ordinarily

bring to my attention and mulch fest or whatever, these things, they're always running to me and saying we got this. They know what I like and they know the types of things I'd just say go away and this would be something that I would like.

Where is the GNPC located?

MICHAEL FELLOR: Off of Victory Boulevard in Staten Island.

CHAIRPERSON GENNARO: It's in Staten Island?

MICHAEL FELLOR: Yes.

CHAIRPERSON GENNARO: Let's just say that I had a school or something that wanted to take a tour, we have a high school in my district that has an ag program and they might have an interest. Who do we interact with if we wanted to make arrangements for students to come there?

MICHAEL FELLOR: To the Native Plant Center?

CHAIRPERSON GENNARO: Yes.

MICHAEL FELLOR: You could do it through me. Tours have been given before.

CHAIRPERSON GENNARO: The type of

1
2 thing that seems like folks might have an interest
3 in going there; I mean it's an ag program. That
4 would be great. Bill, if you could get the
5 information from these gentlemen on how we could
6 contact them. We have other schools that have an
7 environmental focus in our district also. It's
8 great to hear of your good work that you're doing.
9 What are we going to do about Goose Pond? Is that
10 something you look into?

11 MICHAEL FELLOR: I was involved in
12 the original project. That was a capital project.
13 That was not an NRG project.

14 CHAIRPERSON GENNARO: Right.

15 MICHAEL FELLOR: One of the key
16 things is not so much working on the pond itself
17 but the watershed above the pond. There are
18 erosion problems. There are invasive plant
19 problems that have caused erosion, mobilization of
20 sediment into the pond. That's something we can
21 look into.

22 CHAIRPERSON GENNARO: But we also
23 spent money to build the system and the system had
24 x number of pods or whatever it is and now all but
25 one of them have ceased working. It happens.

We've done some work and I allocated the money. I did my part. So let's do this and get this mechanism working again and do some other things that local folks wanted to do in the park.

There's a little flagstone plaza there that's all falling apart. I wanted to put it back together and do some other things.

If the project as a whole has to be pushed out, then okay, that happens. But if there's some way to get this mechanism that's already there to work, I wouldn't want to wait until 2013 to get this device that is installed and paid for in working order.

The entire infrastructure is in place and for all I know they should just work as intended. You have this whole contraption that's supposed to power these pods. So that's going full tilt but yet it's only supplying air to one rather than ten or whatever it was. That would be great. Thank you for that. Bill is going to look into how we're doing with wetlands transfer and how we're doing with the Jamaica Bay wetlands. Bill is also going to follow up on the whole tour thing if we want to take a little field trip to

Staten Island.

With that said, I'd like to thank the Parks Department for being here. Mr. Fellor, thank you for your comprehensive testimony. I appreciate all the good work that you're doing. I feel bad that because I was late I took you away from some of the good work that you were doing, but hopefully you had your Blackberry going and you made good use of your time. Thanks very much, I look forward to working with you. I appreciate it very much.

MICHAEL FELLOR: Thanks for the opportunity and thanks for your continued support.

CHAIRPERSON GENNARO: I'm trying to help and doing my part. We did the wetlands transfer and that was a big deal. We did Jamaica Bay and that was a big deal. We did two other wetlands bills. So this is four wetlands bills that we've done, just trying to keep you guys in business.

MICHAEL FELLOR: We appreciate it.

CHAIRPERSON GENNARO: Sure.

Thanks, guys, appreciate it very much.

[Pause]

CHAIRPERSON GENNARO: We've got some really great witnesses. I greatly appreciate everybody being here today. I do notice that we have someone who ventured in from East Hampton, New York, the Nature Conservancy. I'm presuming that the representative of The Nature Conservancy is going back to East Hampton today. Alpa Pandya, we'll put you on.

Why don't we make panels? The other person we'll call to this panel will be Susan Elbin from NYC Audubon. And then the panel after that will be the two botanical gardens. We have the Brooklyn Botanical Garden and the New York Botanical Garden. They will be in the following panel. As far as I know that will be all of the witnesses.

So we have this panel and then the two botanical gardens and as far as I know those are all of the witnesses that signed up. If there's anyone else that wishes to be heard, then they should make themselves known to the sergeant and fill out the appropriate slips. I have the testimony of the Audubon and of The Nature Conservancy.

Ms. Pandya, if you could state your name for the record. I thank you for coming all the way from East Hampton. We greatly appreciate that. Please state your name for the record and proceed with your good testimony. We'd be happy to hear from you. Thank you for coming.

ALPA PANDYA: Absolutely. My name is Alpa Pandya. I'm representing The Nature Conservancy of Long Island which has been fulfilling its mission to preserve Long Island's lands and waters for over 50 years. I am also representing the Long Island Invasive Species Management Area, LIISMA, a voluntary association of public and private land managers, scientists, and environmental, civic and industry groups working together to prevent the spread of invasive species on Long Island: Thank you for inviting me to speak with you about biodiversity and invasive species.

First, let me congratulate you on the New York City Green Codes Task Force report. It is broad-ranging and ambitious, and if implemented will greatly improve New York City's lands and waters as well as New Yorkers' quality

of life.

Just as importantly for many people, making the right decisions for these issues will save you millions, maybe billions, of dollars. If you are like most people who don't know the difference between a Norway maple and a Red maple or a Zebra mussel and a Blue mussel, know this: invasive species will cause millions of dollars of damage. And yes, the New York City DEC estimates Zebra mussels have caused over \$5 billion in damage in the Great Lakes.

For this reason, I urge you to move beyond your excellent starting point in the Green Codes report and incorporate the full spectrum of a planting and invasive species management plan, because not planting the wrong thing is as important as planting the right thing. Having native plants is great, but if you plant 99% native plants and one Purple loosestrife, the Purple loosestrife will probably win.

