GREAT LAKES AND MISSISSIPPI RIVER

INTERBASIN STUDY PUBLIC MEETING

The Hagerty Conference Center
Northern Michigan College, Great Lakes Campus
715 East Front Street
Traverse City, Michigan

Thursday, January 23, 2014 - 4:00 p.m.

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Planner
U.S. Army Corps of Engineers

PANEL: MR. DAVE WETHINGTON
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GLMRIS, Chicago Area Waterway System

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Certified Electronic Recorder

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P R O C E E D I N G S

MODERATOR: I'd like to welcome all of you tonight to tonight's Great Lakes and Mississippi River Interbasin Study, or GLMRIS, public meeting. My name is Kendall Zaborowski. I'm from the U.S. Army Corp of Engineers, Chicago District, and I will be moderating this evening's meeting. Before beginning our meeting, I'd like to let know if you need to use the restroom, you can go back out this door, hang a left, and it's at the end of the hallway on your left. Also, in the event of an emergency there emergency exits located immediately behind us, or one directly out the main entrance.

When you arrived tonight, there were several materials available at the front desk. The first green sheet is the agenda of tonight's meeting. Please note at 6:00 o'clock we have scheduled a five-minute break. We'll evaluate how we are doing on time when we get to And then if we feel that the panel needs to take a break, use the restroom, we'll take a quick break and get back to public commentary.

Next is the yellow comment registration form. has instructions on how to submit a comment, either at our meeting or you can write a comment and leave it at our front desk, or instructions on how to submit a

comment on our --

(Off the record interruption)

MR. BREDIN: Front desk. Front desk, sir. I'll personally go get you one.

MODERATOR: Sir, if you signed up to make a comment, then you probably would have been -- it would been kept at the time.

MR. BREDIN: You've got one coming.

MODERATOR: Don't worry about it if you don't it. If you signed up to make a comment, then it should be up front. It's for our records.

The next is a blue set of sheets of paper that "frequently asked questions" about GLMRIS and other nuisance species efforts by the Corps of Engineers.

And then the last handout that you would have received is this summary report of -- and it's the summary of the GLMRIS report. And it contains detailed that we will be presenting here later.

(Off the record interruption)

MODERATOR: So I'd like to now take a moment to introduce tonight's panel. The gentleman that is running grab the comment registration forms and now entering the meeting space again is Mr. Jim Bredin. He's with the House Council on Environmental Quality. Next to Mr. is Col. Frederic Drummond, who is the commander of the

Chicago District, U.S. Army Corps of Engineers. And then nearest to me is Mr. Dave Wethington, who is the GLMRIS project manager, and he's also with the Chicago District the U.S. Army Corps of Engineers.

So for those of you wishing to speak tonight at our meeting, if you pre-registered on our project website and did not check in at the welcome table, please do so Additionally, if you did not register on our website and think you'd like to make a comment tonight, we'd ask that you go back to the welcome table and fill out one of those yellow forms.

The Corps of Engineers is hosting several public meetings throughout the study area in an effort to provide opportunities for those of you within the study area to learn about the GLMRIS report and to offer us comments on the contents of the GLMRIS report. This is our fifth meeting, and I'd like to thank you all for coming out tonight.

The GLMRIS report in its entirety can be downloaded from the GLMRIS project website, which is http://glmris.anl.gov.

Our GLMRIS team has organized this public to accomplish two goals. Again, the first goal is to present information in the GLMRIS report and also to -- second goal is to solicit input -- your input on the

information that is presented in the report. So the Army Corps of Engineers will be collecting comments through 3rd of this year. The comments will then be compiled and posted to the GLMRIS project website. For comments to be formally included in our comment period, they need to be given during an oral comment period of one of our such as tonight; submitted as a web comment through our project website; or submitted as a written comment. And written comments can filled out and dropped off here tonight, or they can mailed to our office. So if you have any questions or concerns during the presentation or the meeting itself, find somebody with a red lanyard; try and help you out the best we can.

And I'd just also like to mention that comments are weighted equally in terms of how they're submitted. don't give extra weight to comments that are given at a public meeting versus comments that are submitted on the website. So if we're running long and you don't have the opportunity to speak in front of us tonight, don't worry; your voice can still be heard just as much as it would been otherwise.

As I mentioned previously, the public comment period is going to end on March 3rd of this year. Now, if you'll take a look at your agendas, you'll notice that public meeting is going to begin with a few speakers, a

presentation on the GLMRIS report, and then we'll have a open public comment period. Right now we're scheduled to end that public comment period at 7:00 p.m. Now I'd like turn it over to Mr. Jim Bredin, who's going to speak a few minutes.

MR. BREDIN: Thank you, Kendall. As was just mentioned, I'm Jim Bredin. I'm with the White House on Environmental Quality. But just to give you some perspective as to why I'm here, I've actually worked for Michigan Office of the Great Lakes, Michigan DNR, DEQ, for 30 years on Great Lakes issues. I have a home in Grand Haven, in the Spring Lake area. I grew up in the Muskegon area; my wife grew up in Traverse City.

And so if you know anything about the area where specifically live, which is Spring Lake, it would be habitat for Asian carp. So this whole issue is not just a job for me, it's personal. And so that's what I'd like to do today, is this study is very important. It's a key in moving forward in not just dealing with Asian carp, but all invasive species that can move between the Great Lakes and the Mississippi River.

I'm going to give you a quick overview of what we're doing for Asian carp, but then we're more going to get into the whole GLMRIS study. And we need to hear from all of you. It's critically important. The

administration has asked us to be here. My boss, John he couldn't make it today, but we are attending all of meetings to hear from you, because your voice is critical. And I can see in the audience there are also some Congressional offices representation here. It's important for them to hear, also, what your feelings are on how we should move forward with this important issue. So with that, --

(Off the record interruption)

MR. BREDIN: So, like I said, let me give you a quick rundown of what we're doing with Asian carp. And I see a lot of you here were at a briefing that I gave about month and a half, two months ago, right here in this same venue. I want to make sure everybody understands that not starting from ground zero, specifically with Asian We have, as you see here, a Regional Asian Carp Committee. It includes all the Federal agencies, all of Great Lakes states, the Canadian provinces and all the municipalities in the Chicago area, like the City of and others that are going to have to deal with this issue and are dealing with the Asian carp.

And as you can see here, we have a four-pronged approach to how we're addressing specifically Asian carp. We have what we feel is an effective electrical barrier will keep the Asian carp from coming up the Mississippi

River. They're not there yet. They're not anywhere the electrical barrier. But we're still working on that to make sure that it is as effective as it can be in Asian carp from entering the Great Lakes. We also are extensive monitoring both above the barrier and below the barrier so that we can keep track of where Asian carp are now. Like I said, we know that there are no Asian carp the barrier. We're doing extensive monitoring above the barrier; we're not seeing any signs of live Asian carp. are also doing extensive monitoring in all areas of the Great Lakes. Lake Michigan, we have some in Lake hitting Lake Huron hard, especially Lake Erie because we know we found in the past a small amount of Asian carp in Lake Erie. So we're monitoring that and also Lake So we have a very strong monitoring program going on right now.

And then what we're doing also is at the same time, we're trying to find ways to control specifically Asian carp. We're looking at toxicants, we're looking at ways that we can keep them out of certain areas. We're working on a thing called a "hydrogun" that might be able herd them and then we can remove them. And we also have a very active commercial removal program down farther south where you find the larger populations of Asian carp. trying to keep that population from moving northward. And

so we're doing everything we can at this point in time to try to find controls and also control the population.

And then we're also moving forward with strategies. And we'll be -- we just found out what our Congressional appropriation will be this year, and we're going to be moving forward with those same controls and looking at the types of controls that are identified here the GLMRIS process to make sure that we move out as fast we can on these issues.

And we do have a number of accomplishments that we've seen over the last couple of years. We're making electrical barriers stronger. We're field-testing technologies. As I mentioned, we're getting them out into the system to see if they can actually work. This coming year we're hoping to work on a fish toxicant where we can in and it would be specific to Asian carp, where we could put it in the river and only the Asian carp would be able take up this toxicant, and hopefully it would kill them.

