

PUBLIC MEETING

In Re:

GLMRIS REPORT
GREAT LAKES AND MISSISSIPPI
RIVER INTERBASIN STUDY

- - - -

Thursday, February 13, 2014
4:00 p.m.

Buffalo Central Library Auditorium
One Lafayette Square
Buffalo, NY 14203

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PANEL:

Colonel Frederic Drummond, Commander
U.S. Army Corps of Engineers
Chicago District

Lauren Fleer, Internal Project Manager
U.S. Army Corps of Engineers
Chicago District

Jim Bredin, Associate Director
White House Council on Environmental Quality

MODERATOR:

Kendall Zaborowski, Planner
U.S. Army Corps of Engineers
Chicago District

1 P R O C E E D I N G S

2 MR. ZABOROWSKI: Good afternoon,
3 ladies and gentlemen. Again, I would like to ask
4 everybody to find a seat. Also, I would like to
5 ask everyone to please silence their cell phones.
6 Just like a movie, try not to interrupt the
7 presentation or the question-and-answer period that
8 we will be having tonight.

9 I would like to welcome everybody to
10 tonight's Great Lakes and Mississippi River
11 Interbasin Study, or as we might refer to it as
12 GLMRIS, public meeting. My name is Kendall
13 Zaborowski. I'm with the Army Corps of Engineers
14 Chicago District. I will be the moderator, and I
15 will possibly be responding to your questions about
16 the report.

17 Before beginning the meeting, I would
18 like to let everyone know that the restrooms are
19 located to the right, if you walk out the aiseways
20 to the right of the sign-in table. In the event of
21 an emergency, please exit through the same door.
22 There is a door to the street right there.

23 When you arrived here this evening,
24 you should have received several materials. The
25 first is a green agenda that is going to speak to

1 our schedule here this evening. After the
2 introductory remarks, there will be a
3 presentation. After the presentation, we will open
4 it up to you to hear your comments.

5 Next were some blue sheets of paper.
6 These are frequently-asked questions about the
7 Great Lakes and Mississippi River Interbasin Study
8 and other aquatic nuisance species, or ANS, efforts
9 that the Corps of Engineers is involved with.

10 The last handout is the summary
11 report. It's a summary of the GLMRIS report. It's
12 about 30 pages long, and it breaks down the
13 information we are going to be presenting to you
14 this evening.

15 I would like to now take a moment to
16 introduce tonight's panel. Again, my name is
17 Kendall Zaborowski. I am a planner for the Chicago
18 District Army Corps of Engineers. To your right,
19 my far left, is Jim Bredin. He is with the White
20 House Council on Environmental Quality.

21 Moving closer is Colonel Frederic
22 Drummond, the Commander of the Chicago District
23 U.S. Army Corps of Engineers, and closet to me is
24 Lauren Fleer. She is the interim Project Manager
25 for GLMRIS.

1 For those of you wishing to speak at
2 tonight's meeting, if you registered on our project
3 website and have not had a chance to check in at
4 the front table, please take a moment to do so.

5 If you did not register on our
6 project website, and if you would like to make a
7 comment, please step out and sign up at the front
8 table there.

9 The Corps of Engineers is hosting
10 several public meetings throughout the Great Lakes
11 and Mississippi River Interbasin Study area in an
12 effort to provide opportunities for those that live
13 within the study area to learn more about the
14 report itself and to comment on the report to us
15 formally. So this is our 11th public meeting, and
16 we are very glad to have you with us.

17 I would like to mention that the
18 GLMRIS report in its entirety can be downloaded
19 from the GLMRIS Project website, which is
20 <http://glmris.anl.gov>.

21 So our GLMRIS team has organized this
22 public meeting with two goals in mind. The first
23 goal is to present information contained in the
24 GLMRIS report. The second goal is to allow those
25 of you in the public to comment on the information

1 contained in the GLMRIS report, or to ask questions
2 of the Army Corps of Engineers about the report
3 itself.

4 Comments are going to be collected
5 through March 31st of this year. Then our comment
6 period will formally end. That's an extension from
7 the original March 3rd date.

8 There are three ways to submit
9 comments. The first way is to comment here at our
10 public meeting. The second way is to mail in any
11 written comments to our office. And then the third
12 way is to submit comments through our project
13 website.

14 I would like to mention, if you are
15 not comfortable speaking here, the comments are
16 weighed equally, the way that they are submitted.
17 If you think of something after tonight, you still
18 are eligible to submit comments up through March
19 31st of the year.

20 As indicated on the green agenda, we
21 are now going to begin the presentation portion of
22 this meeting, and I'm going to turn things over to
23 Mr. Jim Bredin.

24 MR. BREDIN: Can everybody hear me
25 okay? As Kendall mentioned, I'm Jim Bredin with

1 the White House Council on Environmental Quality.

2 Our office oversees the current Administration's

3 efforts to deal specifically with Asian carp.

4 While GLMRIS deals with all invasive

5 species in the Chicago Area Waterway System, we

6 deal primarily with Asian carp. What I want to do

7 is take a couple of minutes to explain what we are

8 doing now in the Chicago Area Waterway System

9 dealing with Asian carp issues.

10 First, I would like to thank the

11 Corps on behalf of the Administration for the work

12 on this report. As Kendall mentioned, we have been

13 to a number of different places across the Great

14 Lakes basin and outside the Great Lakes basin.

15 It's a very complicated report. There is a lot of

16 information in there.

17 What we are hearing after the

18 meetings and as a result of people digging into the

19 report, is that it's really basically technically

20 sound. It provides us with a good opportunity to

21 carry this discussion forward, as to how to deal

22 with the movement of invasive species between the

23 Mississippi and Great Lakes basins.

24 Let me start out by saying, on an

25 Asian carp front, we have a coordinating committee

1 that involves all the eight Great Lakes states. It
2 includes all the federal agencies that deal with
3 fishery issues. And it also has Canadian
4 representation on the part of the Department of
5 Fisheries and Oceans and Ontario Ministry of
6 Natural Resources.

7 So it's a very broad-based group
8 dealing with this issue. We meet regularly. And
9 we are very active in dealing with Asian carp. I
10 would like to point out -- I don't know if they
11 want me to or not -- but we have two members of the
12 Asian Carp Coordinating Committee that are here
13 today; Don Einhouse and Don Zelazny,
14 both from New York. We really appreciate New
15 York's involvement in the ACRCC and look forward to
16 dealing with these issues collectively from here on
17 out. So thanks a lot.

18 The response to the threat, as of
19 right now, what we have been looking at, is we have
20 a number of different things. We, first of all,
21 have an effective electrical barrier in the Chicago
22 Area Waterway System and the Illinois River that is
23 prohibiting fish from moving upstream in the
24 Illinois River.

25 So we have an effective electrical

1 barrier that we are continually working on to
2 improve. And, in fact, the Corps is going to be
3 looking at expanding the original -- there are
4 actually three barriers there -- the original
5 barrier, which was a demonstration barrier, is in
6 the process of being replaced. So we have we will
7 have three full-scale electrical barriers in the
8 Chicago Area Waterway System.

9 We have a very active monitoring and
10 response system. We do a lot of monitoring with
11 the Fish and Wildlife Service, Illinois DNR and
12 others, both above the electrical barrier system
13 and below the system.

14 We also are looking at new
15 technologies to control specifically Asian carp.
16 We are looking at technologies that will attract
17 Asian carp so we can catch them easier.

18 We are looking at fish toxicants that
19 are specific to Asian carp that we can use to
20 remove Asian carp from specific areas of water
21 bodies where they are a problem.

22 So we are continually looking at
23 different mechanisms to -- distinct control
24 technologies, actually, that can be used for Asian
25 carp. And then we also have this effort, which is

1 the long-term solution, which is the Great Lakes
2 and Mississippi River Interbasin Study. So next.

3 We have a number of activities that
4 we have been working on. And what we are doing
5 right now with the ACRCC is looking at what we can
6 be doing in the next few years. We are taking a
7 look at where we need to go. We have been
8 field-testing a lot of our technologies. We need
9 to figure out how we can get these out into the
10 field so the fishery managers in not just the
11 Chicago Area Waterway System, but also other areas
12 of the nation that have Asian carp, that they can
13 use these technologies in their collective effort
14 to either control the fish or move them back as
15 much as possible. Next slide.

16 I would like to point out that the
17 GLMRIS study is not just on the Chicago Area
18 Waterway System. We have identified 18 other areas
19 where there is some type of hydrologic connection
20 between the Great Lakes and Mississippi River.
21 These are the -- the areas that you see right
22 here.

23 We are right now working with Indiana
24 DNR, there is one connection at Fort Wayne,
25 Indiana, that is an medium priority for

1 specifically Asian carp. We are working with them
2 to close that. And hopefully, within the next
3 year, we will have a system in place that will
4 physically close that system between the
5 Mississippi River and the Great Lakes.

6 We are also working with Ohio. They
7 have a number of lower priority connections, and we
8 are working with them actively to make sure that
9 those connections will not be any mechanism in
10 which Asian carp can get in between the two
11 basins.

12 And the other dots that are on this
13 map, what those are is, we are working with the
14 state agencies to make sure they can look at these
15 and make sure they are closed off to all invasive
16 species. The other areas are not high or medium or
17 low priority for Asian carp. They may be high
18 priority for other invasive species, so we are
19 working with the state agencies to make sure all of
20 those areas are addressed. Next slide.

21 I would also like to point out that
22 even though we have an active control program for
23 the Chicago Area Waterway System, the U.S. Fish and
24 Wildlife Service also has created a National Carp
25 Plan to take a look at how we can control Asian

1 carp throughout the nation, not just specifically
2 looking at the Chicago Area Waterway System.

3 We are working towards getting
4 resources for this, but we are actively working
5 with all the states across the Great Lakes to
6 implement this control plan for Asian carp.

7 If you can look here, as I mentioned,
8 the -- if you look at the Great Lakes in brown,
9 that is -- we are working on a lot of our efforts
10 to protect the Great Lakes, but there is also the
11 area -- I believe it's in a dark green right along
12 there (indicating). That's where a majority of the
13 Asian carp are found at this point in time. So we
14 have strong partnerships with a lot of those
15 states.

16 And then we are also working with the
17 other states that are in -- I believe that's a
18 purple, a light purple, where the fish are moving
19 up from the Mississippi up into the Missouri River,
20 up into the Kansas River, up into Tennessee.

21 So we are trying to work with all of
22 these states to make sure that we have a nationwide
23 control program for Asian carp.

24 What we would like to point out is
25 that this GLMRIS effort, this effort to keep Asian

1 carp out of the Great Lakes, is going to be a
2 significant undertaking. But the Great Lakes, in
3 the past, have taken on major issues and have been
4 very successful in these issues.