I know listening to the previous testimony, a lot of this stuff is already happening but I'm going to go through it anyway.

CHAIRPERSON GENARO: Sure.

ALPA PANDYA: The four components of an invasive species program are: prevention, preventing future introductions; early detection/rapid response, looking for new invasive populations, planning response measures to future introductions; management and restoration, which is limiting the harmful impacts of introductions that have already occurred and then restoring those areas; and education, educating the public and industry about the issues and concerns relating to invasive species introductions.

Based on this, I would like to amend and add to your report's Urban Ecology section.

CHAIRPERSON GENNARO: When you say the report, you mean the Green Codes report, right?

ALPA PANDYA: Yes.

CHAIRPERSON GENNARO: Please continue.

ALPA PANDYA: Let me start with recommending hiring or training an existing staff person who can serve as a central coordinator for what to plant, what not to plant, and how to get

rid of invasive species in the least environmentally damaging way possible. You need someone who also can develop site-specific plans, especially for large restoration areas, rather than relying on fixed percentages of specific plants.

My comments on the Urban Ecology section of the Green Codes Report, I strongly support the section's direction to increase the number and diversity of trees, meadow grasses, and other plantings. This will lead to not only richer plant diversity, but increased number and variety of birds.

Increase Biodiversity in Public Landscapes and Sidewalk Plantings. No plant species shall be used if it is listed as invasive as defined and identified by the New York State Department of Environmental Conservation. My recommendation, don't wait for the State to act. If you are planting now, then you need an invasive species list now before you spend your money on species which may be invasive.

I recommend adopting the science-based LIISMA invasive species list which has been

adopted by both Nassau and Suffolk Counties. You are in the same planting zone as Long Island, what is invasive on Long Island will be invasive in the New York City. Why wait?

While I endorse the concept of requiring native plants in public landscapes and sidewalk plantings, I want to caution you that aside from stressing the use of native species in 30-50% of the plantings, they should also mention that the remainder species must be noninvasive. Having half the plants native won't make much of a difference if the other half is Japanese barberry.

Native plants may not be viable for some sites, especially roadsides where there is a lot of road salt, petroleum, et cetera. Also, native plants are not at this time available in large quantities. I recommend requiring noninvasive plants where native plants are not viable.

Rather than strict percentage requirements, I recommend working with trained experts who can judge what is appropriate and viable for the site, and then balance native plants and non-invasive plants for the site. With

political and public support, landscape architects will be encouraged to make sites as plantings diverse as possible.

In addition, I suggest expanding the Urban Ecology section or new legislation if you are so inclined, into a fuller planting and invasive species management plan, the details of which are in my handout, "2 Year Priority Action Items for an Invasive Species Management Program", and the highlights of which I'm going to give you, but a lot of this is already being done by your Parks Department. But I feel like it needs to be more explicitly focused on invasive species management.

So I'm just going to go through this list. Create a permanent Plantings and Invasive Species Advisory Board, including agency, environmental and industry representatives. Require status reports. I'm a big believer in local activists helping drive the agenda. So when the eyes fall off the prize sometimes the local activists will help refocus the effort.

Appoint an agency point person to centralize and coordinate agency decisions

regarding invasive species, native or non-invasive plants, and Integrated Pest Management options.

Hire or train existing staff in early detection/rapid response. Provide resources for staff and equipment. Map, monitor and develop site-specific plans, especially for larger conservation/restoration areas. Adopt an invasive species list. Promote native or non-invasive plants.

Support the Greenbelt Native Plant Center Seed bank. It's an excellent resource. We've worked with them for years and used them ourselves as well as starting our own Long Island native grass initiative with their help. They are excellent and they should be continued if not expanded.

Create a website for improved communications with the public and for interagency and intergovernmental coordination. Develop a public education program Create a volunteer program or expand your existing Parks volunteer program. A volunteer program will not only provide necessary hands for on-the-ground work, by bringing in residents, you connect people with

nature, with each other, and with the neighborhoods they love.

Thank you for giving me this opportunity to speak, and to all of you who foresaw the need for a strategic, citywide approach to improving the City's lands and waters, giving its residents a better quality of life as well as a better environment in which to live.

CHAIRPERSON GENNARO: Thank you very much, Ms. Pandya. We'll hear the testimony of the other witness, Susan Elbin, and then once you've completed your testimony I'll have questions or comments for both of you.

DR. SUSAN ELBIN: Thank you very much.

CHAIRPERSON GENNARO: Let me get all set up with your statement here. Okay, I'm ready.

DR. SUSAN ELBIN: Thank you very much, Committee Chair Gennaro and thank you for inviting New York City Audubon to take part in this important meeting. We have a slightly different slant looking at the invasive plants and trees, but I think we all have the same end result

in mind.

My name is Dr. Susan Elbin, and I am the Director of Conservation for the New York City Audubon Society. NYC Audubon is an independent grass-roots conservation organization, affiliated with the National Audubon Society since 1980. We serve and represent 10,000 members in the City's five boroughs. Our primary mission is to protect wild birds and habitat within the City, improving the quality of life for all New Yorkers.

New York City is a gateway for entry to the U.S. by air, sea, and sky, so it's no wonder that a large number of invasive species have emerged here, including: European Starlings, West Nile Virus, Asian Long-horned Beetle, Chestnut Blight, and Garlic Mustard. So it's our responsibility as New Yorkers to monitor the influx and occurrence of invasive species and strategically prevent their spread.

Invasive species can and do have a devastating effect on biodiversity at different levels and different scales, resulting in monocultures of plants and reduced vigor of species that consume those plants. So we think

that two general strategies need to be employed in dealing with invasive species. First is the long-term strategic management to extinction or containment for persistent invasive species.