We're also looking at other ways that we can like, carbon dioxide, chlorine, those types of things, in lock situation where we might be able to control Asian from moving up into system. And as I mentioned, harvesting. We've taken out a very large number of fish the area; most of those are now going to a commercial processor. But what we're trying to do is just keep those

fish from moving up -- from having to move up because of population constraints.

This -- the GLMRIS study was actually -- they'll talk to you a little bit more about this, but there's two phases to it. I just want to touch on the first phase we did, which is actually considered to be Phase 2, but looking at areas outside the Chicago Area Waterway System. And these 18 spots here that you can see across the the yellow there is the Great Lakes side -- if I can see right -- I'm sorry; no, the brown is the Great Lakes and green is the Ohio River, the Illinois River and the Mississippi River. So you can see that there are areas have been identified where water actually moves across -- not necessarily all the time, but sometimes.

We are working with all the state agencies to evaluate these. In some cases, like in Eagle Marsh, which is the star up there in Indiana to where we're actually closing that pathway, we're going to be making sure that specifically Asian carp cannot get from one side to the other. And so all the state agencies are actively in these sites to make sure that invasive species cannot move between the Great Lakes and the Mississippi River in these areas.

Also, you should probably know that there is a national carp plan. We don't have sufficient funding for

at this point in time, but we are working with a lot of states that are outside of the Great Lakes to take what we're learning here in the Great Lakes and help them in dealing with Asian carp in their areas.

And probably most importantly, what we need is strong support from everyone to move this -- this whole program forward. And as you can see, we're doing a lot of these meetings in the Great Lakes; we'll also be having meetings outside of the Great Lakes. We're -- next week we'll be going to Minneapolis, which is actually outside the basin. We're also looking at St. Louis and New because it's not just a problem in the Great Lakes. In order to keep Asian carp out of the Great Lakes, at least it's my opinion we have to have a strong program in the southern portions of the country and the areas there that you can see in green and I think it's in purple. We have make sure that we're dealing with this from a national perspective, not just trying to keep them out of the Great Lakes. So we're working with all of those states that you can see there in trying to make sure that we have a strong program.

And then also, just -- you know, we feel very strongly about this. We think that there are some good examples out there that demonstrate that we can work together, especially from a GLMRIS perspective. This is

going to have to be "all hands on deck"; everybody dealing with this, not just people in Chicago. And so, you know, have some examples. We've been dealing with the sea program. We have a very effective program; not as as we would like, but it's an effective program to keep lamprey down, both in the U.S. and Canada. We also have a Great Lakes Water Quality Initiative dealing with water quality parameters across the Great Lakes. We also have Great Lakes Compact, which regulates water users the Great Lakes.

We also have the Great Lakes Restoration Initiative. And I need to point out that a lot of the efforts that you're seeing that I just demonstrated to you here, they were funded by the Great Lakes Restoration Initiative and we're hoping that we can continue those efforts in the future. And then the last one is just the Asian Carp Control Program. We think we have a very effective program. We've been working very good with all the states and Federal agencies, and hope to continue this process.

So, thank you. And once again, I would just to stress that your voice is important. We need you to us. That's why I was very insistent, when you said you didn't have the yellow forms, I would like to hear here -- I would like for everyone here to give us your

opinion; to let us know what you think we should do. And you see one of these alternatives that you think are critical, let us know because we need your voice in this whole thing. So with that, I will turn it over to Col. Drummond.

COL. DRUMMOND: Good afternoon, everybody. I appreciate you being here. As mentioned, my name's Col. Fred Drummond, commander of the Chicago District. I'm they call the 63rd commander. We have had gentlemen like in Chicago since 1833, and, in fact, our program manager, Jack Drolet, was the 61st commander. So as Jim had mentioned, there's quite a bit of passion. I mean, the individuals that work on this project in Chicago are no different than many of you out there; they are very passionate about the Great Lakes, and protecting the Great Lakes from aquatic nuisance species.

I'd like to thank Mayor Estes for being in attendance tonight. And in a few moments I think Senator Stabenow will be here. I've done two of these in the of Michigan and she is definitely there and she is keeping me on my toes every step of the way. I would also like to thank other Congressional members and representatives that may be in the audience tonight.

So the Corps is excited to achieve another milestone in preventing the movement of aquatic nuisance

species, or as we call it, "ANS." This achievement is the submission of the Great Lakes and Mississippi River Interbasin Study Report to Congress. This report is very complex. As you will hear, for the last 18 months we've been working intently on this report, with not only state, Federal, but also some public in attendance in providing some input. The GLMRIS report you will hear tonight outlines a variety of potential prevention methods and prevents (sic) an evaluation criteria to help you, the public, distinguish among the alternatives.

The purpose of the GLMRIS report is to paint an objective picture of several alternatives to offer decision-makers, stakeholders, and you, the public, information about those alternatives. The GLMRIS report does not make recommendations nor does it put any priority on each one of the plans. Our GLMRIS team spreads across the country, I'll mention this is a minute. They have worked painstakingly on this report in close coordination with Federal, state and local, non-governmental and tribal stakeholders in the region. We strove to ensure decision-makers and the public can be well informed on various ways to prevent the transfer of ANS through area waterways network.

Apart from GLMRIS, as you just heard from Jim, Corps will continue to address the issues of invasive

species by participating in the Asian Carp Regional Coordination Committee, operating the existing barriers, which I'm in charge of and very passionate about, it is an electronic marvel and you'll hear a little bit about its effectiveness tonight. To continue -- we're going to continue research on various options and extensive monitoring, as Jim had just mentioned, of the waterways our various partners. So you'll hear a little bit tonight that we consider all this a shared responsibility among Federal, state, local agencies, as well as the public.

So I want to give you just a quick, few moments what I call GLMRIS by the numbers. Since the 6th of January, roughly about 7,000 news media outlets have talking about this topic. That's significant, and that's exactly what we want. This needs to be an open We need to hear from you. Tonight when you came in, you should have received -- if you didn't please get one -- an executive summary, 25 pages. It's a good primer. If you like to read, if this is not good enough, we have another book, 232 pages; it digs into it a little bit deeper, it gives you some more options. And if you're, like, a novel reader, then you can go to roughly about 10,000 of data. Many of the folks that you see walking around the red lanyard are the ones that put this information together.

I'll also add, you know, the Corps of Engineers a large organization; 19 different districts stretching Jacksonville, Florida, who deals intensively on aquatic -- on invasive species, all the way up to Seattle, who deals with large locks, dams and lamprey type of issues have involved in this. But at the end of the day, it's the that live in the Great Lakes that are putting this report together. They're the ones writing it. And I would ask at the end of the night if you see them in red lanyards, feel free to ask them a question.

Last but not least, and you'll hear this all long, your voice is important. Please take your time. thin-skinned. I am here to listen. I'm here to document, and, you know, try to understand more thoroughly on what your expectations and thought are -- is on this exact topic. So without further adieu, what I'd like to do is turn it over to Dave Wethington, who will go through a 18-page -- or, 18-slide presentation that will give you a quick synopsis and prime you so you can ask the questions that you feel is important for us to know. Thank you very much.

MR. WETHINGTON: Thank you, sir. And thank you all for coming this evening. My name, again, is Dave Wethington. I'm a project manager with the U.S. Army of Engineers in charge of putting together the information

that you see here today. I hope that all of you had the opportunity to come in, check in and maybe take a look at some of these slides on some of these banners. If you haven't had the opportunity, at the end of the meeting, please feel free to stick around. I've got a number of different slides I'm going to go through today, it a lot of information. I won't spend a whole lot of time it because, really, the important part of why we're here to listen to your comments and listen to your input. But before we get there, I want to make sure that we all at least have a common baseline, a common understanding of where we're going and what we've done in this excellent report.