5 We dealt with the sea lamprey, a very
6 similar type of problem. And it's a good example
7 of what we're doing where we continually have to
8 commit resources on an annual basis for sea lamprey
9 control.

10 We also deal with Great Lakes Water
11 Quality Initiative where all the states are
12 agreeing to specific water quality criteria for
13 wastewater treatment plants and other discharges.

14 We collectively have worked on the
15 Great Lakes Compact. We now have one in place for
16 water withdrawals. And we have the Great Lakes
17 Restoration Initiative that Congress is continually
18 providing funding for, and a lot of specific
19 restoration efforts are ongoing now and will be
20 going on in the near future. And then we have this
21 effort to control Asian carp. And we are looking
22 for this collective commitment to deal with this
23 issue.

24 But what I would like to do right now
25 is turn it back over to the Corps and say thank you

1 to all of you for being here tonight, and then also
2 to the Corps for undertaking -- this has been a
3 massive effort to bring this report to all of you
4 across the Great Lakes basin. So thank you very
5 much.

6 COLONEL DRUMMOND: Thank you very
7 much. It's my pleasure to be here in Buffalo
8 tonight. I am the Chicago District Commander, and
9 collectively, my team is the one that has
10 undertaken the GLMRIS Study.

11 I would like to highlight that Major
12 Busby and Lieutenant Colonel Beaudoin,
13 who is the Buffalo District Commander, as well as
14 some of the Buffalo staff, is here with us
15 tonight. They are also our regional partner in
16 this.

17 In fact, one of our previous PMs,
18 program managers, for GLMRIS was from the Buffalo
19 District. So thank you for being with us tonight.

20 I would also like to highlight, Jim
21 Kennedy from Senator Gillibrand's office in
22 attendance tonight. We certainly cannot do this
23 without our Congressional, state and local
24 representatives helping us through this.

25 So the Corps is very excited to be

1 here. The GLMRIS, as you heard, is a very complex
2 study that examines various opportunities to
3 prevent the aquatic transfer of many ANS, not just
4 fish like Asian carp, but other species. Tonight,
5 you will hear 13 of them that are medium or high
6 risk.

7 The GLMRIS report outlines a variety
8 of potential prevention methods and presents an
9 evaluation criteria that help you, the readers,
10 sort of distinguish among the eight alternatives
11 that you are going to hear about tonight from our
12 PM.

13 The purpose of the GLMRIS Report, I
14 would like to state, is to paint an objective
15 picture of several alternatives and offer decision
16 makers, stakeholders, and the public information
17 about those alternatives. The GLMRIS report does
18 not make recommendations, nor does it prioritize
19 the plan.

20 Our GLMRIS team is one that spreads
21 across the country. In fact, we have a little over
22 100 engineers that have worked on this all the way
23 from Jacksonville, Florida, which is the center of
24 invasive expertise, all the way up to the Seattle
25 District, who deals with sea lamprey, among

1 others. So it's been a very well-rounded team.

2 This report is unique than other --
3 most of other Corps of Engineer reports, as it
4 identifies a range of options and technologies that
5 is adaptable for the incorporation of these
6 technologies.

7 We just heard from Jim. We work very
8 closely with the ACRCC. We will continue to be a
9 member of the ACRCC as we work through this, as Jim
10 has said, is a very complex topic. I tell
11 most in the public that the prevention of and the
12 spread of aquatic nuisance species -- and you will
13 hear this a couple times tonight -- is a shared
14 responsibility, not only by the federal government,
15 but by the state and local agencies, as well as
16 you, the public.

17 I always end by saying, here is some
18 quick numbers. We have been in about 7,000 news
19 media events here in the last six weeks. When you
20 came in tonight -- there is a 25-page report. I
21 think this is a very good summary of the eight
22 different technologies. It has some good
23 information in it.

24 What it's going to do is make you want to
25 read more. If you go to the back side, there is a

1 website. You can go to that website. It's very
2 easy to download -- I have done it several times --
3 the 232-page report. Then if that's not enough,
4 there is 10,000 pages of a whole host of things
5 from economic data all the way to the aquatic
6 nuisance species and what basin they are in and
7 that type of stuff. Just a whole host of
8 information is out there.

9 You are going to hear from Lauren about
10 the different technologies that we looked at to
11 prevent the spread of ANS, as well as a whole host
12 of other data.

13 This is an enormous undertaking. It's
14 our pleasure to bring this to you tonight because
15 at the end of the day, we need to hear from you.
16 You will hear that reiterated.

17 We need to hear from the federal
18 government, as well as from the state and local
19 representatives, as well as the public, itself.
20 All these options, in one way or the other, will
21 have a direct effect on everybody in the Great
22 Lakes. So it's important for us and for myself and
23 Jim and Lauren to listen to you tonight, as well as
24 give you information.

25 Lauren is going to go through about 18

1 slides, and at the end of that we will get into the
2 public comment period. Lauren.

3 MS. FLEER: My name is Lauren Fleer.
4 I'm an environmental engineer with the Corps of
5 Engineers. I'm temporarily filling in for our
6 Project Manager, David Wethington, who is going to
7 return to the project next month.

8 I want to thank everybody for being
9 here tonight to learn about our study and tell us
10 what you think about our stuff. I'm going to take
11 a few moments to explain to you a little bit about
12 what is in the GLMRIS report exactly. I will try
13 not to take too very long. We do want to
14 prioritize you tonight and your questions and
15 comments.

16 So the scope of the GLMRIS study. The
17 GLMRIS study was authorized in 2007 by the Water
18 Resources Development Act. It directed the Corps
19 of Engineers to evaluate a range of options and
20 technologies available to prevent the transfer of
21 aquatic nuisance species to the Great Lakes Basin
22 and the Mississippi River Basin; and vice versa,
23 from the Mississippi River Basin to the Great Lakes
24 Basin.

25 There are two main study goals. One was

1 to identify ways to prevent the transfer of ANS,
2 aquatic nuisance species. The second goal was to
3 identify if, in the course of preventing ANS
4 transfer, we were to cause adverse impacts to other
5 uses or users of the waterways, let's identify what
6 those adverse impacts are and identify ways to
7 address those impacts.

8 So we didn't produce the study all by
9 ourselves. State engagement played a very
10 important part of the process with the inception of
11 the study. We held public scoping meetings all
12 over the country in 2011. There was one here
13 actually. Some of you may have been there.

14 We have had frequent coordination
15 meetings ever since with our federal partners,
16 state agencies, local agencies, and nongovernmental
17 groups as well. And we published a series of
18 interim products on our website addressing all the
19 ANS, addressing the available controls to prevent
20 transfer of those species, etc.

21 So in July of 2012 there was additional
22 legislation that changed the course of the GLMRIS
23 project somewhat. This intervening legislation
24 focused on three main things.

25 First, was to expedite completion of the

1 report. And as directed, on January 6th of this
2 year, delivered within the 18-month time frame that
3 was directed under the intervening legislation, we
4 delivered a complete report to Congress. The
5 legislation also directed us to focus our efforts
6 on the Chicago Area Waterway System, CAWS.

7 So as Jim mentioned, the interbasin
8 boundary between the Great Lakes Basin and the
9 Mississippi River Basin is long, and they are
10 identified in many -- 18 other potential pathways
11 along this boundary that may serve as routes of
12 transfer of aquatic nuisance species.

13 These 18 other pathways are now
14 collectively referred to as Focus Area 2. We
15 believe them to be on a smaller order, something
16 along the order of an irrigation ditch; something
17 that -- a pathway that could potentially be
18 addressed by similar means. The Chicago Area
19 Waterway System is the only continuous connection
20 between those two basins. That's why we focused on
21 the Chicago Area Waterway System.

22 One directive was to evaluate
23 hydrological separation, which you will see we have
24 done. So before I tell you about the controls we
25 propose and alternatives we put together, let me

1 talk about the Chicago Area Waterway System or the
2 CAWS. The CAWS is not your typical naturalized
3 watershed. It's a combination of natural rivers
4 and modified manmade segments.

5 Before 1900, the Chicago area river
6 system and the Calumet river system drained mostly
7 to the lake. The Chicago Sanitary and Ship Canal
8 and Cal-Sag Canal were dug to facilitate
9 navigation, but also to facilitate drainage from
10 the Chicago area downstream.

11 To this day, these manmade segments
12 provide very important functions to the system as a
13 whole. The whole system facilitates both
14 commercial navigation traffic, as well as
15 recreational boating. It serves as a very
16 important function for water supply and
17 conveyance.

18 On any given day in the Chicago Area
19 Waterway System, 50 percent to 100 percent of the
20 flow is treated municipal wastewater affluent. The
21 system also provides very important flood risk
22 management functions.

23 The system is operated, so -- of course,
24 you are going to have precipitation events. These
25 waterways are all drawn down, so when the rain

1 comes, it can accept all that storm flow.

2 In most of these the discharge all flows
3 downstream, as it does under normal conditions.

4 But under -- especially significant water
5 precipitation events, water will always return
6 back in the lake. It's what is called Lake
7 Michigan backflows.

8 This is also increasingly being used for
9 recreational purposes. Just recently, the uses of
10 the waterways have been redefined to support those
11 recreational uses.

12 So the contents of the GLMRIS report.
13 The GLMRIS report presents and describes eight
14 alternative plans designed to prevent ANS transfer
15 for each of these basins. For each of these
16 alternatives, we have included an conceptual level
17 of design, approximately 5 percent. We included
18 analysis of all the adverse impacts that may result
19 from these prevention measures. Then we assessed
20 mitigation projects to address the adverse
21 impacts.

22 Also, we included a range of cost
23 estimates. These cost estimates sort of correspond
24 to the conceptual level of design. The best use is
25 compare with one plan against the other rather than

1 for absolute cost.

2 The report does not make a recommendation
3 and does not provide a ranking of these eight
4 alternative plans. What it does do is serves as a
5 tool for decision makers. We provide a number of
6 evaluation criteria that represents the tradeoff
7 among the eight alternatives.

8 Some of these evaluation criteria include
9 total cost, time to implement, potential impacts to
10 economics, the environment, water quality, flood
11 risk, etc.

12 One of the important things to emphasize
13 is that future analysis and design work is going to
14 be needed to move any of these plans forward to
15 implementation.

16 To give you background how we came up
17 with these plans, first, we identified the
18 pathways. As I showed you before on the previous
19 slide, there is five aquatic pathways exiting the
20 Mississippi River Basin to the Great Lakes.

21 Secondly, we identified all species, 254
22 species in both basins combined. Then we evaluated
23 and refined our analysis to determine which of
24 these pose a high or medium risk to the basins, and
25 then we evaluated all the available ANS controls

1 suitable to prevent those high- and medium-risk
2 species.