CHAIRPERSON GENNARO: I'm sorry, if you could just hold up for one second. I had to make a comment to the counsel and I lost my place and I don't want to lose my place because I want to follow everything you're saying. What was the last thing you said?

DR. SUSAN ELBIN: I added a line that's not in there.

CHAIRPERSON GENNARO: What's that?

DR. SUSAN ELBIN: Two general strategies need to be employed.

CHAIRPERSON GENNARO: Got it, okay.

DR. SUSAN ELBIN: So first of all, the long-term strategic management to extinction or containment for persistent invasive species. Then we also need a rapid eradication and prevention response at sites for new eruptions.

As we've heard this afternoon already, invasive species are resilient and often play a role in ecosystem function. For example,

the spread of weedy invasive plant species like Oriental Bittersweet, Multiflora Rose, and Porcelain Berry have caused major ecological alterations of bird habitat. But on the other hand, birds consume berries of these plants and distribute their seeds throughout the City in their droppings.

Stands of Japanese Knotweed, Phragmites and Purple Loosestrife overtake tidal and fresh water wetlands. But controlling their spread or reducing the existing affected areas will require the commitment of substantial resources of money and manpower and that's what's really needed. In the meantime, birds are using these plants for food, shelter, and nest sites.

Our first line of defense, of course, is prevention when an invasive species is detected at a port, like the recent outbreak that we from Mr. Fellor of the Asian long-horned beetle invasion on Prall's Island. That plan was for immediate action that would ideally isolate and eradicate these organisms before they had time to spread. In plan there was also follow-up, monitoring and education. But frankly, we need

more and we need more work on this because what happens when the beetles take over plants that are being used by other wildlife? So we need a little bit more work on those response plans we feel.

But we can look to the Harbor Herons complex as a case study in which some invasive species of plants provided appropriate substrate for breeding herons. These Harbor Heron species, herons, egrets, ibis, long-legged wading birds, return to the same islands to breed every year in New York City.

Some Black-crowned Night-Herons nested in oriental bittersweet vines on North Brother Island in the East River. These invasive vines provided a labyrinth of support for nesting herons, egrets, and ibis. However, over time, these very vines crushed the structures that supported them and resulted in a loss of nesting habitat.

Restoration projects conducted by New York City Parks have been ongoing on the island and they need to focus on limiting the expansion of invasive, non-native species such as Norway Maple and Ailanthus, on the Harbor Heron

islands. Gradual and strategic removal of invasive vines and trees, replacing them with native species, will serve in the long run and the short run to support the birds within the colony and to ensure continued presence of these nesting trees in the long term in New York City.

Invasive species range from plants, to insects and birds, and the issue is complex. Each species has the potential to out-compete native species and impact natural resources important to sustaining bird populations and other wildlife in New York City. Some species are used by birds for food, shelter, and nesting and each situation needs to be managed on a case by case basis.

Only rarely will we have the opportunity to eradicate an invasive species, so the operative word is, indeed, manage. Our role is to monitor natural resources, nurture our native plants and be alert to opportunities for controlling or eradicating invasive species. If we have the opportunity to stop them before they take hold, we have to do that. That's our role.

New York City Audubon supports the

creation of invasive species lists for New York City, distribution of this list to constituents and the establishment of a protocol for appropriate and timely response to these complex situations. Thank you very much.

CHAIRPERSON GENNARO: Thank you. Thank you for that perspective. They come here, we don't want them here but then birds start living in them and then there you have it. Yes, a different perspective than just like a botanists' perspective. Not a big difference I don't think, just a different perspective.

DR. SUSAN ELBIN: It's more of emphasizing the need for the strategic approach, as is being done on North Brother Island. We waited for the bird populations to decrease on that island and then that's when City Parks moved in and started to do some of the restoration. It's a good case study.

CHAIRPERSON GENNARO: Getting back to Ms. Pandya, I want to thank you for the specific critique you made of the Green Codes report and the recommendations that you made. We certainly appreciate this because this is where we

get some good ideas of where this committee can make a difference, whether it's with the Green Codes report or a bill or something else. This is where we get some of our good ideas from. Of course then I take them and I take credit for them.

ALPA PANDYA: That's fine with me.

CHAIRPERSON GENNARO: That's what I do. We certainly appreciate that. Do we have folks from The Nature Conservancy located in New York City or is the closest office the one out in East Hampton?

ALPA PANDYA: No, we do have an office in New York City. But it's primarily an administrative and philanthropic office rather than conservation field staff.

CHAIRPERSON GENNARO: Right. I had made a note somewhere to ask you something and I'll look for that while I'm asking Ms. Elbin something. Do we in New York City currently have a list of things we don't want people to plant? Do we have that in New York City?

DR. SUSAN ELBIN: I would call Parks and ask them.

ALPA PANDYA: My understanding is that there is a City Parks and probably also a Department of Transportation for their own use by the agencies. There is no official list by New York City or by New York State. New York State is one of only four states which do not have an invasive species list, which is bizarre to me.

CHAIRPERSON GENNARO: But you made for Nassau and Suffolk, right?

ALPA PANDYA: We did for Nassau and Suffolk.

CHAIRPERSON GENNARO: Did you do that or did the counties do that?

ALPA PANDYA: The Nature Conservancy, working with a number of stakeholders including academicians, industry representatives, land managers, put together the list based on a very science-based protocol. We then took that list, the findings to Suffolk County and then to Nassau County. Both counties have the same list and 99% the same law.

CHAIRPERSON GENNARO: Would the impact of such a law be that nurseries that operate within the bounds make sure that they're

abiding by the list? Is that voluntary? Is that mandatory?

ALPA PANDYA: It's not voluntary, it's a law. Voluntary does not work.

CHAIRPERSON GENNARO: I understand.

ALPA PANDYA: It's a good question.

CHAIRPERSON GENNARO: Maybe we're having an impact on interstate commerce or something if we're doing that. What do I know?