The scope of this study, for the Great Lakes Mississippi River Interbasin Study, was to evaluate the range of potential optioned technologies that were to control or prevent the species -- aquatic nuisance species -- from transferring between the Great Lakes and Mississippi River basins. Our goals for our study were two-fold: Number one, they were to look at different type of optioned technologies that could potentially prevent transfer of these species, as well as look at mitigation measures. So when you implement a potential aquatic nuisance species control like a technology or like a physical barrier, you may have some kind of impact on the

existing uses and users of that waterway system. We to look at identifying what those impacts are, and then provide mitigation to offset those adverse impacts by implementing some kind of project. State/Corps engagement has been a very important piece of this study. We an executive steering committee back at the inception of study and have been having regular quarterly, sometimes bi-annual public meetings to inform our stakeholders, members of the public just as yourselves, on the status of what's been provided.

In July of 2012, we received legislation that helped kind of shape of the study even further. It asked to do several different things. Number one, it asked us complete the report within 18 months. We were issued this legislation on July 6 of 2012. And 18 months later, on January 6 of 2014, we completed the report and issued it Congress. It also asked us to focus our efforts on the Chicago Area wWterway System. I know, why is the Chicago Waterway System important to you? Well, I think that most of you would understand that it serves as the primary pathway for aquatic nuisance species to transfer between basins. This is why we're focused on it and why I'm going to be speaking to you a bit about some of the variety of options available for the Chicago Waterway System.

Jim Bredin, a little bit earlier, talked about

other potential pathways that exist between the Great and the Mississippi River basin. We've done a lot of work out there. We've identified 18 potential pathways. And the majority of them are what we call episodic, so only form maybe once every year or once every five years when you've had significant precipitation events, significant rainfalls, that cause the headwaters of the streams to merge together. A few of them are perennial, they exist all the time, but they're primarily like a farmer's ditch or something that is very small and easy to kind of compensate, to take care of, with regard to a physical connection. So our focus, with the GLMRIS is on the Chicago Waterway System, because it's a very complex waterway. And I'll speak to that in a moment.

The legislation in 2012 also told us to evaluate hydrologic separation, or physical separation, that barrier that could be implemented to prevent aquatic invasive species transfer. We have actually implemented different scenarios that include hydrologic separation.

I want to spend a moment talking about the Area Waterway System. I know that we're up here in Michigan, pretty far away from the CAWS, as we call it. it is important. It's important because it's a very and multi-use system. I'm sure we've all heard about navigation which takes place: Commercial cargo

recreational boating; those are certainly important uses. Some of the other maybe less known uses include water and water conveyance. I bet most of you probably didn't know that on average between 65 and 85 percent of the volume of the Chicago Waterway System is comprised of municipal wastewater discharge; so treated wastewater that enters the river and flows downstream. In addition, it serves as a very important tool in flood risk management the nearly 9.2 million residents of Chicago and the surrounding suburbs.

As you can imagine, the third largest city in nation has grown up with the infrastructure as it has been since 1900 when this canal was created. And the waterways act as a -- is a method to offset that flood risk. We the ability to flow water as well as downstream as it usually does normally, but also back out toward Lake Michigan to alleviate that significant flood pressure may exist within the Chicago area, as well as the adjacent suburbs. Now, as we all know it is the primary aquatic connection between the Great Lakes and Mississippi River basins which is why it is of particular focus in the report.

The contents of the report, if you've not had opportunity to review them, include a conceptual level of design of a range of alternatives. We had a conceptual

level of design with regard to the actual alternatives as well as those mitigation measures which would be necessary to offset adverse impacts that may be initiated by the construction of one of those alternatives.

We also have a range of cost estimates that are presented. And the range -- there's a cost estimate for each one of the particular alternatives. Now, these cost estimates, there is some variability. We used traditional Corps of Engineers cost estimating procedures to put them together. However, they're best used to compare the relative plans amongst each other to give you an idea of order of magnitude of how much they may cost to implement, as well as the time lines that may be necessary to these plans.

Now, for any single one of these alternatives, there would certainly need to be additional analysis, additional design, refinement of the costs, additional documentation with regard to environmental compliance to support the Federal decision-making process that would to be completed before construction could begin.

When you look at how we implemented GLMRIS, it actually fairly simple. Although it's a very complex process, it could be broken down into -- a fairly simple way. We did three things. We had -- we identified the connections between the basins, we looked at the valuation

of the species. We looked at over 200 different species begin with which could be potentially invasive from one basin to the other, and identified 35 which are of particular concern. We used a risk-based process to identify, of those 35, which are the most concern -- which are those high and medium risk. We identified 13 out of those 35 which were of high and medium risk, and those are really the focus of our study.

We also looked at controls. What kind of can be implemented? Physical barriers, electroshock, herbicides, algaecides; what kind of things could be implemented to control those species of concern? We went out to the public to get ideas. We heard things, you which would seem a little bit out of the box, like heating the canal, boiling the canal, freezing the canal, but we concluded all of them as potential ways to try and prevent the transfer of aquatic nuisance species. So we took this information. We took information about the species themselves, about the waterways, about the potential controls, and put them all together. And this is the information that we provide to you in the GLMRIS report. really describes eight different alternatives that is a result of a very -- kind of a dedicated process toward identifying this range.

Before I get into the alternatives themselves, I

want to spend a couple moments talking to you about the technology so that we all kind of have at least a basic understanding of what I mean when I say GLMRIS lock, or a physical barrier. So over on the far righthand side, you see the image of a physical barrier. It's fairly simple. It's the implementation of some kind of dam in a waterway that prevents surface waters -- untreated surface waters from moving back and forth.

(Off the record interruption)

MR. WETHINGTON: So a physical barrier, fairly simple. Something like on the lower lefthand corner, the electric barrier, I'm sure some of us have probably heard electric barrier and are familiar with the way it works. But what we've done in GLMRIS is take it and kind of crank it up a notch. We've included an engineered channel along with the electric barrier. So the electric barrier as currently being implemented in the Chicago area waterways just placed in the existing waterway. In this particular scenario, we would construct a purpose-built channel that would help facilitate navigation, as well as help us, you know, contribute from lessons learned with regard to the existing implementation of the electric barriers. We have ways to optimize the design to address the full range of potential swimming species.

We also, in this study, came up with the idea of

GLMRIS lock. It's a novel concept that uses existing kind of information. We use a lock structure, much as you see in a traditional navigation river where barges use it go up and down the river essentially, but we use -- we insert a pumping mechanism that helps flush the lock of aquatic nuisance species. We get fresh water -- ANS-water from aquatic invasive species treatment plants, or that ANS treatment plant you see there in the middle. all uses information and concepts that are widely accepted in different types of scenarios, but are kind of applied a novel sense with regard to specifically addressing nuisance species.

So I'm going to spend maybe just another five, minutes talking about each one of these alternatives. You can follow along. The lower lefthand corner tells you alternative I'm on. If you have one of those books, also additional important information that you can read about each one of those alternatives that outlines a more detail and the costs. And then, again, as Col. Drummond mentioned, you can go online and find each one of these alternatives discussed in much greater detail within the actual report itself.

So Alternative Plan 1 is what we call the alternative, the no new Federal action. But I prefer to call it the sustained activities alternative. Why it's

important is because there's a lot of good activity that currently going on with regard to trying to address and control and manage aquatic nuisance species. We use this alternative as a baseline; as a measuring stick to the additional risk reduction that we would get by implementing any one of these subsequent alternatives. So before we start coming up with new ideas and new ways to potentially control species, we need to identify what currently doing today. And that's what this alternative discusses. This alternative looks into the future and thinks about what are we going to be doing in five years, ten years, with regard to species control as well as other activities that are directly related to the waterways. example, Corps of Engineers activities would include construction of new barriers and implementation, operation and maintenance of existing barrier systems.

Alternative number 2 is what we call the non-structural technologies alternative. And this one is unique because it has aquatic nuisance species controls don't need a physical structure in order to be The rest of the controls I'll be discussing, the rest of alternatives, require a physical construction of some kind of technology or some kind of alternative. But this one unique because it can be implemented very quickly. It includes things like active management -- what is active

management? It includes maybe going down and fishing down carp populations like Jim mentioned earlier, or going out identify where you'd find potential species that may transfer, like aquatic invasive plants and applying, like you can see in that picture up there, aquatic herbicides control those plants in place before they transfer across that basin divide.