3 Before I walk you through the eight
4 alternatives that the report includes, let me tell
5 you about some of the elements of each of those
6 alternatives.

7 On the right-hand side you will see a
8 physical barrier. This is perhaps the most
9 straight forward. It's a dam separating the two
10 basins. We designed all these features to a
11 500-year storm event, or a .2 percent chance of
12 storm event. Which means that if we had a really
13 big storm, as we've had; we've had several storms
14 in the last five years that exceed the 100-year
15 storm in the Chicago region. So we want to provide
16 a high level of protection. So during those
17 exceptionally large storms, we have an increasing
18 frequency of ANS, and they are able to go over the
19 top of the barriers.

20 In the lower left-hand corner, you may be
21 familiar with the electric barrier that the Corps
22 is operating outside of Chicago currently.
23 Basically, since the Corps has been operating this
24 project in northern Illinois, we have been on a
25 process of optimization and refinement of these

1 technologies.

2 And the electric barrier system proposes
3 further optimization to include an engineered
4 channel. The advantage of having an engineered
5 channel rather than blasting the limestone that we
6 have in the Chicago Sanitary and Ship Canal today,
7 is it could serve several important functions.

8 One is a pre-engineered channel can
9 eliminate any voids or crevices fish use to hide
10 and sneak past our electric field. Also, we can
11 optimize electrodes configuration, and optimize the
12 dimensions, the width and the depth of the channel
13 to get the highest voltage of the water for the
14 amount of power we are putting in.

15 The GLMRIS report proposes some new novel
16 technologies that have not been implemented and
17 practiced before. The first of these in the upper
18 left-hand side is the GLMRIS lock. This design is
19 based on your traditional navigation lock. It's
20 basically a flushing lock concept.

21 The advantage of these technological
22 alternatives as opposed to the physical barrier is
23 it can help maintain navigation of flow of water
24 while eliminating the potential transfer of ANS.

25 The green water on the left represents

1 water that could potentially be contaminated with
2 ANS. As the vessel enters the lock, it could
3 potentially bring ANS with it. The lock doors are
4 closed. ANS treated water is flushed through a
5 locked chamber. And the water exits on the other
6 side. So that's the basic concept of the GLMRIS
7 lock.

8 Paired with the GLMRIS lock, you will
9 also see an ANS treatment plant. This technology
10 is based on conventional wastewater treatment
11 technology. It basically proposes a combination of
12 screens, filters, and ultraviolet light to either
13 remove the bigger species from the water or
14 inactivate the spores and the viruses that are too
15 small that will pass through the screens and
16 filters.

17 So these control technologies are
18 intended to address the primary modes of ANS
19 movement -- swimming, floating, and hitchhiking. I
20 should note that hitchhikers that adhere to boats,
21 if you're local, would not be prevented by the
22 GLMRIS lock. By enabling -- or in the facilitation
23 of navigation, there is still a residual risk you
24 could be transferring species.

25 So I'm going to try to walk you through

1 the eight alternatives which is in the GLMRIS
2 report. Feel free to follow along. You can look
3 in the lower left-hand corner of my slide, and it
4 will show you what we are talking about at any
5 given time.

6 So the first of the eight plans is our
7 baseline alternative; basically, everything that is
8 going on now to prevent an ANS transfer. This is
9 often called the no-action alternative. But
10 actually, we prefer to call it the sustained
11 activities alternative, because there is quite a
12 bit going on to prevent the transfer of the carp
13 and other ANS species.

14 There is a lot being done at federal,
15 state, and local levels, including operation of the
16 electric barriers outside the Chicago area; the
17 construction of a new permanent barrier, same site;
18 are expected to continue and are included under
19 this baseline alternative.

20 Also, electric fishing and response
21 actions that are ongoing by the Corps of Engineers
22 and other agencies, and a lot of other activities
23 sponsored by the Great Lakes Restoration
24 Initiative, such as commercial harvesting of Asian
25 carp, and it's the monitoring and control

1 activities that are currently ongoing. These are
2 all proposed to continue under our baseline
3 alternative.

4 This baseline gives us a yardstick with
5 which to measure the seven subsequent alternatives,
6 so we can see how much additional risk reduction we
7 get from the next seven alternatives.

8 So moving on to the second of the eight
9 alternatives. This is a nonstructural control
10 technology alternative. These are control
11 technologies that would be accomplished without
12 construction of any kind of physical structure. So
13 some of these nonstructural controls include active
14 management like fishing down populations of Asian
15 carp.

16 Other active management strategies are
17 application of herbicides to isolate various plant
18 species before they approach the interbasin
19 boundary. Public education is also important,
20 opportunities for nonstructural control.

21 Making the public aware that bait bucket
22 transfer is a very important and significant route
23 for transfer of ANS; something that people should
24 know. Also, the importance of scrubbing down all
25 boats when transferring from one water to the next.

1 Education can help prevent and delay the
2 transfer of ANS species between basins. Also,
3 promulgation of new laws and regulations can also
4 help delay or stop the transfer of invasive
5 species, just like the Lacey Act, which made it
6 unlawful to transport or import or export species
7 across state boundaries, or any other legislature
8 solutions that further deter ANS transfer.

9 So these aren't really control
10 technologies; they are really best management
11 practices. It's assumed under this alternative
12 that the sustained activities that are currently
13 ongoing would continue. And we also assume that
14 these nonstructural controls should be executed in
15 any case in the six subsequent alternatives. So
16 the price tag for this alternative is \$68 million
17 annually.

18 We came up with this cost estimate
19 basically by surveying all the states about the
20 best management practices they are implementing
21 right now, and basically establish a figure across
22 all the states. Estimated time to completion is
23 zero years. Without construction of a structural
24 goal, we believe a lot of these things could be
25 started tomorrow.

1 Moving on to Alternative Plan 3,
2 this is the flow bypass alternative. It's the
3 first of the two technology alternatives. What it
4 does is it imposes two control points on the
5 system; one here on the Chicago Sanitary and Ship
6 Canal, and another one here on the Cal-Sag
7 Channel. These control points are bidirectional,
8 two-way, intended to stop ANS species coming from
9 the Great Lakes basin and from the Mississippi
10 River basin as well.

11 What we propose at each of these control
12 points includes a GLMRIS lock, that flushing lock
13 concept I told you about, as well as an ANS
14 treatment plant.

15 The ANS treatment plant would --
16 basically all the water that currently flows
17 downstream, it would direct the entire flow of the
18 channel into the ANS treatment plant and deposit it
19 on the Mississippi River basin side; therefore,
20 removing all ANS from the waterway.

21 The GLMRIS lock is parallel to the ANS
22 treatment plant would enable navigation to go back
23 and forth around the treatment plant, but still
24 prevent the passage of the nuisance species.

25 The mitigation analysis that we did

1 showed that during significant precipitation
2 events, these plants in the lock would basically
3 they would pass through and be seeded. So when a
4 system wants to fill up the water, how are we going
5 to prevent the 9.2 million residents of the Chicago
6 area to be flooded out? So we propose for flood
7 risk management purposes, a series of reservoirs
8 and tunnels to help prevent flooding of the third
9 largest city in America.

10 We used analysis of these models to
11 figure out how big the tunnels and the reservoir
12 need to be. And the Corps of Engineers is actually
13 pretty familiar with the tunnels and reservoirs, as
14 we have been helping to construct an enormous water
15 management project in the Chicago area already in
16 the last several decades.

17 So based on our analysis, we estimated a
18 25-year time to completion and \$15.5 billion
19 estimated cost. These estimates are really driven
20 by the mitigation necessary. The ANS control
21 technologies themselves can be accomplished in a
22 shorter time frame, but in order to present an
23 implementable plan that doesn't cause significant
24 flooding, these mitigation measures would be
25 necessary, according to our analysis, and would

1 drive the 25-year, \$15.5 billion time/cost
2 estimate.

3 Alternative Plan 4 is the second of the
4 two technology-based alternatives. This plan,
5 instead of imposing two control points for ANS
6 system, it proposes six; five along the lakefront
7 and one downstream on Brandon Road in a
8 lock/electric barrier.

9 Each of these control points is a one-way
10 control point. So the five control points along
11 the lakefront would protect against Great Lakes
12 species coming in, and the downstream control point
13 would prevent the Mississippi River species coming
14 up in the system.

15 So in between these book-ended control
16 points, you would basically have an ANS free zone,
17 and this -- having this buffer zone between the two
18 basins would facilitate response actions. Should
19 any of these points fail, control points fail, at
20 any point in time, it would provide a place to
21 monitor and control any potential passage.

22 The control points, again, are technology
23 based, just like the last alternative. That ANS
24 treatment plant and the GLMRIS lock, parallel with
25 electric barriers to deter the swimmers.

1 You will notice that we have a ten-year
2 estimated time to completion and estimated cost of
3 \$7.8 billion. This is much less than the previous
4 alternative. The reason for that is the flood risk
5 is much less with this alternative.

6 Because we are not locking the system in
7 the middle, when the system fills up with
8 stormwater, this water is presumably ANS free
9 because it's falling from sky. It can drain out
10 like normal. So we don't need the extensive tunnel
11 and reservoir systems that were necessary under the
12 earlier plans. That's why see a lower time of
13 completion and lower cost estimate.

14 Moving right along to Alternative Plans 5
15 and 6, these are two hydrologic separation plan
16 alternatives. The lakefront hydrologic separation
17 alternative proposes four barriers very near to
18 Lake Michigan. These barriers each affects
19 stopping the movement of potentially invasive
20 species; however, it would cause extreme flood risk
21 to the Chicago area.

22 As I mentioned earlier, during
23 significant precipitation events in the city, the
24 city will not only drain water downstream, but
25 lakeward as well.

1 So these barriers, if they were
2 overtopped by rainwater, would not be very
3 effective at stopping the transfer of ANS.

4 So therefore, in order to stop all this
5 effluent to the lake, we proposed tunnels and
6 reservoirs again to capture the excess flow until
7 it can be treated and returned to the water.

8 So the majority of the cost, if you look
9 on your table in the book, for this alternative,
10 the total estimated cost is \$18.4 billion, and
11 estimated time to completion is 25 years. Again,
12 these estimates are driven mostly by the mitigation
13 required to prevent floods to the system.

14 So our next question is, gosh, how are we
15 going to minimize the need for all this
16 mitigation? Which brings to us to Alternative Plan
17 6, which is the mid-system hydrologic separation
18 alternative. This is to optimize flood risk. It
19 puts two barriers, mid-system control points, where
20 the -- approximately near where the natural flow
21 divide, where the high point in the system
22 naturally exists.

23 So like I said, there is far less risk of
24 flooding with this alternative. However, some of
25 the drawbacks are it moves. See these two brown

1 boxes here? These are two of the larger wastewater
2 treatment plant facilities in the world, and it
3 moves these wastewater treatment plant facilities
4 into the Lake Michigan basin.