ALPA PANDYA: I certainly would recommend for New York City to have a difference from the laws that we passed in Nassau and Suffolk. Nassau and Suffolk forbids the sale of them, the growth of these species, transportation, it's a whole range of them. You don't have as many nurseries growing these species here in New York City.

CHAIRPERSON GENNARO: But we have them selling them.

ALPA PANDYA: You have them selling it. I would certainly ask you to stop the sale of them. Transportation, so you do have interstate commerce issues which Eastern Long Island does not. Obviously you would not ban the

transportation of these species if it's coming from Maine and going down to the Carolinas. It's got to pass through New York City.

CHAIRPERSON GENNARO: Sure.

ALPA PANDYA: I think that that's fine as long as it's in a closed container truck hopefully. So I think that that's fine.

CHAIRPERSON GENNARO: So basically what happens under such a law is that anyone who is selling plants and growing plants is mandated to operate according to those guidelines.

ALPA PANDYA: That's correct.

CHAIRPERSON GENNARO: And then also there's a public education component.

ALPA PANDYA: Absolutely.

CHAIRPERSON GENNARO: Because maybe people are going elsewhere to buy their plants.

ALPA PANDYA: Absolutely. On the industry side, like I said the industry representatives were a part of the assessment process by which we first came up with the list in the first place. They helped us implement suitable phase out periods so that you don't have a nursery which suddenly has \$2,000 worth of

Japanese Barberry that they can't sell tomorrow. We asked for a reasonable amount of time to clear the shelves and not take a big hit. I think it was a three-year period or something like that.

CHAIRPERSON GENNARO: What are they doing with the stuff in the first place? They're supposed to know about plants, right?

ALPA PANDYA: They are. They're there to sell plants. They're not there to help you have a viable sustainable native plant habitat in your backyard. They're there to sell you something pretty. People go in asking for something pretty. They're not going in asking for something native.

Part of what we do and part of our education system is in two of the documents I gave you. I know I gave you a whole stack of them. But two of them have an alternatives list for roadside plantings which we have given to our local Departments of Transportation and Public Works.

We also have an alternatives to ornamental plants list which we are distributing to local homeowners so that when they go to their

nurseries they don't just say I don't want to buy Purple loosestrife, they go in and say sell me Joe-Pye Weed, so that we create a demand. We're not here to put anyone out of business. We obviously want to educate the public that Joe-Pye Weed is just as lovely. I can tell you that 99% of the general population couldn't tell the difference between the two plants anyway.

So we're creating the demand so that these nurseries are selling down their bad stock and building up stock of the alternatives that are in demand. So we're working with the nurseries and we're working with the general public. We do have websites. LIISMA has a website and The Nature Conservancy has a website. The two counties have websites with these alternatives lists as well as their invasive plant list. We work through the counties and the towns Parks Department's volunteer programs.

CHAIRPERSON GENNARO: There are two lists. What are the two lists? One is the invasive species and the other is what?

ALPA PANDYA: There are two lists. One is the invasive species list of highly

invasive plants. That's the do not sell list. That's the one that has a legal standing and which nobody can sell, grow, distribute or transport.

CHAIRPERSON GENNARO: Right.

ALPA PANDYA: The other list is what we call the management list which they're moderately invasive plants. So bamboo is on the list, for example. So we ask agencies that we're working with to use the moderately invasive plant list, the management list for their own agency actions. So we're asking them not to buy and plant bamboo. If they find bamboo, we're asking them to remove it from their local parks. It's not quite as invasive so we're not going to put it in a do not sell list format, a commercial impact format. But it does have an impact, especially in natural areas.

CHAIRPERSON GENNARO: Thank you.

ALPA PANDYA: And you have both the invasive species, the do not sell list, and you also have the management list. Both lists, like I said, have the buy-in of industry. When those lists were passed for their assessment for invasiveness, the decisions were made unanimously.

It was a long process by a lot of very dedicated volunteers.

CHAIRPERSON GENNARO: Thank you.

This is very, very informative. While I've worked with Audubon, this is kind of my first foray with The Nature Conservancy and I do appreciate that. What was the bill I did with Audubon? Was that the wetlands transfer? That was the big one that I worked on with you guys.

DR. SUSAN ELBIN: That was fantastic.

CHAIRPERSON GENNARO: It was a big one. I certainly appreciate the coordination and help on that. Is Mr. Rhoades still there? Peter Rhoades Mott?

DR. SUSAN ELBIN: He's been off and on the president of our board. He's on our board of directors.

CHAIRPERSON GENNARO: It was good to work with you folks. Thank you both for coming and testifying today.

DR. SUSAN ELBIN: Thank you.

CHAIRPERSON GENNARO: Just so you know you can't really ever trust politicians when

they say something. I said that the next panel was going to be the two gardens, but I'm just going to briefly recall Mr. Fellor. I just want to recall you Mr. Fellor to ask about this list thing, because now I've got lists on my mind. Just for a question. I can count the number of times that I've recalled witnesses on this committee and I think this is the first time I've ever recalled a witness. When have we ever done that before?

MICHAEL FELLOR: I'm honored.

CHAIRPERSON GENNARO: We have Council Member Levin here. Forgive me for not recognizing Council Member Levin. We certainly appreciate you being here.

COUNCIL MEMBER LEVIN: I'm happy to be here for this very important topic.

CHAIRPERSON GENNARO: Do we have lists? Do we have like what they have in Nassau and Suffolk? Do we have lists like that?

MICHAEL FELLOR: Not for the city. We have internally in the Parks Department we have our list of plants that we prescribe.

CHAIRPERSON GENNARO: Do we know if

it's the case that there are nurseries within the five boroughs that sell plants and maybe some of them even cultivate plants and they may be cultivating and/or selling plants that might not be what we would want them to do?