It also includes ideas like education and outreach; identifying why it's a good idea to stop aquatic invasive hitchhikers; why it's a good idea to clean your boat when you pull it out of one waterway and put it in another, or not to dump your bait bucket from one body of water into another. These are all good ideas, and so we include them as best management practices. Now, I'm not going to stand here and tell you today that laws and regulations and education and outreach are going to certainly control all species. That's not the case by any means. However because they are best management because they are good ideas, we include them in each one these subsequent alternatives. They really are most effective in helping buy down some of that risk to, at at the very minimum, delay potential species from transferring between the two basins.

The implementation of these non-structural alternatives as well as many of the other alternatives

we'll see this afternoon and this evening, really are a shared responsibility. The Corps of Engineers, in my opinion, did an excellent job in providing a leadership with helping identify this and other alternatives. But, example, things like stopping aquatic invasive hitchhikers and doing educational programs may be better implemented other Federal agencies, state agencies or other resource providers. So we wanted to include this information as as these estimated costs for -- to help continue this conversation, which is why we're here talking to you

Alternative Plan 3, is the first of our two technology alternatives. Very simply, it uses single points -- two single within the Chicago Area Waterway as checkpoints, or control points, to stop the flow; so flow in either direction, movement in either direction, of aquatic nuisance species. Essentially the volume of the waterway at those two points you see in red the slide on the map on the lefthand side are routed an aquatic nuisance species treatment plant. Again, this ANS treatment plant will remove aquatic nuisance species from that water stream and discharge ANS-treated water on the opposite side. So on a normal basis, the volume of Chicago River will be run through at those two points -- those waterways, will be run through that aquatic nuisance species treatment plant.

Now, in this particular alternative, we've also tried to maintain the existing use of the system for navigation. To this effect we've included that concept of GLMRIS lock, which is bookended on either side by electric barriers which -- in that specific navigational waterway, these more efficient types of application of the barriers and the GLMRIS lock together to try and prevent those species that swim or float through the system from moving through.

Now, if you can imagine, if you're routing the entire volume of a waterway through a treatment plant, will probably be fairly effective on a regular daily basis during what we call "dry-weather flow." However, if you a significant rainstorm, it would be very easy for that treatment process to be overwhelmed; very easy for it to swamped. You know, there are some times we have storms in the Chicagoland area that are very significant, and so you have flows that are orders of magnitude greater than what they are on a normal basis.

So in order to not bypass this and move species overwhelming the system or not to flood out the entire surrounding where these potential controls are, the report has included the construction of mitigation measures. And those are tunnels and reservoirs that can be used to that rainfall. So the construction of those significant

tunnels and reservoirs to capture that rainfall is really primary driver for the estimated time to completion and total cost of that alternative. As you can see in front you, the estimated time of completion for this is about 25 years with a total cost of about $15.5 billion.

Alternative Plan 4, is the second of our two technology alternatives. It takes this concept of aquatic nuisance species from transfer between the basins and takes a little bit of a different take on it. As opposed to having single points that act as that two-way transfer, that two-way control point, it means they the width of the system. And you can see that there are about four or five points along or adjacent to Lake on that slide on the left again, and then one single point on the lower lefthand corner, which is on the river So what each of these points do is they act as one-way control points to address the transfer of species into the system -- into the Chicago Area Waterways.

So that area that you see outlined in white that wasn't outlined in white that wasn't outlined in white before is what we call our "buffer zone." And this is the zone that is controlled for aquatic nuisance species. So you try to keep species at the bottom end from coming up into that zone and keep species on the top end from Lake Michigan from coming down into that zone; to control that

zone as a monitoring zone so you can evaluate and have warning, early detection, if there are any species that it through as well as continue to operate the CAWS for important uses -- that water conveyance and that flood management -- very similarly as we do today.

Now, you'll notice if you're looking closely, there are a couple of physical barriers which are included in this system. If you look at the bottom part of the slides along the Grand Cal and Little Cal Rivers and then you can follow along closer in your books, there are two physical barriers there because those two waterways are primarily non-navigable. You can get a canoe through maybe; a little Jon boat if you're lucky if the water conditions are right. But primarily they're not used for commercial cargo or recreational navigation. And so it simpler and more efficient, or more effective, to place physical barriers on those areas and then mitigate or provide that relief for the potential flooding that those two physical barriers may cause when the waterways cannot continue to run openly as they do today.

So on that slide on the right, you see that are a couple smaller -- they're still large; one, I is around four and a half or so billion gallons, but those are significantly smaller than the reservoirs needed for flood risk management in the previous scenario. So, you

a significantly smaller time to completion -- only about years -- as well as a significantly smaller cost -- about half that, at about $7.8 billion.

Now, I do want to call out this particular scenario very quickly before I move on as one of the ways can utilize adaptive management. Based on a lot of conversation I've heard over the past couple weeks, a lot the public and a lot of our Congressional and a lot of our state resource agencies are very concerned about Asian Well, Asian carp are the species that are coming up from Mississippi River basin.

If you look at this particular scenario, there's one control point that would control those species from coming up. Now, we're most interested -- or, I guess, not saying most interested, but we've been asked to look the two-way prevention of species. So that's what this alternative looks at. But if, for example, you're interested in early risk reduction -- achieving early risk reduction, you could certainly go out and start to refine the design and build that particular one-way control point down at Brandon Road Lock and Dam; that lower lefthand corner point earlier and perhaps achieve that early risk reduction.

I'm going to spend a couple minutes to talk the two different hydrologic separation alternatives that

are laid out in this report. The first one is the lakefront. And basically lakefront means where it's basically attributable to where we have placed -- or approximately where we have placed the physical barriers this scenario. There are four barrier locations and important to note is that you cannot achieve the risk reduction; you don't see the benefit of these barriers they are complete.

Now, what happens when you put these barriers at these specific points? You have significant impacts in way water moves in the system during significant flooding events in the City of Chicago. Therefore before you can finish those barriers, before you dump that cement in the channel and close off those barriers, you need to ensure that the 9.2 million residents of Chicago are not significantly adversely impacted by flooding. Therefore must be able to construct a significant amount of flood mitigation. And that, again, is what drives that significant time to completion. That 25 years is really tied to the construction of the appropriate tunnels and reservoirs to control -- to hold the large volumes of that may fall anywhere within the Chicagoland area.

There are additional pieces of mitigation for particular scenario because currently water is brought in from Lake Michigan to keep the river flowing and to keep

water quality going. There are some -- aquatic nuisance species treatment plants are used to bring that fresh into the system which will still serve a very important purpose in maintaining that water quality and making sure that there is sufficient water for navigation downstream.

The second of the two mid-system hydrologic separation alternatives was created to look at -- okay, so the first one, we had significant cost with regard to risk mitigation. How can we offset that? How can we alleviate that? Where could we put physical barriers in system such that you don't have that huge cost for flood risk? So the team looked at it; we did some modeling and came up with these two points that we call mid-system separation. There are two single points you can see on map on the left, and they actually do a very good job in alleviating that potential flood risk issue. Water can still flow pretty much as it does during significant precipitation events in either direction.

However, by placing those barriers downstream from Lake Michigan, you essentially open up the majority the remainder of the Chicago River as well as the Calumet River, open it to Lake Michigan. It is currently not open to Lake Michigan. Currently water flows from the lake the river. Now, in this particular scenario, water would allowed to flow anywhere from those points toward the lake

or anywhere from those points down toward the river.

Now, there's significant water reclamation planning of the structure within this area. I mentioned the outset of my presentation that anywhere from 65 to 85 percent of that volume of the water in the river is municipal wastewater discharge. So where does that come from? On the map on the righthand side, you see two brown dots. And those brown dots are two relatively large water reclamation plants, or you can call them wastewater treatment plants, within the Chicago area. Just each one, on average, maybe 300- or so -- 300 million gallons per of water flows out of those water reclamation plants. So you put a physical barrier downstream where the effluent where the discharge from those water reclamation plants all of a sudden this water now flows into Lake Michigan.