5 It also moves about 200-some-odd combined
6 sewer outfalls. So combined sewage and stormwater
7 outfalls into the Lake Michigan basin that were
8 formerly discharged into the Mississippi River
9 basin side.

10 Lastly, this plan, the hydrologic
11 separation barrier, if installed right there, would
12 expose Lake Michigan to contaminated sediment and
13 possibly mobilize contaminated sediment that would
14 be transported to the lake.

15 So based on our understanding of the
16 Clean Water Act and the antidegradation provisions
17 of the Clean Water Act, and based on our
18 discussions with regulatory agencies, both federal
19 and state, we believe it would be very difficult to
20 implement these hydrologic separation barriers in
21 the middle of the system without doing something to
22 address the wastewater treatment plant outflow, the
23 sediment and the combined sewer overflows.

24 So we have proposed a series of
25 mitigation projects to help offset those adverse

1 impacts. On the right side of the screen you will
2 see a green, squiggly line following the river
3 going north at O'Brien from the plant in Chicago,
4 down to the lake, down the Mississippi River side
5 of the separation barrier.

6 Likewise, from the southern end, a tunnel
7 bringing the effluent of the treatment plant to
8 the other side. Also, the yellow line over here
9 represents a tunnel that would catch all the
10 combined sewer, combined sewer, stormwater, to the
11 reservoir where it would be treated before it
12 travels back to the waterways.

13 Lastly, to mitigate the adverse impacts
14 of water quality under this alternative,
15 significant sediment remediation on the lakeside
16 of the barriers is recommended.

17 So this mitigation work is to offset
18 adverse impacts we expect the barriers to cause.
19 They are above and beyond any work that is already
20 planned or already needed in the system.

21 So it's what we think will be necessary
22 to suggest we want to provide an implementable plan
23 in the GLMRIS report, and it's what we think will
24 be necessary for implementation.

25 To give you an idea, we did a water

1 quality model analysis which shows the results. If
2 the wastewater, combined sewer, overflows were
3 continue to go to the lake, what would happen?

4 Phosphorus would contribute to the growth
5 of algae. What algae does when it is overgrown in
6 the lake, it settles to the bottom sediment,
7 where it inhibits the growth and subsistence of
8 organisms and form the basis of the food chain.

9 So this is kind of the exact same problem
10 that the carp would cause. They take out the
11 bottom of the food chain and threaten the entire
12 ecosystem.

13 So because of this threat, I think it's
14 very important to address the potential impacts to
15 water quality of any alternative. We don't want to
16 propose a solution that is going to cause a quality
17 problem equal to or worse to the one we already
18 face.

19 So moving on to the last couple two
20 alternatives included in the GLMRIS report, we have
21 our hybrid alternatives. It's a combination plan.
22 The Chicago Area Waterway System is divided into
23 the Chicago River system on the north and Calumet
24 River system on the south.

25 On the north side -- so as this name

1 suggests, the Cal-Sag system under this type of
2 alternative would be open. We use technological
3 solutions on the Cal-Sag and apply the hydrologic
4 separation barrier on the Chicago Area Waterway
5 System.

6 The estimated time for completion of this
7 alternative plan is 25 years, and estimated cost is
8 \$15.1 billion.

9 The final and eighth alternative plan is
10 the other hybrid alternative, the CSSC open, which
11 is the reverse of the last one. It's a hydrologic
12 separation barrier on a time-measured system and
13 proposed technology in the Chicago River system.

14 This plan is, again, 25 years to
15 completion and estimated \$8.3 billion in cost.
16 You will notice that this is about half as
17 expensive as the earlier alternative. That's
18 because much less mitigation is required.

19 So as I mentioned earlier, this GLMRIS
20 report does not recommend or rank any one of these
21 particular eight plans. What it does do is
22 provides a tool for decision making. We were asked
23 to provide a range of option technologies. So to
24 make sense of these technologies, we also provide a
25 tool, an evaluation criteria, so a tradeoff

1 analysis could be understood by the readers.

2 So how effective is each of these plans
3 in preventing ANS transfer? What are the financial
4 costs? What are the impacts of water quality,
5 flood risk mitigation, etc., and what is the
6 timetable?

7 All of these things are evaluated in the
8 GLMRIS report in a series of charts so the public
9 and decision makers and Congress can really
10 understand the costs and benefits of each of these
11 alternatives.

12 A few last things I'm going to leave you
13 with, a few additional considerations. As I
14 described earlier, mitigation is a significant
15 factor in the plan implementation, both cost and
16 timing.

17 Impacts to flood risk and water quality
18 are really significant in the Chicago Area Waterway
19 System. So it doesn't take \$18 billion and 25
20 years to build a couple of dams. However, to build
21 a couple of dams and protect water quality and to
22 protect against floods does take significant time
23 and money, according to our analysis.

24 Another thing to remember, each of these
25 plans does bear some residual risk. There are

1 means of ANS transfer that are outside of the
2 aquatic pathways; as I mentioned, bait bucket
3 transfer; other animals, birds. These are all
4 factors for interbasin transfer of aquatic nuisance
5 species.

6 There are other residual risks too.
7 Because of the long time frame for implementation,
8 there is a risk for some species, not all, to make
9 the transfer before the final plan is implemented.

10 Adaptive management, some of the plans we
11 have here, we propose, offer opportunities to do
12 sustained implementation, construct some controls
13 while you are building towards the others.

14 It also provides the opportunities to add
15 as new technologies are developed, to maybe switch
16 out an electric barrier for a novel technology that
17 is still under research and development. CO2 comes
18 to mind; there are others.

19 We explicitly screened out technologies
20 that are still in research and development. Again,
21 we wanted to propose actual, real implementable
22 solutions that can be executed starting soon.

23 Lastly, the last idea I want to leave you
24 with is that ANS control is a shared
25 responsibility. The Corps of Engineers has control

1 mainly over the Great Lakes and entire Mississippi
2 River basin. It's a responsibility we all share.

3 It's going to take significant investment
4 of our sources from many different resource
5 agencies, and it's going to take participation
6 from everyone to help fix this problem.

7 That's part of the reason we are here
8 tonight, because we believe that continued
9 engagement with the stakeholders, with the public,
10 is really necessary.

11 So to that end, we have conducted an
12 extensive public engagement process since the Corps
13 of Engineers released the GLMRIS report. We
14 scheduled meetings like this one in 11 cities.
15 Tonight is our final meeting, our 11th meeting.

16 We really want to hear from you, hear
17 your ideas, your questions, comments and concerns,
18 about how to move forward on this issue.

19 We extended our public comment period.
20 We will be collecting and documenting all the
21 public comments we heard in order to inform
22 decision makers about what the public thinks.

23 We extended the comment period to March
24 31st of this year. I encourage you to make a
25 statement tonight. Or if you think of something

1 tomorrow, go to our website. Get us your ideas
2 before the March 31st period closes.

3 So that's what -- I will be quiet now.
4 I'm looking forward to hearing all of your ideas.
5 You can also locate us on Facebook or Twitter. We
6 will answer any questions you might have. Thank
7 you very much.

8 MR. ZABOROWSKI: Now, as we indicated
9 on the green agenda, we are going to move into the
10 oral comment period of tonight's meeting where we
11 get to hear from you and interact with you about
12 any questions that you have of us.

13 As Lauren mentioned, the website is a
14 great source of information. If you are interested
15 in getting a copy of the full report, you can go to
16 the website, and you can download it for yourself
17 there.

18 Moving into the oral comment portion of
19 the meeting period, so if you registered on our
20 website that you would like to make a comment, or
21 you registered at our desk, you are now going to be
22 given an opportunity to do so.

23 I don't have a terrible amount of people
24 registered tonight. Normally, we have a formal
25 three-minute guideline for comments. If everybody

1 is okay with that, I would like to waive that
2 three-minute guideline and just ask everybody to be
3 respectful of each other's times and try not to
4 monopolize the microphones.

5 I'm looking for head nods to make sure
6 this is okay with everybody. Thank you for that.

7 I'm going call some names. I'm going to
8 call them out in order. We have a microphone
9 up-front. And if you have any trouble with that,
10 Kim can help you out. The microphone, you are
11 going to have to get close to it; it doesn't pick
12 up very far.

13 The reason that we have these microphones
14 is that we are recording your comments, and we want
15 to make sure we record them accurately. To help us
16 do that, we also have a stenographer with us down
17 here in the front.

18 So when you come to the microphone,
19 before you begin speaking, I would like to ask you
20 to give your full name, any organization you might
21 represent, and then your ZIP code, so when we go
22 back and look at these, we can make sure we
23 accurately record who said what.

24 So moving on, I'm going to start with the
25 people that registered on our project website.

1 First, I have Mr. Thomas Marks, and then following
2 him, Nate Crag. Mr. Marks, come down to the
3 microphone.

4 MR. MARKS: Thomas Marks, Great Lakes
5 Sports Fishing Council, and my ZIP code is 14047.
6 I would like to thank you for the GLMRIS study. It
7 looks pretty extensive. There were a couple
8 comments made in the presentations.

9 One, I get really rattled when we talked
10 about Asian carp. So if I get excited, you will
11 have to tolerate me a little bit. Anyhow, the
12 electric barrier, you know, right from the
13 beginning, the advisors for the design, the
14 designers, biologists, and everybody working on it,
15 knew from very early on that that was not going to
16 be 100 percent effective in stopping Asian carp.
17 That's why we are looking at all these other
18 alternatives.

19 Dr. Mark Pegg and John Chick,
20 they did a study that said exactly that.
21 Even if the barriers are 99 percent effective,
22 that still means that Asian carp will get past
23 the electric barriers.

24 I don't like to the see the comparison of
25 Asian carp to sea lamprey. We did some things in

1 just the -- digging canals and things we did early
2 on in this country that allowed sea lamprey into
3 our waterways. They were a mistake. You probably
4 wouldn't do that stuff today.

5 Unfortunately, Asian carp were invited
6 here. We brought them here. There were
7 scientists, biologists, that were saying that we
8 shouldn't allow Asian carp to be brought in and
9 used in some of the areas that they were used in,
10 the fish ponds and sewage treatment plants,
11 whatever. So it's a bad comparison, because we
12 invited them here.

13 The whole process of stopping Asian carp
14 from spreading throughout the ecosystem, I have
15 always been troubled with what I felt was the lack
16 of intensity and the sense of urgency in protecting
17 a priceless ecosystem.