MICHAEL FELLOR: Yes, absolutely.

CHAIRPERSON GENNARO: So we do know that that's going on?

MICHAEL FELLOR: I got to Garden World on Francis Lewis Boulevard and see purple loosestrife and it makes me crazy that we're combating that in Flushing Meadow Park and it's available for commercial sale.

CHAIRPERSON GENNARO: There you go. I don't want to put you on the spot that you're supporting something that maybe there are other elements of the administration that might not want that or something. But it has certainly given me food for thought that if there are growers and sellers operating within the City of New York selling things and growing things that are causing strife to our natural areas then we could do something like that. I'm not going to put you in the box and say whether you'd want it.

MICHAEL FELLOR: I don't legislate.

CHAIRPERSON GENNARO: Right. Are you familiar with what they're doing in Nassau and Suffolk with these types of lists and how they work? I guess there are other areas that have these kinds of lists, right? Do you think these make a difference, obviously, if you can't sell certain things?

I guess there would be some kind of method to do some kind of enforcement, and it wouldn't be the Parks Department that would do that kind of enforcing. It would be some other entity within city government that would make sure that nurseries weren't selling what they weren't supposed to.

But I think we could figure all of that out. It's another thing for the city to do certainly. Maybe if we do a little bit on the front end we'd have a lot less work to do on the back end when these species get around.

Note to staff, we should draft a request for a bill that would have New York City do lists similar to what they've done in Nassau and Suffolk. Would it be fair to say, Mr. Fellor,

that we could work off of some of the brain waves that they've already done out there? If we were to do this we wouldn't be inventing the wheel from scratch. Plus within the Parks Department you have your internal document that you already have that guides your own plantings.

So this need not be a really big undertaking to come up with what we would ban within the City of New York and what we would monitor and keep our eye on. Thank you very much, Mr. Fellor. You've helped to give us a good idea.

MICHAEL FELLOR: Thank you.

CHAIRPERSON GENNARO: Thank you. We have from the Brooklyn Botanical Garden, Dr. Gerry Moore and Robert Naczi from the New York Botanical Garden.

So who is Mr. Moore? Okay. Let me make sure we have the testimony. Robert, you don't have a written statement, right?

ROBERT NACZI: No, I did not bring a written statement.

CHAIRPERSON GENNARO: That's quite all right. So first we'll hear from Dr. Moore. We certainly appreciate you being here. I want

you to go through your testimony but what do you think about our idea to do a list? Good idea?

DR. GERRY MOORE: Yeah, I think trying to limit the source of invasive species as much as possible is a good thing to do. It's one source of invasive species, so it's not a panacea to eliminate these off the landscape. But it's one component I think of a larger program that could be done to help out. No harm certainly.

CHAIRPERSON GENNARO: I'm feeling pretty good about it. Please, Dr. Moore, I'd be happy to have you present your testimony.

DR. GERRY MOORE: I thank the Council's Committee on Environmental Protection for holding this hearing on this important issue. First I want to address what scientists and conservationists mean when they refer to a species as "invasive." In Federal Executive Order 13112, signed in 1999, an invasive species is defined as one that is nonnative to the ecosystem under consideration, and whose introduction causes or is likely to cause economic or environmental harm or harm to human health.

Being a botanist, I'm going to try

to limit my testimony primarily to invasive plants. Invasive plants are generally non-native species or genotypes that have spread into native or minimally managed plant systems. These plants cause economic or environmental harm by developing self-sustaining populations and becoming dominant and disruptive to those systems.

It is important to stress that invasive plants are not simply your average weeds. Many of the weeds that one sees in his or her yard, such as dandelions are oftentimes not invasive plants, as they do not generally invade natural ecosystems or cause significant economic harm.

Invasive plants do, and, in some cases, they can form extensive monocultures. Areas that once supported rich diversity of plant life now support a reduced biodiversity, large regions now dominated by single plant species, such as common reed or Phragmites and purple loosestrife, both of which have already been discussed here today.

An excellent specific example of the broader challenge before us with respect to

our local flora can be found in the current ranges of two species of bittersweet vines found in the area. One of which was also already mentioned. One, Asian bittersweet is non-native and common throughout, while the other, American bittersweet, is native and is rapidly declining and those are the maps that I've provided for you there.

CHAIRPERSON GENNARO: Right.

DR. GERRY MOORE: Unlike development which has impacts that are obvious to all, invasive species and their impacts to open space and the biodiversity that relies on these spaces are less noticeable to those who are unfamiliar with invasive species.

Furthermore, current developments regarding environmental initiatives are oftentimes couched as "green" initiatives, and it is indeed a challenge to communicate that some green plants are less "green" than others with respect to these initiatives. Thus, there is a serious need to educate the public regarding the presence of invasive species in our area and the impacts they are having on our lands.

The economic impacts to invasive

species are also significant as extensive resources are now being expended by land stewards to control and eradicate populations of invasive species. A research paper published in 2005 in the journal Ecological Economics estimated the damages caused by invasive species in the United States to be almost \$120 billion per year. The mere fact we're having this hearing on a nice day like today is another evidence of it taking up people's time or resources.

In 2003, to address the various issues invasive plant species posed, state legislation here in New York was enacted that called for a multi-interest state agencies, conservation organizations and trade team led by the New York State Departments of Environmental Conservation and Agriculture and Markets.

This team was to research the invasive species issue and provide recommendations. This led to the formation of a New York State Invasive Species Task Force and eight Partnerships for Regional Invasive Species Management, which are commonly called PRISMs. The boroughs of New York City are divided into two of

these PRISMs, Bronx and Manhattan being in the Lower Hudson PRISM and Brooklyn, Queens, and Staten Island being in the Long Island Invasive Species Management Area PRISM. Representatives from LIISMA, Alpa has already given testimony.