Well, no big deal, right? Other cities water into Lake Michigan, no problem; Milwaukee, Detroit, I remember correctly, among others. However, you know, Chicago might have a bad rap for having dirty water, and the past that was certainly the case. I'd say to date there's been significant steps made toward making that a lot cleaner. And in the future we've also considered, part of this study, further efforts that are currently implemented to disinfect the water and reduce important nutrients like phosphorous and nitrogen.

So let's for a moment imagine that this water is just as clean as anybody else's water that's going to Lake Michigan. Because of that significant volume -- you're talking 300 million gallons a day for each one, so a combined -- a combination of about 600 million gallons a of water that is now going into Lake Michigan that does have, no matter how clean it is, some trace pollutants in there. You have things -- you have some amount of nutrients, you have some amount of, you know, bio-accumulative compounds like mercury and PCB's; and you have things in that water that wastewater treatment plants don't even take care of today. Pharmaceuticals -- I'm you've heard -- I've seen commercials when I'm here in Michigan about pharmaceuticals going through our So since Lake Michigan has a very long residence time -- about 99 years it takes a drop of water to circulate out the lake -- even cleaning up the water to what we would call "acceptable discharge" standards would add a significant load of pollutants to Lake Michigan.

So in order to alleviate this particular we've chosen to use those green lines as pipes to reroute that discharge to a point downstream, those barriers, so that water continues to flow in the way it does today. Another important piece of that -- I mentioned the large percentage of that volume of water that provides a

significant amount of water for navigation downstream in Illinois waterway, down in the Mississippi River. So having -- you know, being a part of the Corps of Engineers and having one of our primary missions being navigation, this was also an important piece to rerouting that water wastewater treatment plant effluent to points downstream the barrier.

We also include a couple of other elements in mitigation. One is for combined sewer overflows where we include pipes and tunnels to capture any potential that may be released during significant storm events, as well as conduct sediment remediation. Again, same kind of scenario with regard to -- as it was with regard to the water reclamation plant discharge, anything to the of those barriers, any sediments, become open to Lake Michigan. And so if there are any residual chemicals that have been there from past years of potential pollution, would now be open to Lake Michigan and they -- there may new regulatory impositions based on that availability to that significant natural resource.

Again, so while we try to eliminate that flood risk management infrastructure, there is significant work that needs to be done to ensure that there was not adverse environmental impact to a significant natural resource of the Great Lakes. Again, this adds to that total time for

completion of about 25 years, and the significant costs of about $15.5 billion.

The last of our two -- the last our scenarios what we call our "hybrid" scenarios. And these very take physical separation and technologies and implement together. If you haven't noticed, the Chicago Waterway System can be split up into a north part of the system and south part; an upper and a lower. So basically very what these two different scenarios do is place a physical barrier on one part of the system, while leaving the other part open for navigation, using the technologies similar what we did in those previous technology-only
As the name states, Cal-Sag open -- the lower channel is the Cal-Sag channel, so you place a physical barrier on upper part, on the Chicago Sanitary and Ship Canal, the CSSC, and leave the lower part open to navigation and uses.

Again, because of some amount of mitigation would be necessary for water quality, for flood risk, would be a significant time to completion for these, as as a significant cost of about $15 billion. The kind of switch of this one, placing the physical barrier on the lower part leaving the upper part, the Chicago Sanitary Ship Canal open, has a similar effect, but a much lower because of the necessary mitigation for those potential

alternatives.

I mentioned at the outset that the GLMRIS report is really an important tool for decision-makers. How does that work? What kind of information is in the report? really, what we've tried to do is give evaluation And what are "evaluation criteria"? Well, these are different elements that could be associated with each one the alternatives that will help decision-makers, members the public such as yourselves, state officials, Federal officials, elected officials, look at the different plans and look at the trade-offs. Some plans will certainly be more effective than others; some plans will certainly cost more than others. Some will take much longer to implement than others. But they all vary. And where are the environmental impacts? Where are the economic impacts? how do you -- we weigh these and have the conversation we're here to have today? That's what these evaluation criteria help identify.

Before I conclude today, I want to hit on a of things. I want to make sure that we all understand before I open it up to your comments, if you hadn't picked up on it, mitigation is really an important part of what drives the time and the cost for these alternatives. I'm not going to stand here today and tell you it's going to take me or anyone else 25 years to build a dam in the

Chicago Area Waterway System. What I will tell you is it will take approximately that amount of time to ensure that the third largest city in the nation, nearly 9.2 million residents of Chicago, do not suffer from adverse impacts because of building that dam in the waterway through flooding, or we don't cause significant environmental to a precious resource by contaminating it with the water that flows into it.

No matter what, there will always be residual risks with regard to any one of these scenarios. There ways that aquatic nuisance species can transfer between basins that are outside of the aquatic pathway, and that's why it's so important -- I'm so happy to see everyone here today -- is because you are part of that mission to transfer. Human mediated transport -- transport, I mentioned, of bait buckets or not cleaning your boats the correct way, is how these species can transfer to a new basin. So you guys can help all of us act as stewards of the environment to prevent those residual risks.

There is, obviously, some concern about the duration for potential implementation of any of these. We saw a lot of these scenarios that will say "25 years to complete." And I can -- I can put on my fortune-telling and say -- and I can bet a lot of you say "25 years is too long." Well, there are ways to buy down that risk. We

nonstructural measures that look at immediate potential buying down of that risk. We have technology alternatives that look at maybe ten years or maybe less if we're only trying to target certain species. So we need to continue this conversation amongst all of us to discuss what is the best way to move forward?

I guess I'll hit on that last piece. If I leave you with nothing else today, it is a fact that aquatic nuisance species control is a shared responsibility. I've already touched on it, but implementation of any one of these is going to involve everyone's kind of collaborative path forward -- consensus on a collaborative path forward.

We've taken this show to a couple of different cities already. We've been to Chicago; we've been to Milwaukee; a couple of cities in Michigan; and then Cleveland as well. And we're going to several more. And the reason we're doing this, again, is to make sure that provide information to the public and listen to what you have to say. So I'm going to wrap up my comments today because I think I might have gone a little bit longer than was supposed to -- I was getting so excited about the report.

But I just want to let you know that we do have comment period which is open until March 3rd. All this information is on our website, glmris.anl.gov; it's right

the slide in front of you and that, you know, your input your engagement in this process is critically important. Please do stay in touch with us. If -- we're going to a couple hours for comments tonight, so hopefully we'll the ability to hear everyone who wants to make a comment. If we don't get to something or if you think of something after the meeting today, please send us an e-mail. Find on Facebook, friend us, you know, or find us on Twitter; send us an e-mail and with that, thank you so much for time this evening and I will turn it back over to Kendall begin the pubic comments. Thank you.

MODERATOR: Thanks, Dave. So before beginning oral comment period tonight I'd like to reiterate what just said. The GLMRIS website is a great source of information. The GLMRIS report in its entirety can be viewed and downloaded for your convenience. So now I'd to move into our oral comment period. So for those of you that registered on our website before or registered at our table today indicating that you'd like to make a comment our meeting, you'll now have the opportunity to do so.

So if you'd like to ask a question instead of a comment, I'd just like to let you know that we request manage your time. We're going to give everybody three minutes. As you can see, there's a lot of people here tonight and so we're trying to be respectful; get as many

people up here as we can to give an opportunity to let voices be heard. So if you'd like to ask a question of make a comment, please allow for those three minutes to have your comment, any questions you're going to ask, and then a response by the panel.

So after everybody has had the opportunity to address the panel and if time permits, we'll allow people come back up and ask any additional questions or make additional comments. So I'd like to note that we have a stenographer here with us tonight. So we're going to ask that when you do come up to make a comment or question you come to this center microphone. When you come to the microphone, please, before you begin your comment, give name -- please spell your name -- your last name, if you don't mind -- any organization that you represent, and zip code. If you don't give us this information, unfortunately, we will not be able to include it in our formal comment period.