18 So when I see a 18- or \$15 billion
19 price tag of protecting a priceless ecosystem, I
20 guess it's worth it. I really expect it will cost
21 a lot more than that. The Chicago Area Waterway,
22 the Chicago Sanitary and Ship Canal in particular,
23 was not designed as a fish habitat or recreational
24 waterway or really even the intent for shipping on
25 it. That was an afterthought.

1 What it was designed for was an open
2 sewer, and that's what we should look at it as.
3 Even though it's being used for other activities
4 today, it was an open sewer; drain the sewage away
5 from Chicago down to the Mississippi River and
6 beyond.

7 So to address some of my concerns, most
8 of these plans, except for the alternative No. 2,
9 which we can do right now, and I think that should
10 be implemented right now; we should be doing all
11 that stuff.

12 I think we have to look at some means in
13 the meantime to prevent Asian carp, or other
14 species, from swimming through the canal. We are
15 not going to stop plants drifting. We are not
16 going to stop bacteria or viruses drifting north or
17 south. But we can stop fish today from going north
18 or south in that barrier, or in the canal.

19 All we have to do is turn off the pumps
20 for the side elevation aeration ponds; make that
21 water lack oxygen so fish can't survive in it. I
22 think there is seven aeration ponds in the Chicago
23 Area Waterways. There is one right by the
24 confluence of the Cal-Sag and Chicago Sanitary and
25 Ship Canal. That one should be shut down today.

1 The power plant that is right near the
2 electric barrier that we had issues with, with the
3 arching, that power plant should be allowed to
4 discharge hot water, that also aids in reducing the
5 amount of oxygen in the water.

6 Those are free. That's free. It doesn't
7 cost you a penny. And you will still have money
8 left over for the \$18 billion projects that you are
9 talking about.

10 Sense of urgency, these are things you
11 can do today to help protect the Great Lakes and
12 Mississippi River Basin from invasive species that
13 swim. And I can give you a lot more ideas, but
14 this is one we should be doing right now. Because
15 most of these projects, other than item No. 2, is
16 10 and 25 years out, so we have to stop the carp
17 now. Thank you very much.

18 MR. ZABOROWSKI: Next, Mr. Nate Drag
19 and following him I have Barry Boyer.

20 MR. DRAG: Nate Drag, Alliance for
21 the Great Lakes, 14222. I want to thank you guys
22 for coming to Buffalo and adding this meeting to
23 your tour. I saw some of you down in Erie. I was
24 at that location. I appreciate you coming up here.
25 We love the Great Lakes here in New York. So thank

1 you for that.

2 I would like to build on what Tom said,
3 talking about the value of the Great Lakes and how
4 important it is to keep Asian carp and other
5 invasive species out of the Great Lakes and
6 Mississippi River.

7 I believe that physical separation is the
8 only effective permanent solution, keeping invasive
9 species, which is a biological pollutant, from
10 moving in and out of the Great Lakes.

11 The current electric barrier in the
12 Chicago Area Waterway System is not stopping fish
13 under 4 inches from moving through, as well as
14 other organisms. So that permanent hydrologic
15 separation is really the only solution to avoid the
16 ecological and economic harm that these species
17 would cause.

18 That price tag, \$15 billion is very high
19 because of the other improvements you talked about
20 for the Chicago Area Waterway System. These
21 improvements aren't directly related to stopping
22 movement of invasive species specifically moving
23 and things of that sort. And these additional
24 projects inflate the price and extend the
25 timeline. Other studies have been done on physical

1 separation that put the price tag at right around
2 4.5 billion, which is still an immense amount of
3 money. But an analogy I always use for this \$15
4 billion price tag is like telling someone it's
5 going to cost you \$20,000 to bake a cake in your
6 kitchen because you need to remodel the entire
7 kitchen.

8 So regardless of the price tag, 4.5
9 billion to 18 billion, these are all huge numbers
10 for most of us. As Tom said, it's too expensive
11 not to act. The economic impact on the fishing
12 industry, tourism, as well as the cost of
13 management of future invasive species, would far
14 outweigh the cost of physical separation.

15 My last point is, if Asian carp and other
16 invasive species make it into the Great Lakes, just
17 as they come up Mississippi and Chicago Area
18 Waterway System, and they wouldn't stop here. They
19 could get in the New York State Canal System, and
20 then we are talking about the Finger Lakes and
21 Hudson, all the northeast.

22 I would hate for you guys to come back in
23 25 years and have a meeting like this about that.
24 So if we can avoid them getting into the Great
25 Lakes in the first place, and I assume species

1 going down the Mississippi as well, I would like to
2 avoid that. Thanks again for coming to Buffalo.

3 MR. ZABOROWSKI: Thank you. Before
4 our next comment, I would like to take a moment to
5 respond and speak to some of the misunderstandings
6 that we have been hearing about the costs that we
7 presented in the GLMRIS report.

8 If you will remember at the beginning,
9 Lauren alluded to -- the costs that we present in
10 the GLMRIS report are best used to compare the
11 plans to one other.

12 Any time -- if you go through the full
13 232-page report, the GLMRIS report, any time you
14 see a cost estimate in there, we have a caveat that
15 says these costs are not intended to be used for
16 authorizing purposes. They are not necessarily
17 representative of everything.

18 The second part I would like to add is
19 also in that larger -- the full report --
20 unfortunately, not in this summary booklet; it was
21 too much information to put in there -- we try to
22 identify costs associated with the project that
23 would, one, be a federal responsibility, costs that
24 may or may not be a federal responsibility, and
25 costs that are exclusively not federal

1 responsibility; that would be borne by some other
2 entity.

3 And the costs that Lauren presented here
4 that are actually in the summary report are total
5 costs. So they may not be the cost of an entire
6 federal project. For example, some or all of the
7 mitigation measures for some of these projects may
8 not be part of an authorized federal project.

9 But they are costs that will have to be
10 borne by some entity in some shape or fashion if
11 one of these alternatives is implemented. I just
12 want to make sure that that's clear.

13 This report doesn't necessarily propose
14 that, for example, lakefront hydrologic separation
15 is going to be an \$18 and a half billion federal
16 investment, but we think it will be at least \$18
17 and a half billion of investment by some
18 combination of groups.

19 The last thing I want to mention -- I
20 think Lauren will probably want to say something as
21 well -- is that we also identified areas that -- or
22 impacts that will also have a cost that we didn't
23 put a dollar figure on. We looked at, as Lauren
24 pointed out, two wastewater treatment plants and
25 having to reroute those.

1 There's maybe up to a dozen smaller
2 wastewater treatment plants in the area that would
3 require some type of mitigation to address their
4 discharge that we did not put a dollar figure on.

5 We tried to capture the major dollar
6 figure components in the report. We just wanted to
7 present an objective picture and say that there are
8 things that are going to be impacted. And they may
9 not necessarily be a federal cost, but someone will
10 have to pay something as a result of one of these
11 plans. Lauren?

12 MS. FLEER: I wanted to talk about
13 the cake, because I don't think we are -- the costs
14 we are proposing don't include a full remodeling of
15 the kitchen. I think it includes cleanup of the
16 kitchen after the cake is made and the cost of
17 doing the dishes.

18 We are as concerned as protecting the
19 Great Lakes as every one of you guys. We love the
20 Great Lakes too. Our futures are all tied in terms
21 of what happens to the Great Lakes.

22 What we are talking about right now,
23 the invasive species problem, really is an
24 unintended consequence of digging these canals, as
25 others have pointed out. We don't want to cause or

1 produce any other unintended consequences by
2 rushing into a separation project.

3 That's why we have invested quite a
4 bit of analysis. What would happen if we did this
5 kind of separation? I encourage you to look at
6 it. I think F shows what kind of water quality
7 impacts would result from a separation if we did no
8 mitigation.

9 And we looked at this. We used a lot
10 of technological information. We used models from
11 some of the best researchers at the academy. And
12 you will see that what would happen justifies some
13 kind of cleanup.

14 We can't just let all the combined
15 overflows go. We can't just let the treatment
16 plant effluent go without doing anything, because
17 we will have -- I think you'll see if you look at
18 the results in the study, devastating impact on the
19 lake.

20 We want to protect the lakes from the
21 carp and all the other species, but we want to
22 protect them from ourselves, human kind as well.
23 So that's what led to a lot of the mitigation cost
24 as described in the study.

25 MR. ZABOROWSKI: Thanks, Lauren. Now

1 back to the regularly-scheduled comments. Barry
2 Boyer. Following him, I have Thomas Lunt.

3 MR. BOYER: Thank you. Tom Lunt and
4 I are both trustees of The Nature Conservancy,
5 Central and Western New York Chapter.

6 MR. ZABOROWSKI: We need your name.

7 MR. BOYER: Barry Boyer, 14052. I'm
8 a retired law professor at UB. I would like to --
9 Tom will speak a bit more about the need for
10 hydrologic separation and the importance of closing
11 this revolving door between these two ecosystems as
12 rapidly and effectively as we can.

13 I would like to take up something
14 about the cost and benefits as defined in the
15 report. I think you are quite right, this is going
16 to make a multijurisdictional effort to get
17 anything done and a lot of political support will
18 have to be generated.

19 There is some good data here, but I'm
20 worried about the way this frames the basic choice.
21 Because I read the summary report, especially, and
22 I see things like, there are no additional impacts
23 to users and uses from an action, and there are no
24 estimated costs. Really?

25 Now, I know why that's there, and you

1 have explained some of it here. But everybody
2 isn't going to have access to your explanation of
3 it. Everybody isn't going to have access to the
4 underlying report. I think this needs to be framed
5 a whole lot better and developed a little bit more.

6 For example, we know that inaction has
7 cost because we can see it in the lakes. The
8 Nature Conservancy commissioned a report by the
9 Anderson Economic Group; came out in 2012 while
10 this study was going on.

11 It says, we are well in excess of \$100
12 million a year, expenses that are associated with
13 the existing invasive species, and some of these
14 like the carp could impose even more severe
15 constraints on the system.

16 Scientists have said that we risk
17 irreversible ecological collapse if we don't
18 address these stressors, which include invasive
19 species in the system.

20 So those are things that are hard to
21 quantify; no doubt about it. I burrowed down a
22 little bit into the economic analysis in the
23 appendix. And apparently, what was done is, if you
24 couldn't quantify them reliably, you just ignored
25 them. At least that's the impression that's given

1 by this document.

2 So that's not the way environmental
3 analysis is supposed to be done; in a NEPA context,
4 at least. That's not what we are, but that's good
5 practice. You quantify what you can reasonably
6 quantify, and then for other impacts where you
7 don't have reliable quantitative data, you have to
8 go and do a qualitative analysis that highlights
9 some of these impacts. And I think that this
10 should really get much more emphasis than it has
11 gotten so far in this study.