In 2008, LIISMA established a Scientific Review Committee of which I was co-chair, to assess the invasiveness of plant species for New York State. The SRC was comprised of numerous stakeholders, including plant researchers from academia and other institutions; conservationists and land stewards; agriculturists and horticulturists, including industry representatives; and local, state and federal government representatives.

This committee developed a detailed protocol for invasiveness and then used that protocol to assess the invasiveness or potential invasiveness of approximately 180 species of plants.

The primary goal of this process was to provide local officials in Nassau and Suffolk Counties, both counties have passed legislation addressing invasive plants, and the

New York State Invasive Species Task Force with detailed specific information on invasive plants species.

The protocol assessed plant species in four broad categories: ecological impact, biological characteristics, distribution and abundance, and feasibility of control. A scoring and ranking system was developed. The ranking system had five levels of invasiveness: very high, high, moderate, low, and insignificant.

Additional information, including the invasiveness assessments for all plant species evaluated by the LIISMA SRC and the Final Report of the New York State Invasive Species Task Force can be found at the New York Invasive Species Information website maintained by the National Oceanic and Atmospheric Administration's Sea Grant program and Cornell University Cooperative Extension.

In closing, it should be stressed that of the hundreds of non-native plant species, only a small percentage, about 5% or less, have invasive tendencies. Thus, current efforts of control should focus on these species, and should

include preventing further introductions of invasive species; limiting the spread of existing invasive species; and reducing the number of currently infested areas using established control and eradication protocols.

Essential to this effort is for land stewards to have access to plant materials that do not have invasive tendencies. This is where the New York City Park and Recreation's Greenbelt Native Plant Center, which provides such materials, plays a critical role in this regard.

And also with respect, which is not in the testimony but I want to add, in terms of the research being done because a lot of these plants are being brought into cultivation for the first time. So there's a lot of trial and error in trying to get plants into cultivation and then cultivate them and reproduce them enough so that you have enough seed or living plant material to distribute. So it is quite a task to get that going.

Through its New York Metropolitan Flora program and I've given you a brochure; scientists at Brooklyn Botanic Garden have been

studying the trends in the local flora for over twenty years. The Garden has been and indeed we communicate almost weekly with various park officials on matters relating to invasive species and will continue to work with city officials, including park officials, to address this most important issue. And please don't hesitate to contact us with any additional questions you may have regarding this matter. .

CHAIRPERSON GENNARO: Thank you, Dr. Moore. I certainly appreciate your testimony. I just want to hear Robert's testimony. I won't try the last name. And then I'll have questions and comments for both of you. But I'm dying to know the pronunciation.

DR. ROBERT NACZI: I won't keep you in suspense for long. But I must first apologize. The condition of my voice is because I have a bad cold. I am Dr. Robert Naczi from the New York Botanical Garden.

Good afternoon, Chairman Gennaro. Good afternoon Councilman Levin. Good afternoon other distinguished members. Thank you very much for giving me this opportunity to testify.

As I mentioned, I am from the New York Botanical Garden. I am the curator of North American Botany. I am a relative newcomer to the New York City area. I've been onboard at the garden for just over a year.

Most recently my position was at Delaware State University where I worked very closely with the State of Delaware on doing some of the things that we've been discussing. For example, I worked to draft the list of the state's invasive plants. I also worked on related legislation with that.

Now let me get to the point of today's hearing and the local effort. At the New York Botanical Garden what I am doing is I am coordinating an effort to conduct research on and publish on the flora of the entire northeastern portion of North America. This is a region that includes 22 states and portions of 5 Canadian provinces. It's a vast region that occupies over 25% of the contiguous states of the United States.

I have three main points I want to make. I'm keeping it brief. These are my recommendations for you as you draft your

legislation. These are all points that I wanted to make because I did not anticipate other witnesses would be dwelling on them.

I felt that my colleagues would be doing a good job of presenting the problem and the background and they have. They've don't that very ably. But what I have not heard discussed are these three points. The first one is the need for research. We already do know a lot about invasives and their management. But there is still much to be learned.

For example, two of the most serious invasive species of the New York City region Japanese Knotweed and Lesser Celandine are species for which we do not yet have effective management strategies.

For example, just this afternoon I spotted in City Hall Park, adjacent to this building, Lesser Celandine, one of these invasives. So it would be helpful to think, as you draft your legislation, about including a component for research so that we can learn a more effective means of managing certain species of the invasives. I am limiting my remarks to invasive

plants.

The second point on research is that it will be most useful to continue and developing identification tools. That's where the project at the New York Botanical Garden that I coordinate comes into play. We are writing a new flora for this entire vast region that I described. This will have all of the plants that grow wild in this vast region, the natives and the non-natives, including the invasives.

The point of this project is to enable users of these tools, including a book and an online flora, enable them to identify all of the plants that grow in the region, effectively distinguishing between invasive and non-invasive plants. So we have a lot to do in this area.

This is following on work that I did for the state of Delaware. We produced a manual which is so popular it's now out of print. It's going into its second printing. But I do have it available on my website and the New York Botanical Garden. It's called, "Mistaken Identity". It allows people to distinguish between the invasive species that so closely

resemble the natives that we need to work a little bit harder to tell them apart. We do this with full color. It's a 64-page booklet.

The third point on research that I would mention is we must be not only reactive as we've been discussing, but proactive. We have to be on the lookout for the next invasive species, and it won't be just one.

So we have to be doing the modeling, doing the field work, doing the predictive work. That will allow us to identify emerging invasive plants. So that's my first point, the need for research.

So following up now on my second major point, the need to be proactive, bringing us to a point that Michael Fellor made just a few minutes ago. Many invasive species are still sold by nurseries. That's a problem. We know it.

But what is not recognized is that nurseries continue to import plants from other lands that have not been screened for their invasive tendencies. We're especially at risk from plants that are being brought in from regions of the world that have similar climatic regimes

and soils like Eastern China, parts of Japan and parts of Korea.