So I also have a visual set of slides that I'm going to pull up and walk through right now. That's going to help us manage our time here this evening. So after give your name and zip code, I'm going to start the slide show. And as you can see, it's going to start out green. After two minutes it's going to change to a yellow box and so this just kind of helps us all keep on track. So --

then every 15 seconds after that, it's going to update time. At 30 seconds, I'll give you a brief reminder that your time is coming to a close, and then at the end of minutes a big red box appears and I'm going to ask you to make a complete statement and close your comments out.

(Off the record interruption)

MODERATOR: Again, we're trying to record everything; that's why we have a stenographer. So I'd ask that everybody refrain from you know, asking questions out of the audience; you know, please come to the microphone you have something that you'd like to say.

So I'm going to call about three names in order we can kind of line up and try and make sure that we move through these things quickly. I'm going to start with the people that registered on our website beforehand to make a comment and then I'll move to the people that registered here today. As they said, hopefully we can get you all in tonight. If we can't, I'd like to remind you that, you know, you can still submit a comment on our website. You can mail written comments to us, or you can write out and drop it off with any of us up here or at the front desk. And, again, that's -- our comment period is going run through March 3rd.

So I'd like to now start with calling of names people that pre-registered. First we have Senator Debbie

Stabenow. And then following her, I'd like Mayor Michael Estes, and then Mr. Mark Breederland.

(Off the record interruption)

SEN. STABENOW: 48917. And I think my name is pretty easy to spell, so, okay. Let me say, first, John Goss, for your leadership. And Col. Drummond and Wethington, let me say that it not only is important that you're here, but it is important to note -- I don't know you indicated that yesterday we did spend time in Lansing with State officials and with State government and and so on talking about next steps.

I would just briefly reiterate and then say something about next steps. 25 years is too long. 10 is too long. We're on borrowed time right now. And I realize that in these eight options there are a number of ways to configure that. But we've got to all work to figure out what this next step is that is much, much, much shorter than that.

Secondly, I hope -- I asked you yesterday about the GLMRIS lock. I know that there's still more work done in terms of the technology, and as we're working through how to get it down to one option, I hope you will continue to be working on the technology so that we can confident that if, in fact, we pick a technology like the lock, that we can feel confident that it actually works

the Asian carp as well as other kinds of things. And you already feel that confidence, but as I've been I still have some questions about whether or not that is true.

And let me finally just say that I think for all of us -- and I'm going to just speak to everybody now for minute, because as you know Congressman Camp and I led an effort to get us to this point more quickly than was originally anticipated in terms of this report. We have now -- I wish we had one recommendation but if there I understand the reason for that looking at different things, but we've got to all work together to get that to one so we can move. The Great Lakes Commission is a lot of work and the governors in the region are part of the Great Lakes Commission. We need their buy-in. We the buy-in of all of us, everyone that's affected. That's really part of what I view as next steps. We need the buy-in of Chicago, who's most directly affected.

So as we go forward with this, we will be to figure out the mechanism through which we can get by get this down to one plan. Once we have one plan, then we can proceed to ask for the funding. And in Congress, we can't do that until we have one plan so we know what we're doing. So that's really the next step.

And I would just close by asking that you

to work with us, the Army Corps will be incredibly if not directly doing this project, partnering with else to do this project and will be absolutely essential get this done. You have many projects across the country, can't imagine one more important than protecting 20 of the world's freshwater, $16 billion boating industry, billion fishing industry and really, our whole way of life in the region.

So, thank you and we need you to make sure that you have the same sense of urgency that we do.

MODERATOR: Thank you. So, next, Mr. Michael Estes, the mayor, and following him, Mr. Mark Breederland and then Mr. Eric Andersen. I apologize in advance if I mispronounce any of your names.

MAYOR ESTES: Michael Estes, E-s-t-e-s, Mayor of Traverse City and also Lake Michigan advisor from the of Michigan for the Great Lakes Fisheries Commission.

MODERATOR: Can I get a zip code? I'm sorry.

MAYOR ESTES: 49686.

MODERATOR: Thank you, sir.

MAYOR ESTES: Thank you. I applaud your efforts for the constructive approach you're taking to these efforts, however I will say that long before any of you on board or even any white people were in this country, we had a solution to the problem. We had bio-diversity that

allowed for a stoppage of water to be flowing into Lake Michigan from the Mississippi River. The real solution to this problem is to put that system back in place that it.

The solution isn't going to be something that develop ultimately; it's going to be something that politicians in Washington figure out how to fund and what they have the political courage to do. Right now the President of the United States, by executive order, could close a Chicago canal. At least that would be a first Ultimately it wouldn't alleviate all of the issues that you've addressed under this vast, multi-billion dollar, 25-year scenario, but that would stop the spread of carp. Okay? After that, if the President doesn't have the willpower to close the canal, Congress has the power to funding to the Corps of Engineers so they can't operate locks. The locks don't operate, they remain permanently closed, no issue with passage of these fish.

Now, neither of those solutions are long-term issues, or long-term scenarios to what we should do, but they will stop the problem. And it will force Congress the President to come up with some money and some funding address the issue seriously. Because until then, you're going to go any place with your plans; you'll study it to death as government does -- we do it in the City of

City. We study everything to death. But it takes courage by politicians to implement these things and I hope the message gets to the President and to Congress that you have to come up with the funds and make the tough Thank you.

MODERATOR: Thank you, sir.

MR. WETHINGTON: Mayor Estes, I just want to a quick moment -- thank you so much for your passion on subject. I just want to make sure that we all understand we were -- if anyone was to -- if Congress were to close physical structures within the Chicago area, there's still two waterways that flow openly to the lake that do not any physical structures in them. So closing the closing the locks on the Chicago waterway, while it could something Congress could do, would not necessarily prevent the passage of Asian carp. Thank you.

MODERATOR: Sir, your name, zip code?

MR. BREEDERLAND: Yup; Mark Breederland, B-r-two e's-de-r-l-a-n-d, 49684. I'm employed with the Michigan Grant Extension Program and I have over 23 years of experience educating and working on Great Lakes issues, of them with invasive species. The following are my personal and professional comments, not official policy of Michigan Sea Grant.

First, I'm really glad that the Corps has

the GLMRIS report and I'm very glad for the comprehensive work that was done. In this very room in January 2011, I testified at the kick-off set for the meetings of GLMRIS. know that the report details a lot of comprehensive information looking at all the invasive species and all pathways between the Great Lakes and the Mississippi.

Second, I would be supportive of some type of ecological separation alternative, perhaps number 5 or 6, the best long-term solution. However, the approximate 25 year time frame almost seems absurd with respect to the of stopping AIS between the basin, let alone the $15 cost estimates. How many spawning cycles in 25 years for various species does that account for? And how does the timing of maybe implementing doing lots of other stuff regarding flood control and then lastly, separating the basin? How does that meet a goal of stopping AIS?

Third, I'm just disappointed in a little bit of lack of action for funding some low-hanging fruit items which were discovered during the study. For instance, the Corps completed in 2010 a multi-mile berm and barrier and special fence along the Des Plaines River and it did the Eagle Marsh in Fort Wayne as a second key pathway. I know that there was a 1500-foot chain link fence yet what about a more permanent barrier? Why isn't one already built? That's real low-hanging fruit.

Fourth, I guess, through the Federal and state governments they acted very slowly in the 90's and the 2000's on the Asian carp and other issues. I do remain optimistic we can battle these things; there's still a chance to slow them down. We still need to do what Jim Bredin had said about us slowing down and keeping the fish numbers low below the barriers as we are right now.

So, again, the greater Chicago area has this old infrastructure and has very complex storm water issues the canal system as it is. The purpose of getting additional funding needs to be targeted at AIS. There to be some cost-sharing, not fixing just the Chicago old infrastructure using AIS as an excuse, I guess.

And, last, I just feel like there needs to be a more effective --

MODERATOR: Thirty seconds.