12 On the benefits side, the economic
13 benefits of alternatives could be framed a little
14 more favorably too. And I have in mind a couple of
15 reports that came out while this study was in
16 progress; reverse effect, scenarios for reversing
17 and separating. And the National Resource Defense
18 Council is re-envisioning the Chicago River.

19 I'm sure you are familiar with them.
20 There is one point that comes out of those, and
21 that is, with a little bit of creative thinking, we
22 can do more than just solve this problem. We can
23 modernize the transportation infrastructure in
24 metropolitan Chicago, make it more competitive and
25 cost effective.

1 We can revitalize neighborhoods by making
2 the water resources better. We can do things like
3 we are trying to do here in Buffalo and use green
4 infrastructure rather than concrete and steel; try
5 to deal with some of these impacts of combined
6 sewer overflows.

7 There is a lot of opportunity here for
8 win-win-win solutions. And I don't see that framed
9 adequately in these documents. So I think you need
10 to rethink that a little bit and be a little more
11 inclusive and thoughtful about the way that's done.

12 The other point I would like to
13 address is the 25-year timetable. I don't see that
14 as either justified in the report or potentially
15 justifiable. When a patient is seriously
16 hemorrhaging in the operating room, you stop the
17 bleeding first and then you worry about the other
18 things. I don't think we have done that in
19 Chicago. We have been getting too many indications
20 that this barrier is not, as it's currently
21 operated, effective.

22 So we need to get going. Twenty-five
23 years -- after all, that's twice as long as it took
24 to dig the Chicago Sanitary and Ship Canal, and
25 they were using 19th century technology.

1 We ought to be able to do better than
2 that. NASA put an man on the moon in about a third
3 of the time frame you are talking about once
4 President Kennedy gave them the go signal.

5 So we need to have some more of that
6 can-do, let's-get-on-it, full-speed-ahead approach
7 to dealing with this problem. Because at the end
8 of the day, it's not even rocket science. It's
9 hard engineering, but we have the resources and
10 talent to do that. We just need to get on it; to
11 stop analyzing and start digging.

12 MR. ZABOROWSKI: Thank you, sir.
13 Next, I have Thomas Lunt, and following him, Brian
14 Smith.

15 MR. LUNT: Thomas Lunt, 14127. I'm a
16 trustee of the Central and Southern New York Nature
17 Conservancy. I attended a meeting in Indiana in
18 which Mr. Weave (phonetic) spoke about the
19 electronic barrier and how wonderfully that worked
20 when there was a power outage and the generators
21 didn't turn on, so the barrier just went down.

22 So I am pointing out to you, electric
23 barriers, things of this nature, are just full of
24 errors that can happen, things that go wrong. And
25 everybody says, oh, my goodness, we never thought

1 that would happen.

2 The real need here is, you need to
3 start the physical barriers and close off the
4 Chicago Water System -- Waterway System from the
5 Great Lakes and all of the entrances; maybe use the
6 Calumet Lake or whatever it's called, pond, in
7 order to bring navigation in there to transfer
8 loads over to barges and so forth.

9 This needs to be done. You don't
10 have 25 years. And you don't have to wait around
11 for everybody to improve their water treatment
12 plant. If you want to talk about water treatment
13 plant, the Des Plaines River is a sewer. The
14 waterway is a sewer.

15 So if Chicago is really worried about
16 treatment of their water, they are not very -- they
17 are not paying much attention to it, and they are
18 not going to pay much attention to it. They are
19 going to have to decide -- because now we have to
20 do something, we will do something.

21 So we really need to say, the
22 physical barriers need to go in. That's what is
23 going to stop anything moving from one section to
24 the other. If you spend all this time and say,
25 well, we've got to get the water treatment plants

1 up first before we ever build the physical
2 barriers; you are going to build the physical
3 barriers in the year 2003, and in the ensuing 22
4 years, everything that wanted to get into the Great
5 Lakes is going to be there. Once they are there,
6 there is no getting them out.

7 Lake Huron is a great example of it.
8 The sports fishing industry in Lake Huron is like
9 zero, and it's gone. You can do the same thing to
10 the rest of the lakes. You can sit around and
11 study. You know the physical barriers have to be
12 there. If they aren't there, everything is going
13 through, because the electronic barriers are not
14 going to stop them. I don't care how much you
15 improve them. Unless the water is totally
16 electrified so nobody can touch it, maybe that
17 would do it. But you would probably have some
18 after effects of who do you electrocute.

19 So the key is, you have got to look
20 at the physical barriers and get them in and then
21 look at all the other stuff; and warn those places
22 that they need to do something, and they have got
23 to get to it while you are solving the problem.

24 So 25 years -- in 25 years, I may not
25 be around. But in 25 years, all you are going to

1 have is Asian carp, and it's going to be
2 everywhere. It's going to be in the Erie Canal,
3 and that's going to move it right into all the
4 Finger Lakes.

5 These fish are extremely capable.
6 Canada, I think, doesn't even see how bad that is
7 going to be for them, because it's going to go
8 right up in their basins as well. These fish can
9 survive in almost anything.

10 So if they can survive in the Chicago
11 sewer system, they can survive anywhere. So you
12 have got to stop them, and you have got to stop
13 them now. You have to worry about that. That's
14 No. 1. Everything else -- building a tunnel and
15 making a reservoir -- that's all got to come later
16 as people begin to understand, now they have a
17 problem; they really have to get involved in fixing
18 it.

19 So 25 years -- none of us, we will
20 all probably be walking around with canes or
21 something, but it will be -- we won't have to worry
22 about anything. The fish will be there, and so
23 what. Thank you.

24 COLONEL DRUMMOND: Thank you very
25 much. I'm going to hit on a couple things. At the

1 end, I will talk about the barrier effectiveness
2 that he alluded to. I think you are well aware
3 that anything the Corps of Engineers does comes
4 from two things: We get authorization from
5 Congress and we get appropriation.

6 Some of what you heard tonight about
7 mitigation, we have two very large reservoirs in
8 Chicago. One is the McCook. It's going to be
9 about 10 billion gallons. And the other one is
10 Thornton reservoir. We have a whole bunch of other
11 ones scattered along the North Branch and Des
12 Plaines River.

13 A lot of the analysis related to the
14 mitigation is based off of fact. We know how long
15 it takes to make tunnels. We know -- based on
16 appropriation, current appropriation, about how
17 long it takes.

18 Now, what you said, certainly, the
19 Corps of Engineers has been involved in the
20 Everglades, it has been involved in building the
21 Hoover Dam, it has been involved in building big
22 things.

23 We can certainly do it, given, if we
24 have the correct authorization and correct
25 appropriation on time, as indicated in the book, I

1 think we can provide a very good solution of what
2 you were talking about.

3 The other thing I might add, as I'm
4 listening to you and a whole bunch of other folks,
5 if you just play back and hear what the
6 stenographer has to say, you really, sir, covered
7 every one of our options. You covered every one of
8 our options. If you look very closely, every one
9 of them -- everything you were talking about is
10 listed in there in a range of options and
11 technologies.

12 That's why we are out here doing
13 exactly what we are doing, because if the Asian
14 carp is the number one threat -- remember, there
15 are 13; three coming up from the Mississippi, ten
16 coming down from the Great Lakes. So you can
17 imagine, the folks that live along the Mississippi
18 River are just as concerned about the ten coming
19 down from the Great Lakes as the folks who live in
20 the Great Lakes about the three coming up.

21 So there is -- you go in and look at
22 option No. 4, the Brandon Road Lock and Dam, perhaps
23 that is one that may have a little bit of interest
24 to you and some of the other folks that are
25 directly concerned about Asian carp.

1 So the beauty of this is we are doing
2 exactly what Congress asked us to do: Provide a
3 range of options and technology so you, the public,
4 can help members of Congress and representatives,
5 help us figure out what I would call a very, very
6 complex issue. And you know, as you mentioned, the
7 Sanitary Ship Canal, it did take about half the
8 time. It was very complex. I look at the pictures
9 often in my office. I have got the original
10 pictures, I might add.

11 But Chicago went from a little --
12 right about 600-, 700,000 when it initially started
13 being built, to a little over 1.1 million. So it
14 is going to be a tough problem, and I appreciate
15 your comments tonight.

16 MR. BREDIN: One additional comment
17 from myself also. Representing the Asian Carp
18 Coordinating Committee, we actually have a meeting
19 next week. And we are not going to be waiting for
20 this process to unfold to see what we can do about
21 Asian carp.

22 The purpose of the meeting is to take
23 this report, take the GLMRIS report, tease it apart
24 and see if there are things in there that we can
25 move on faster to deal specifically with fish

1 species moving up, bighead, silver, Asian carp and
2 others, because there are a number of other species
3 in the Mississippi River that we are concerned
4 about.

5 So we are going to be doing that from
6 that perspective. And so we are going to be
7 looking at it and trying to figure out specifically
8 what can we do that will either reduce the risk or
9 eliminate the risk of Asian carp moving up while
10 this whole process is going on, trying to deal with
11 all the invasive species.

12 So I want to make sure you know, we
13 are not going to sit back and wait and see what
14 happens with this whole thing. We have a good
15 group of people, state and federal agencies, and we
16 are going to be moving on this as fast as we can.

17 MR. ZABOROWSKI: Name and ZIP code?

18 MR. SMITH: Brian Smith with Citizens
19 Campaign for the Environment, 14223. Thank you for
20 the opportunity to provide testimony this evening.
21 I'm here today on behalf of our 30,000 members to
22 express our strong support for physical
23 separation.

24 We note that in the Army Corps study,
25 its own study, states that physical separation is

1 the most effective way to prevent harmful and
2 invasive species, such as Asian carp, from
3 traveling from the Mississippi to the Great Lakes
4 and vice versa.

5 Given this is the only truly viable
6 option to protect this valuable ecosystem,
7 particularly the future of the Great Lakes, we are
8 very disappointed that the Corps did not recommend
9 physical separation as a preferred alternative.

10 The electric barrier is flawed, as
11 many people pointed out this evening, and clearly
12 not the long-term solution we need to protect the
13 Great Lakes.

14 In a Corps study from December 2013
15 show that fish can swim through the barrier, yet we
16 are spending \$12 million a year to maintain this
17 flawed and ineffective strategy.

18 We realize that a physical separation
19 will not happen overnight, and there will be costs
20 associated with that. However, the cost of not
21 taking action and maintaining the status quo will
22 cost us far more.

23 In New York now we have a
24 recreational boating industry that contributed over
25 \$600 million to New York economy. Like so many of

1 the other threats facing lakes, if we don't invest
2 in solutions now, we will not save a penny.
3 Kicking a can down the road today will cost us
4 much, much more. So we need to invest in a
5 permanent solution as soon as possible.

6 Again, realizing this won't happen
7 overnight, physical separation could be stages in
8 phases like other major infrastructure projects
9 spreading the cost over time, but the process must
10 start as soon as possible.