So we will continue to see invasives. In fact, an analysis that I've recently completed of the 43 most invasive plant species of the Northeast reveals that 60% of these were imported for gardening because they're beautiful plants, like purple loosestrife that we've mentioned so often. It's a beautiful plant, imported originally for gardening.

So we have to be careful about this. It's best to try to work with nursery and landscape industry in requiring some sort of screening or at least modeling of species that they wish to import and begin selling. There are so few regulations in this area right now.

Then finally, my third major point is an obvious one. That is the problem of invasive plants is a manageable problem but it requires resources. So we must be willing to commit the resources if we hope to be successful with it. This includes the areas of research and being proactive, as I've mentioned.

So I thank you for giving me this

opportunity to testify and I invite your questions.

CHAIRPERSON GENNARO: Thank you.

The point that you make about these new species that are still coming here means that if we had a list, like a ban list, and that wouldn't capture things that aren't here. So there would have to be some kind of process by which we have to capture them but we couldn't do it with a list.

There has to be some process that would mandate that they couldn't sell plants unless they were screened and certified by somebody that they didn't have qualities that we thought were a problem. Would that be city government that would do that? Would it be a new task for them to do? I can't legislate any other level of government to do it. That's a main point. Any list would only capture the known species that are causing problems here in New York City.

DR. ROBERT NACZI: That's right.

Chairman Gennaro, you're absolutely right. A list of what we have and we know is a problem is a very good start. But it is the here and now. I'm

recommending that yes, we have a list but we also devote some resources to monitoring and predicting so that we can develop some screening method. Of course, it must start at a local level and from there hopefully it can spread. But we should do what we can in this area is my recommendation.

CHAIRPERSON GENNARO: Let me ask Dr. Moore, because you're very involved in the Long Island list development. Does that effort and the list and the laws that they have in Nassau and Suffolk County; do they have that kind of screening? You know what I'm trying to ask you, I'm just asking you poorly. Help me out here. Save me.

DR. GERRY MOORE: I'll see what I can do. First off, think about just flowering plants. There are anywhere between 250,000 and 300,000 species of flowering plants in the world. So it's impossible for any region to assess all of them in terms of their potential invasiveness in that particular area in terms of the non-natives that might come in.

When we did the 180 species review, there actually were some species, and I don't have

them off the top of my head, but we did evaluate a number of particularly bad species that were close by but had not been reported from New York yet. We actually did run them through the protocol to evaluate them for their potential invasiveness. Some of them, should that list be adopted in any manner, would actually be banned for sale in New York City, even though we don't know them currently to be in the state and reproducing.

So there's a slight bit of that. However, I think what Dr. Naczi was referring to is a process by which I know they do in Australia and I think South Africa, where things don't come into the country until they've been screened for potential invasiveness. That's a much larger matter but it is a significant thing.

CHAIRPERSON GENNARO: Do we have that in this country? We don't, right?

DR. GERRY MOORE: Not to my knowledge.

DR. ROBERT NACZI: No, we don't.

DR. GERRY MOORE: Not to the degree of screening that places like Australia do. So that is a need a research and the need for

screening at a broader level. It's something that as you've mentioned you can't do, but it is a serious need. The lack of that does undercut some of what you can do at the local level which is to have a list like Nassau or Suffolk County has that would address some of what we're dealing with now. But it is not dealing with what we're potentially going to be dealing with 20 years down the road.

The development of and the introduction of new plants is happening all the time. We haven't exhausted the resources of plants that can be introduced.

CHAIRPERSON GENNARO: It would probably be the case that if I were in the nursery business and I was in the habit of selling certain kinds of plants that were very pretty but ultimately were placed on the list that were problems, I would go and try to find other plants that aren't on the list.

DR. GERRY MOORE: Exactly.

CHAIRPERSON GENNARO: Then are we making the problem better or worse. So we'd be getting rid of the devils we know and bringing in the devils we don't. People come in and they want

these things that are very exotic. So, Dr. Moore, how would you recommend that we head that off at the pass? Just based on your work with Nassau and Suffolk, was there a lot of thought given to how they can head that off at the pass?

DR. GERRY MOORE: The areas where we did feel comfortable with the time we had and the resources we had were to deal with those cases of plants that were nearby and we felt comfortable screening them. We would look at climate and habitat to see if we thought some of these species that are in adjacent areas could actually grow and reproduce in our area and then ran them through the protocol.

A larger issue of trying to screen everything that comes in was beyond what we could do in the sense of it's just such a vast task that we couldn't evaluate anything that potentially could be brought in. But I would agree with Dr. Naczi that there is a need for that kind of broader screening of taking a look at plants before they are introduced ever into an area.

One of the problems we have is we're always addressing this issue when we're

1
2 already behind the eight ball. If you look at
3 those maps in the testimony I've given you, for
4 example *selastrus orbiculatus*, it doesn't take a
5 genius to look at that map and figure out that
6 that's a rapidly spreading plant when you look at
7 the data.

8 But at the same token, once it has
9 reached almost complete saturation with us, the
10 task in trying to deal with that particular
11 problem is vast. In other words, you've got
12 hundreds of pounds of cure there to deal with and
13 you wonder what we might have done with an ounce
14 of prevention with that particular plant if we had
15 known prior to its introduction what it was going
16 to do.

17 All of us in the horticulture areas
18 are recognizing that now. A lot of plants that
19 used to be brought in, and *celastrus* is a good
20 example, they were brought in because of some of
21 the very properties that make them invasive.

22 At one time it actually made them
23 desirable to grow. They don't require a lot of
24 effort. They reproduce by themselves. They grow
25 in a wide range of habitat types. They grow in

disturbed, degraded areas. They oftentimes produce a lot more fruit than some other representatives.