MR. BREEDERLAND: -- and efficient, expeditious way to get Congressional appropriations to the responsible Federal agencies. So -- not just waiting for multi-year WRDA bills, not just authorizing instruments, but we've to get some action here. So let's work together with the local and the state governments, find ways to deal with urgent threat, and build and maintain this ecological separation that's vitally needed to protect the Great economy and ecology. Thank you very much.

MODERATOR: Thank you, Mr. Breederland. Next I have Eric Andersen, followed by John Briggs and then Gary Keyes. So your name and zip code when you're ready.

CAPT. ANDERSEN: Yes. My name is Captain Eric Andersen, that's A-n-d-e-r-s-e-n; 49645. I'm vice of the Michigan Charter Boat Association.

(Off the record interruption)

CAPT. ANDERSEN: I'm vice president of the Michigan Charter Boat Association. And we are an organization that is approximately 400 licensed charter operations here throughout Michigan. And I'm here kind of on a fact-finding mission. This GLMRIS report is new. I'm going to report back to our board of directors this Sunday and let them know what the findings are here that we've -- and we're extremely interested. And we support Governor -- or, Senator Debbie Stabenow 100 in what she just said here. We've been following this close. Very glad to see this report out and I'm very glad to see you people up here in the Traverse City area. And that's about all I got to say at the moment. But we will respond with a written report here shortly. Thank you.

MODERATOR: Thank you, Capt. Andersen.

MR. WETHINGTON: Capt. Andersen, thank you for your comments. I just want to let you know to grab an couple books on your way out if you want to bring them to

your folks. Thanks.

MODERATOR: So the next I have is John Briggs, followed by Gary Keyes and then Brian Price. So name and zip code when you're ready, sir.

MR. BRIGGS: John Briggs, B-r-i-g-g-s, 49- --

(Off the record interruption)

MR. BRIGGS: -- B-r-i-g-g-s, 49684. I represent the Michigan Boating Industries Association.

(Off the record interruption)

MR. BRIGGS: Thank you for the opportunity to -- for me to speak today. My name is John Briggs, and I am a member of the Michigan Boating Industries Association, and I'm here on behalf of the 300 members and the $7.4 billion recreational boating industry here in Michigan.

Knowing there will be tremendous damage to the health of our Great Lakes and ecosystem and the area if Asian carp enter the Great Lakes, we have again again asked our leaders to do whatever is necessary to prohibit the carp from entering the Great Lakes. And for years we have inquired, "What is being done to ensure that the Asian carp will not invade our ecosystem?" We were the answer would be coming in a study being conducted by U.S. Army Corps of Engineers. This study was just released, and our concern continues. We compliment the Corps on the thoroughness of the study.

But this study fails to include a call for immediate action to protect the Great Lakes from the of Asian carp. 25 years is too long to wait. So today we join with leaders such as U.S. Representative Candice and U.S. Senator Debbie Stabenow and many other declaring there must be an immediate plan for action. We must immediately implement a plan which protects the Great Lakes for years and decades to come.

After reviewing the alternatives presented by Corps' study, the only real solution that will truly the Great Lakes is the complete separation of the Great Lakes and the Mississippi River basin. Asian carp will destroy our fisheries. The Great Lakes has some of the world's best sport fisheries and Asian carp are voracious eaters and will strip the food web of the key source of for our native fish. Without our game fish, we will lose our $7 billion fishing industry here in Michigan, and our billion recreational boating industry in Michigan.

In addition to causing direct ecological harm, silver variety of the Asian carp has caused direct harm to people. The silver carp is skittish and easily startled the sound of a boat motor. They land in boats, damage property, and they make boating less desirable and many people will leave boating forever. Communities will with job loss and declining tourist income.

The time has come to put a plan into action it is too late. Thank you.

MR. WETHINGTON: Thank you.

MODERATOR: Thank you, Mr. Briggs. Next I have Gary Keyes, then Brian Price and Daniel DeGood.

MR. KEYES: Gary Keyes, K-e-y-e-s, GLMRIS, RPT 50004. I've already spoken in January of 2011, I tried to represent the fishermen of the State of Michigan. I think the Corps of Engineers needs to think about addressing the Native Americans and the Native American nations. I think you've left them out of the picture.

Originally the river we talk about, or the connection between the Great Lakes and Chicago and the Mississippi wasn't there. It was dredged to allow the sewage to flow into the Chicago River. You're admitting that 600 million gallons a day goes into the Chicago River from the Great Lakes, not even counting the amount of that flows out of the Great Lakes into the Mississippi through your industrial canal and some of the other ways goes in there.

When I went to the University of Michigan under Joseph Sax, we went and talked about how terrible it was dredge the St. Clair River and how now today it's eroding away the whole basin there and now billions of gallons a are going down the St. Clair River and it brought in the

invasive species that we're talking about today that are the Great Lakes. And we need to build a lock system If you're going to talk about separating one area from another and talking about the problem we have with the height in the Great Lakes, we have to build a lock system the St. Clair River and we have to steam all the ballast every boat coming into the Great Lakes to stop these invasive species. You've never even addressed that.

I also spoke in 2011 and a nice gentleman here, was a master sergeant, a black individual, said he would underwater noise -- different frequencies and large of noise to stop the fish. And I believe you are now that; I thank you very much for at least implementing that one idea that I tried to bring forward at that time. you very much. But you need to use different frequencies, louder cannons and you also need to use a "bubbler" that they use over here to make the fish go upside down and them act dead for awhile. You know, there's all kinds of gases and stuff that don't hurt anything, they just bubble away.

And I will read you what I wrote and since the Governor of the State of Illinois about a year ago said, see an alternative to building an industrial canal in areas to keep the bighead Asian fish out of the Great Lakes. Why are you being so stupid and arrogant in not

implementing this device?" It says, "You're paid to be stupid or what is your problem. I think you're some of dumbest people on earth who know nothing but to go to work and collect your government paycheck and keep from being positive and getting anything done at all. You redefine word arrogant, and since you're unwilling to listen, I fire all of you if I had the power."

MODERATOR: 30 seconds.

MR. KEYES: "Please fill in all the ditches and stop the carp from coming to the Great Lakes. Try to up for the fisherman and not President Obama and his friends. Please listen to the Governor of Illinois and in the ditches. You've proven that patterns of barge traffic create swirls that will allow the carp through the barriers, so in poor layman's terms, if you do not hydrologically separate the Great Lakes totally from the Mississippi River, we're all doomed." Thank you.

MODERATOR: Thank you, Mr. Keyes.

MR. PRICE: My name is Brian Price. I'm director of the Leelanau Conservancy. My perspective on this and my viewpoint comes from about two and a half decades of land conservation work.

MODERATOR: Sir, --

MR. PRICE: Brian Price, P-r-i-c-e, 49664. me.

MODERATOR: Thank you.

MR. PRICE: And also I was a commercial on Lake Michigan and Lake Superior for about 15 years. So the Conservancy and all of us should applaud the study for taking a comprehensive approach, looking at the flow of invasive species in both directions, and I want to applaud the study for doing that. I'm not an engineer, and I'm an aquatic ecologist. My reaction to the GLMRIS report is pretty simple: It is find the right people with the appropriate professional experience, narrow down these alternatives, and commit to an approach and stick with it and get it funded.

Time's not on our side. Everybody's pointed out. No amount of sophisticated analysis will stop the Asian carp once breeding populations are established in Great Lakes. A perfect solution, if it takes 25 years to deploy, it's going to be perfectly worthless. So I encourage you to start by doing some of the things that were talking about, and I would applaud that our -- that that will reduce the threat level in the immediate future and first, as a former commercial fisherman, I know that can reduce ovulations in these limited waterways.

It may take -- we may have to step out of our comfort zone if market forces are not good enough to incentives; we may have to get out of the way if some of

regulations are causing problems. But we need to make that even if we have to establish a bounty system like we have on squawfish in the Columbia River basin, that we get the populations of these fish down so that the risk is reduced immediately.

Secondly, whatever it takes to improve the electric barriers and to stick with that program in the immediate future, let's do that. Let's get to a final recommendation, what kind of ecologic separation is approved, I understand the complexities, but let's commit it.