11 Independent studies have shown that
12 physical separation will not only protect the Great
13 Lakes from invasion, but also solve existing
14 transportation and water quality problems.

15 Technology is available to
16 dramatically improve water quality from Chicago's
17 water treatment plants. It's not fair to continue
18 to pollute those rivers in order to protect Lake
19 Michigan. We need to improve water quality for
20 everyone. This can and should happen with
21 separation.

22 In closing, I want to, again, thank
23 you for coming and adding Buffalo to your tour.
24 And I hope while you are here, you can take a look
25 around town and visit the Buffalo waterfront, which

1 is really seeing a rebirth in recent years.

2 People are really connecting with our
3 water once again, and it really holds the key to
4 our future in Buffalo. And we have as much to lose
5 as anybody if Asian carp make their way into the
6 Great Lakes. So again, the push for physical
7 separation is the only true permanent solution to
8 address this problem. Thank you.

9 MR. ZABOROWSKI: Next, I have Paul
10 Dyster.

11 MR. DYSTER: Paul Dyster,
12 D-Y-S-T-E-R, 14301. My name is Paul Dyster. I am
13 mayor of the City of Niagara Falls, New York. I'm
14 also regional director for the states of Ohio,
15 Pennsylvania, and New York, and a member of the
16 board of directors of the Great Lakes St. Lawrence
17 Cities Initiative, which is a binational coalition
18 of mayors and other local officials that works
19 actively with federal, state, and provincial
20 governments to advance the protection and
21 restoration of the Great Lakes and St. Lawrence
22 River.

23 As mayor, I must be concerned about
24 the economic well-being of Great Lake cities
25 because, to an ever-growing extent, the economic

1 conditions that impact the quality of life across
2 the Great Lakes Basin are also impacting Niagara
3 Falls.

4 To be sure, the quantity and quality
5 of the waters of the Great Lakes materially affects
6 the quality of life of residents in my city, the
7 environmental health of the community, and the
8 fundamental capacity of an entire region to create
9 a more sustainable and resilient economic base.

10 One of the most serious threats to
11 the Great Lakes resources for many years has been
12 invasive species, with over 180 different kinds
13 having reached our waters already.

14 They are causing hundreds of millions
15 of dollars in damage each year. Without a doubt,
16 the most serious new threat comes from the Asian
17 carp. First introduced in the South, these carp
18 have already slowly and surely moved northward
19 causing tremendous economic and ecological damage.

20 These carp can and will, if allowed
21 to, through inaction or wrong action, devastate the
22 \$7 billion Great Lake fisheries, the \$16 billion
23 boating industry, and nearly 2 million jobs and
24 billions of potentially-lost wages.

25 Let me say that both personally and

1 professionally, it's vitally important that we take
2 the steps necessary to insure the protection and
3 ongoing totality of the Great Lakes.

4 My community is willing to take part
5 in doing whatever it can to achieve that goal.
6 Niagara Falls is making an effort to understand
7 this issue and many other potential environmental
8 threat issues on the horizon.

9 I'm proud to say that Niagara Falls
10 is working cooperatively with other U.S. and
11 Canadian mayors at the Cities Initiative, the Great
12 Lakes Commission, and others taking an integrated
13 approach to the different environmental, social,
14 and economic agendas within our communities;
15 working on issues such as adaptation and
16 resiliency; microplastics, which you may have read
17 about recently; as well as stormwater and municipal
18 water systems management, water conservation and
19 pollution.

20 Certainly, Niagara Falls does not
21 have a large commercial fishing industry, but
22 Niagara does have a very substantial recreational
23 fishing sector in Lake Erie and Lake Ontario.

24 It's just as certain that the
25 establishment of Asian carp in the Great Lakes

1 would be devastating to our region's freshwater
2 resource, as it would to the entire Great Lakes
3 basin.

4 The Great Lakes St. Lawrence Cities
5 Initiative is leading the call for restoring the
6 natural divide and separating the Great Lakes and
7 Mississippi River basins in the Chicago Area
8 Waterway Systems.

9 Great Lakes and St. Lawrence Cities
10 Initiative in collaboration with the Great Lakes
11 Commission developed and released a report,
12 Restoring the Natural Divide, on January 31, 2012,
13 detailing the feasibility of physical separation of
14 the Great Lakes in the Mississippi River basins in
15 the Chicago Area Waterway System.

16 This call is based on real science
17 and economic feasibility. Why insist on this
18 solution over all others? To be clear, because
19 ecological separation is the only viable
20 alternative which insures the health of the Great
21 Lakes and the economic well-being of the thousands
22 of communities dependent on healthy, vital, Great
23 Lakes ecosystems.

24 I must as strongly as possible stress
25 the need for much greater sense of urgency and

1 recognition. Time is of the essence in reaching
2 decisions on additional short-, mid-, and long-term
3 actions to stop Asian carp.

4 On this critically important matter,
5 I recommend using information provided in GLMRIS
6 and restoring the natural divide as the primary
7 basis for advancing this dialog.

8 Further, I recommend that the
9 advisory committee form, a process established by
10 the Cities Initiative and the Great Lakes
11 Commission, be immediately designated, to advance
12 that necessary dialog for reaching consensus on a
13 solution and bringing the key issues concerning
14 transportation, water quality and flood control to
15 a timely resolution.

16 Like others, I would like to thank
17 you for making Buffalo a stop on your tour. Thanks
18 for listening to us.

19 MR. ZABOROWSKI: I would also like to
20 make a comment, those of you who may have prepared
21 a written statement, if you wouldn't mind parting
22 with it, either bring it up to one of us, or drop
23 it off at that front desk on the way out. It just
24 helps us make sure we recorded your comments
25 accurately.

1 So that being said, I have heard --
2 or we have heard from everybody that registered
3 either online or tonight in person. It's
4 currently, let's see, 5:37, so we have some time.
5 We are scheduled to be here until 7:00.

6 At this point in time, is there
7 anybody that would like to come up and make a
8 comment or ask a question that has not already
9 registered?

10 (No response.)

11 COLONEL DRUMMOND: I want to use this
12 opportunity to remind folks, it is your time. We
13 are here for a reason, and that's to listen to your
14 comments. If I don't see anybody moving quickly, I
15 will go ahead and start on mine.

16 At the end of this, and after
17 listening to everybody, I tried to paint a fairly
18 clear picture. I think most of you understand,
19 there is really nothing clear on any of this. It's
20 very complex. I try to frame it, I call it the
21 characterization of risk. And the risk for most of
22 this room, as I mentioned, is the Asian carp; so
23 whether it's a silver carp or a bighead moving up
24 the Mississippi River.

25 So if you use the Chicago Lock as a

1 frame, a picture, you have been to Chicago, that's
2 where I'm going to start off of. From the Chicago
3 Lock, about 143 miles down is where we are finding
4 that small fish, 3 or 4 inches, larvae, eggs --
5 that's where they are spawning; what we call ground
6 zero, the spawning area.

7 From the Chicago Lock, 55 miles down,
8 roughly, is what we call the leading edge of the
9 silver and bighead carp. That leading edge has not
10 moved in eight years.

11 Scientists, biologists, our DNR
12 representation that is out there have not seen, for
13 the most part, that front line move. Why is that?
14 That's something we are trying to figure out. Is
15 it because, as you said, sir, the Sanitary Ship
16 Canal is manmade? In the pictures in my office, I
17 can see it's very well-formed. There is really no
18 place for these fish to go off and spawn. Is that
19 one of the reasons?

20 Is the other reasons that this
21 gentleman mentioned, is it the heat of the water,
22 or is it the overall biological makeup of the water
23 that is not conducive for these fish? We don't
24 know that. We are studying that.

25 Is it because there are two high-head

1 locks and dams between the Chicago Lock and the
2 lower part of the Mississippi that is preventing
3 them from getting up through? That's the other
4 things we are looking at.

5 So as you look at these range of
6 options, each one of them is touched upon in one
7 way or the other. So that sort of frames the
8 characterization of risk. That doesn't mean -- we
9 consider it a threat, period. I'm just letting you
10 know what we are seeing out there in the field, day
11 in and day out.

12 As Jim had mentioned, the state of
13 Illinois specifically -- and there are a lot of
14 other states are taking this on -- we have spent an
15 enormous amount of time netting the Asian carp
16 below the barrier and above the barrier; thousands
17 of hours.

18 Last year there was no silver or
19 bighead carp caught in all the netting. I have
20 been out there with them. I have been in the boats
21 with them. I have been with biologists. They know
22 how to net for fish; haven't brought any up.

23 There was one about two years ago.
24 It was a bighead that was pulled out of Calumet
25 Lake. It was after that bighead was dissected, it

1 was identified by our biologist as being brought
2 in.

3 There are certain ways our biologists
4 can tell if this fish went up a stream, made it
5 into that lake and then eventually flourished.
6 That was not the case of this fish. It could have
7 been brought in by a bait bucket or by some other
8 means.

9 And that's not to take away the
10 threat. I'm sort of laying the facts as I see
11 them. The Corps of Engineers' job with the
12 electric barrier is to prevent the movement of
13 Asian carp up through the electric barriers, so let
14 me talk a little bit about the electric barrier.

15 I tell folks often that it is an
16 electrical marvel. As mentioned, any time you deal
17 with electrical devices, there is always a higher
18 probability for failure.

19 As somebody mentioned, we suffered a
20 power outage. That's a very significant event for
21 anybody in my organization, because that's not what
22 we designed it to do. Come to find out, the power
23 outage was created by a number of electrical storms
24 that hit Chicago. In one particular case, an
25 electrical storm came through, took out the main

1 transformer for two of our barriers, and that
2 transformer went out.

3 The generators, which normally, at
4 the time, wasn't up and operational all the time --
5 we would turn them on every 30 or 45 days just to
6 shake off the dust. Both of those generators came
7 on, and within a minute, they went off.

8 So I brought in an organization that
9 the Army has that most people are not aware of.
10 It's called 249 Prime Power, and I had them
11 investigate. Keep in mind, in the back of my mind,
12 I know the front line of the Asian Carp is 55 miles
13 downstream. So I'm thinking, I have got a little
14 bit of time; not a whole lot of time. I have a
15 little bit of time to investigate this.

16 So we brought them in, and they went
17 through a series of tests. They found out in both
18 generators, the type of fuel filter that was in
19 there, if it's not routinely changed, it
20 dissolves. That's exactly what happened. It
21 dissolved and clogged up the fuel lines.

22 Since then, we routinely operate our
23 generators, almost on a weekly basis. It's a very
24 simple rule: If you see a cloud in the sky, turn
25 the generators on. If you see an electrical storm

1 coming, turn the generators on. You've got high
2 wind storms coming, turn the generators on.