So some of those qualities, if you're just operating from a horticultural perspective on your own small piece of property, they actually have some properties that are desirable in that respect. That's where the education component comes in. We have to flip that around a little bit and start thinking about yes they do but those very properties when these plants escape out in the wild will wreak havoc on the systems in place.

CHAIRPERSON GENNARO: Would it make any sense to impose some kind of screening protocol? I don't know that this makes sense. All the nurseries that operate in New York City and let's say the New York metropolitan area, they probably belong to some trade association that represents them. Call upon the trade association to certify that the plants that their member businesses are going to be selling don't really cause these problems. Then we'd be relying on their certification that they didn't cause these

problems. Does that make any sense?

DR. ROBERT NACZI: One thing I'd like to point out that I should have said earlier is that the situations of which I'm aware where new plants are being brought in from China for example, so often it's done by individual nurserymen. So I don't want to make it sound like onus is on us. To me the onus is on the nursery and landscape industry.

If we recognize the problem really does begin with them so often, I think we should work in creative ways with them but we should expect them to carry the burden. If they wish to introduce new things, the burden of proof is on them to do the screening.

CHAIRPERSON GENNARO: That was my point.

DR. ROBERT NACZI: I agree.

CHAIRPERSON GENNARO: To figure out whether that made sense and whether they have the ability to do it. There's almost like a conflict of interest on their part because they're arguing against their own ability to turn a profit on some type of plants.

DR. ROBERT NACZI: That's where an advisory board of scientists like Dr. Moore or myself and others in the community who have experience such as Michael Fellor and Dr. Toth, et cetera. We have some of the experience. LIISMA is already a good organization. Perhaps they would help with an oversight. They would review some of the burden of proof materials that would be produced by the industry.

CHAIRPERSON GENNARO: You average nursery operator I guess may or may not have the ability to do this kind of research.

DR. ROBERT NACZI: If he has the ability to schedule and sponsor an expedition to China to collect these things, I would argue he has the ability to follow through on it and do the right thing.

CHAIRPERSON GENNARO: This guy's not going to China.

DR. ROBERT NACZI: He is. That's my point. Oftentimes when this happens, it is the nurseryman himself who's going to China to collect these things.

CHAIRPERSON GENNARO: He's not

importing them; he's just bringing them back?

DR. ROBERT NACZI: Oftentimes, in the cases that I know. I won't say that's every case. But it happens, yes. It's surprising how loose the network is now. We can get things directly in the mail. We can make arrangements with Chinese collaborators. We can go collect when we have permission from the Chinese and we can bring them back.

DR. GERRY MOORE: Keep in mind, seeds are very small.

CHAIRPERSON GENNARO: Right.

DR. GERRY MOORE: We're talking about importing.

CHAIRPERSON GENNARO: That's right. I was thinking about a plant. I know when I go to the nursery and I buy a tree, because I'm not a guy that likes to wait. You know what I mean?

DR. ROBERT NACZI: That's what's driving this, instant gratification.

CHAIRPERSON GENNARO: I buy the big ones. Like let's rock, let's get going. Seeds, yes, okay I'm familiar with the concept of seeds. When the staff tried to sell me on this hearing,

I'm like don't we have other things to do? I am really surprised. They told me it was a big deal. I said I'd do it as a favor to the staff because they were into it. Sometimes you just get surprised.

I'm really excited about this. I don't quite know what we're going to do yet, but I have a lot of food for thought here and a lot of good folks that we're all on the same team here. Not every local legislator like myself has the ability to be part of a government that has a Parks Department like we have with the facility that you put together, like the Staten Island thing, the Native Plant Center or to have the botanical gardens or to have The Nature Conservancy and Audubon.

So we've got a lot of good brain waves at our disposal and we should put them to good use. Again, not every local legislator gets to work with an administration that has the environmental consciousness of the Bloomberg administration. Like, are you kidding me? You know what I mean? So this is really good stuff. I mean that in a good way, of course. He's the

bomb when it comes to this stuff.

You know, you should now be able to look back at the transcript of this hearing word for word and see that Mayor Bloomberg was referred to as "the bomb". Epics from now when they're looking back at this transcript and they'll see that reference in there. That'll give them a little bit of a chuckle.

Do you have anything further to add?

DR. ROBERT NACZI: Yes, I greatly appreciate what you're trying to do. I think I speak for more than myself when I say that we appreciate it. This is certainly the way to go. It's the way of the future. The communities, who deal with invasives on a day-to-day basis, stand ready to assist you in this.

CHAIRPERSON GENNARO: I've got folks coming in from East Hampton and you folks making yourselves available, I certainly do appreciate that. We're definitely going to do some stuff here. I want to thank the staff for turning me onto this topic. Sometimes I just really get surprised and I got surprised today in

a very, very good way. So let's go to work and get something done.

DR. GERRY MOORE: Thank you.

DR. ROBERT NACZI: Thank you.

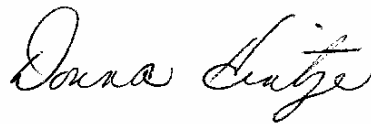
CHAIRPERSON GENNARO: With that, I want to thank all of the witnesses.

FEMALE VOICE: DEC sent comments and so did Sustainable South Bronx.

CHAIRPERSON GENNARO: Yes, we got written comments from New York State DEC and Sustainable South Bronx. Those will be entered into the record. I thank one and all for helping with this hearing today. With that, this hearing is adjourned.

C E R T I F I C A T E

I, Donna Hintze certify that the foregoing transcript is a true and accurate record of the proceedings. I further certify that I am not related to any of the parties to this action by blood or marriage, and that I am in no way interested in the outcome of this matter.

A handwritten signature in cursive script, reading "Donna Hintze".

Signature

Date May 3, 2010