3 So we run the generators all the
4 time, as well as we rectified in the new barrier
5 system, how to operate all three final barriers on
6 independent systems. The reason there is three is
7 just for that: If one goes down, we have two
8 left. If another one goes down, we have two more
9 up. Every once in while, we have to do maintenance
10 on the barrier. We can bring one down and bring
11 one up.

12 So for the last about 19 months, we
13 haven't had any problems as far as keeping power in
14 the water. As I said earlier on, it's an
15 electrical marvel. Every day, because it is not,
16 as Lauren said, a pre-engineered chamber; it's not
17 a concrete fixed chamber. It's a chamber that was
18 built over a hundred years ago. Some of the
19 electromagnetic forces will run through the ground
20 and up over the railroad track. We are dealing
21 with all kinds of insulated properties that we have
22 to put in because it was not a prechamber barrier.

23 Recently -- I think most of you have
24 heard; it's been in the press. We had some studies
25 done out at the barrier. We dropped in two

1 cameras. It's one thing to study in a lab. It's
2 another thing to study in the environment. The
3 public expects us to do that.

4 So we brought in these cameras; put
5 the cameras over one specific barrier about 12 feet
6 wide, of one barrier. In that barrier, there was a
7 bunch of different tests done. And we noticed
8 there was fish smaller than 4 inches -- I believe
9 they were shad, that was grouping up into a ball,
10 and then pushing through that part of the barrier.
11 No one has ever seen that before. So that was
12 another scientific thing that is going on.

13 So now we have now chartered
14 research and development laboratories to go back in
15 and try to help us understand exactly what is going
16 on with these fish. There is no doubt in my mind,
17 they could say, Colonel Drummond, turn the power up
18 a little bit more. That's a little bit more
19 difficult than just saying it, because it has other
20 effects outside of that particular barrier.

21 That said, we will do that; we will
22 do that study. If they come back and say, let's
23 turn it up a little bit more, we will deal with
24 that.

25 There is issues with barges going

1 through. I had no idea that this could happen.
2 But apparently, the wake from the barge can carry a
3 fish. So we tested that down in our laboratories.
4 Sure enough, in the laboratories, it shows where
5 some of these fish can actually get pulled along in
6 the barge affluence.

7 What the laboratory also told us is
8 that if you slow down the barges, and or when you
9 reconfigure the barges, that potentially could
10 eliminate that problem. So we are working closely
11 with the ACRCC, as well as the EPA in putting a
12 committee together to take a look at that.

13 It's a very long way of telling you
14 it is a very, very tough and often dynamic barrier
15 out there. I will leave you on this. We have --
16 we put in about 260 fish, various sizes. We put
17 little telemetry devices in them. Put them all
18 down below the barrier. Obviously, we can't put
19 devices in real small fish because we don't have
20 that technology. Because these are fish that are 6
21 inches and above.

22 So out of them 260-plus fish, we have
23 upwards of 6 million detections, and none of them
24 have passed through the barrier. So that gives me
25 a little bit more faith, but it's not what I'm

1 looking for, and that's complete protection of the
2 Great Lakes in the long run.

3 Yes, sir. Come on up.

4 MR. ZABOROWSKI: Sir, please give us
5 your name and ZIP code.

6 MR. MARKS: Tom Marks, Great Lakes
7 Sports Fishing Council, 14047. A lot of the little
8 things you said you discovered in the canal, I have
9 been involved with this fight on Asian carp for a
10 long time; probably started back actually when the
11 gobies were threatening the Mississippi River.

12 COLONEL DRUMMOND: You know your
13 history well.

14 MR. MARKS: That's what I want to
15 say, is the first barrier, the temporary barrier,
16 which is what the permanent barriers were designed
17 after, were designed to stop gobies. Laying on the
18 bottom of the canal might have been effective for
19 gobies because they don't have a swim bladder.
20 That's where they live, on the bottom of the
21 waterway. So it would have stopped them.

22 So we have used the same design,
23 basically, to stop Asian carp, which don't hug the
24 bottom of the water column. They can be anywhere
25 in the water column, most likely near the top.

1 And that's why we have to have more
2 voltage. When we first turned on the permanent
3 barrier, we were operating that at about the same
4 voltage as the temporary. We increased it a little
5 bit.

6 You talked about the fish you saw in
7 there. We saw fish in the -- took a boat through
8 the canal, through the electric barrier area. We
9 saw fish on sonar, probably shad. I don't know
10 what they were, but probably shad. And we have
11 photographs of the fish finder with the signs for
12 the electric barrier right in the background, so we
13 can show you how fish were there. That was back in
14 about 2007, I believe.

15 So a lot of these things you are just
16 discovering now, we have been trying to tell people
17 for a long time. The barges pushing fish through,
18 I could have told you that back in about 2002, we
19 were worried about that. A lot of these things,
20 they are not surprises, and I don't think anybody
21 should be surprised.

22 When you look at the barrier, again,
23 designed for gobies; modified for Asian carp. And
24 I think that it's not that effective for Asian
25 carp; small fish, you know, can get through.

1 I get very frustrated over this.
2 Again, lack of intensity and sense of urgency. We
3 have to do something to stop the fish, as well as
4 other fish coming down from Lake Michigan. I
5 realize that as a big threat as well. Thank you.

6 COLONEL DRUMMOND: I certainly don't
7 disagree with what you are saying. I think if you
8 haven't been out there lately -- I will give you my
9 card -- it has changed significantly from what you
10 were discussing on the demonstration barrier.

11 But it is a science, as you said.
12 And it is a daily struggle, but it is the most
13 effective thing that we have right now. And we are
14 working closely with our agency partners, with the
15 netting, and a whole host of other options we are
16 looking at. As the gentleman in the back said,
17 incremental steps perhaps to get where we need to.

18 So that's why I can't reiterate
19 enough that it's important for you to get online
20 and to give us your thoughts on options and take an
21 objective look at this; as we say, paint an
22 objective picture. Take a look at this, and how
23 can we sequentially work through all these
24 different problems.

25 I think the ACRCC is probably the

1 flattest organization I have seen to date in my
2 military career. These PMs right here have direct
3 authority to work with the ESA's team. They don't
4 come to me, they go straight up. I go straight
5 over to the CEQ, and I work with the department
6 heads on that.

7 I think that side of it works fairly
8 well. Somebody mentioned restoring the natural
9 divide. If you look real close, one of our
10 executive members in our ESC is Tim Eder
11 (phonetic). He has been involved in this from day
12 one. We actually brought his entire engineering
13 team in. We all sat down with them and looked at
14 the report, and it's a great report. It just
15 didn't cover some of the water qualities issues we
16 are expected, as the nation's engineers, to cover.
17 So I appreciate your comments.

18 MR. ZABOROWSKI: Is there anyone else
19 that would be interested in coming up and making
20 any comments or asking questions of those of us up
21 here?

22 (No response.)

23 MR. ZABOROWSKI: Going once, going
24 twice, sold. Anyone on the panel?

25 COLONEL DRUMMOND: It's certainly my

1 pleasure being here. First of all, when I got off
2 the plane, it was actually a couple degrees warmer
3 here in Buffalo. So thank you for that. It has
4 been, for all of us, a very trying winter. And so
5 hopefully, the weather will get a little bit
6 better.

7 Mayor, thank you for being here, if
8 you haven't left. I would like to thank the
9 representatives and their staff in the audience
10 here. We are going to need everybody's help. I
11 should have started off by saying, when we first
12 started this public comment period, the first place
13 I started with my team was in Washington, D.C. We
14 had a full room; over 60 staff members there.

15 They sat through the same process,
16 and we sat through their questions as well. I
17 spend a lot of time on Capitol Hill with my team.
18 It's my goal to make sure that, again, I'm painting
19 an objective picture for all our Congressional and
20 Senatorial representatives out there.

21 I would just like to remind
22 everybody, on March 31st is when our public comment
23 period stops. So please, by all means, go to --
24 your passion, your commitment, your love for the
25 Great Lakes, as well as the Mississippi River Basin

1 where the environment counts, I ask you go there.

2 Take the 25-page report, review it
3 tonight. And take a little break, review it again
4 tomorrow. And then go to the website and open up
5 and take a look at the 232 pages. It really lays
6 out some very key aspects on all of these options
7 that will make you more well-informed before you
8 start typing your thoughts on how the government
9 should handle this very difficult crisis.

10 You can get ahold of your state
11 DNRs. Gentlemen, thank you very much for being
12 here for the State of New York. I also appreciate
13 the fact that somebody reached out and pulled us up
14 this way, and that is important. It speaks highly
15 of your involvement in the ACRCC as well.

16 State, local reps, you heard the
17 mayor, you can talk to them. They will certainly
18 get all this information up to us, so we can help
19 members of Congress perhaps as well as other
20 agencies move forward on this difficult topic. So
21 thank you very much.

22 MR. BREDIN: I would like to thank
23 everybody for coming out tonight. We appreciate
24 it. To reiterate, we really would appreciate all
25 of your comments. Your comments count just as much

1 as everybody else's. We are looking for the region
2 as a whole to pull together and try to identify
3 what the best path forward is. Thank you very
4 much.

5 COLONEL DRUMMOND: I would like to
6 take this time, because this is our last public
7 meeting, to formally thank Kendall and Lauren and
8 Kim, Nikki and Sara. I have a whole host of them,
9 and they have obviously been away from their family
10 for about the last month and a half. So if you
11 would help me give them a round of applause, I
12 would appreciate it.

13 (Applause.)

14 MR. ZABOROWSKI: So we have had six
15 individuals speak here tonight for -- it has been
16 about an hour. We have had this open-comment
17 period after the presentations. This is, as
18 Colonel Drummond just mentioned, this is our final
19 public meeting. We are still going to engage with
20 other groups, other state agencies and the like as
21 well.

22 For one last time, I would like to
23 remind everybody that the public comment period
24 runs through March 31st. If you didn't get a
25 chance to say anything, our website is here behind

1 us and on the back of those books. Please get
2 online and share your thoughts with us.

3 Lastly, if you want to take an extra
4 copy of our meeting materials or several copies,
5 please grab some on the way out. This concludes
6 tonight's public meeting on the Great Lakes and
7 Mississippi River Interbasin Study. The time is
8 now 6:00. Thank you for coming.

9 (Proceedings concluded at 6:00 p.m.)

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REPORTER'S CERTIFICATE

I HEREBY CERTIFY that I was present at the proceedings of the above-captioned matter and there reported stenographically the proceedings had and the comments produced. I further certify that the foregoing is a true and correct transcript of my stenographic notes.

Jenny L. Scalise
Court reporter

Capital Reporting Company
Great Lakes and Mississippi River Interbasin Study Public Meeting 02-13-2014

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