Finally, I want to thank Senator Stabenow and Representative Camp for leading the charge on this; making sure that everybody sticks on task because I think that -- and we should applaud them. They're going to have to make sure that their colleagues take this seriously, and that whatever we do, we can get it funded and we can get going it soon. So I want to thank you especially.

MR. WETHINGTON: Thank you.

MODERATOR: Thank you, sir. Next I have Daniel DeGood, followed by Eric Johnson and then Fred Sitkins. name and zip code when you're ready, sir.

MR. DeGOOD: Daniel DeGood, 49640. D-e-G-o-o-d. I represent absolutely nobody this time; myself, my family and the fellow fishermen that I fish with. I grew up and

was born on the Kalamazoo River. I now live on the Platte River in sight of Sleeping Bear Dunes. I fish the Platte River, East Platte Bay and Lake Michigan. I fish the Sucker River system in Lake Superior. I fish Saginaw Bay for walleye, and I fish in Ontario on Rice Lake, which is connected on the canal system between Lake Huron and the Lawrence. So I fish the Great Lake river system -- the Great Lakes system.

I want to talk not to the Corps of Engineers, to the White House, Senator Stabenow, and to the representatives who are here. I'm kind of a half-full guy, glass half full, but I come here tonight with an glass. And I come here not because of your plan, but because of history. Sixty years ago, the alewife. Thirty years ago, the zebra mussels. Fifteen years ago, the gobies. And we still can't take care of ships coming into the Great Lakes to stop this?

The electric barrier you talked about, the original plan was for three. You have only one. When the power goes down, we have trouble. If you really want our support, if it's truly what you want, then the plans are the important thing; it's making us believe that your risk reduction or your down-by-down risk factor is real supportive and it can be done. Otherwise you're never to get the support for the 25 years. That's way too long

everybody has said. You have to make us believe that what you're going to do right now will make a difference until these grand plans can be put in place. Thank you.

MODERATOR: Thank you, sir.

MR. WETHINGTON: Thank you, sir. I appreciate your passion and your comments. I just wanted to make that for the record we have a couple clarifications. The first one with regard to the barrier system, we do have two permanent barriers that are in operation plus a demonstration barrier, which we're currently building a third -- actually a fourth now, for a permanent barrier there. So there are actually three barriers currently running today if you include our demonstration barrier.

Also there was a gentleman earlier, Mr. Breederland, who spoke to Eagle Marsh. And that is an important point we've identified as a place outside of the Chicago Area Waterway System that serves as the potential greatest pathway for Asian carp to transfer. And there's actually been a lot of work that's been done on Eagle in partnership with state agencies, natural resources conservation services and the Corps of Engineers that put together actually a plan for physical separation of that potential location. So it's much more than just a chain-link fence. As was mentioned earlier, there's actually plans to put that physical separation at that

in the ground within hopefully the next year or two.

(Off the record interruption)

COL. DRUMMOND: I appreciate your comments the glass half full is something that we all take near and If you could, sir, I don't know where -- where did you go? Raise your hand. I got a card for you. Come up -- if you -- sir, give him this card, will you? That is a free invite the next time you're in Chicago, come out and see and I will personally take you to the barrier and show you what's going on out there.

MODERATOR: Thank you, sir. Next I have Mr. Johnson, followed by Fred Sitkins, and the Jennifer McKay. So when you're ready, sir, name and zip code.

MR. JOHNSON: Erik Johnson, 49643. I'm an environmental engineer; have been for 30 years. I've been following the Asian carp ever since I heard about it, but must say, I'm pretty disgusted with how long it's taken government to come up with a solution to close the Chicago canals. The Corps of Engineers has been conducting for -- what? -- three years now, or more, to conclude that likely solution is hydrologic separation of the This same conclusion is what the general public has been howling for since the onset. It seems like it's a waste time, all these three years. It's kind of a no-brainer.

The solutions offered by the current GLMRIS

do offer some good ideas for hydrologic separation, but are all unacceptable. The report says it will take 25 to close the Chicago canals. In 25 years, we'll have carp out here in the Bay and in Boardman Lake. So why bother, if it's going to take that long? Now, I'm sure there are some interim things that can be done, but 25 is absurd.

For the record, I'm in favor of the lakefront hydrologic separation option. But, again, the timing schedule is unacceptable. The current study uses -- or offers use of tunnels and reservoirs for flood risk mitigation and includes schedules and budgets for of these. But are these not part of the tunnel and reservoir plan -- the TARP plan -- that Chicago has been working on -- already has budgets for and is already partially completed? You include these budgets in your budgets. So it seems like you're double-dipping here and its deceptive of you guys to put a price tag of an project on the Asian carp hydrologic separation project to make the price seem higher.

I think your concepts are good, but the implementation schedule is not suitably responsive to the urgency of this environmental emergency. It seems like government has forgotten that this is an emergency. You need to come up with a solution that will close the

canals this year, not 25 years from now.

Now, it's pretty obvious that the Corps of Engineers is subject to political influences that have resulted in these weird schedules and budgets. But, this is an emergency. To stop these carp, it's evident it will have to take an executive order from the President to provide the funding we need and the --

MODERATOR: 30 seconds.

MR. JOHNSON: -- incentive to make it happen. if President Obama will do the right thing for our Great Lakes economy, then maybe hydrologic separation could this year. But if he wants to continue to kick the can the road, then the next president will have to issue the executive order. And that could happen in a couple years, which is a lot better than 25 years. Thank you.

MODERATOR: Thank you, sir. Next I have --

MR. WETHINGTON: Sorry; I just wanted to address your comment with regard to, again, the 25 years. I hope was able to convey this during my presentation; I'm sorry it was not clear in the communication. But it doesn't 25 years to put the barrier in the canal. What does take the 25 years is to ensure that there is not adverse caused by this specific action.

And the double-dipping that you referred to is certainly not the case. Yes, there are other projects

are currently going on with regard to cleaning up water treatment, making flood risk better in the Chicago area, those were considered as part of the baseline. Those are already constructed if we were to look at putting in a physical barrier. So any infrastructure that is outlined any of these banners, any of the maps, any of the information I provided today, is specifically to address adverse impacts by the implementation of technologies, or the implementation of a physical barrier. It's attributable to this action. So I just want to make sure that everyone understands. And I'm sorry if I was not in my communication.

AUDIENCE MEMBER: Point of clarification?

MODERATOR: Sir, --

COL. DRUMMOND: Let him come up and ask a question.

MODERATOR: Would you please approach the microphone?

COL. DRUMMOND: Sir, come up, state your name, code.

[redacted]: I'll also speak later, but real quick, --

COL. DRUMMOND: This is not an open door; I'm doing it for you.

[redacted]: My name is [redacted], common

spelling, zip code 49621. You talk about the 25 years in all these plans. Every single one of these plans has a check box that says "25 years" for the Asian carp control. Clarify that.

MR. WETHINGTON: Yes, sir. The check box that you're referring to are the risk reduction boxes. And so that is communicating some information which is outlined much more detail in the report. That has nothing to do the 25 years for implementation of some of these alternatives. So that particular risk reduction box looks at what time step would a particular aquatic nuisance species control -- a technology, a physical barrier -- achieve risk reduction for that specific species. We did dedicated risk assessment for a full range of species. Asian carp, silver carp, bighead carp, were two of those species. And what we evaluated was when does that risk become medium or high for passage and establishment in the other basins?

So we evaluated that certain technologies are available to address that. For specifically the Asian it becomes a medium or high in year 25. So those boxes speaking to snapshots in time. They look at time zero, ten, time 25 and time 50, and at what point will that specific technology or control reduce that risk. So for those specific technologies that are implemented in 25

years, at year 25 it will reduce that risk. We believe, based on our risk assessment, there is certainly associated with that, and it's spelled out in great detail in the report in Appendix C, and that's what those charts specifically speak to.

MODERATOR: Thank you. Next I had Mr. Fred Sitkins followed by Jennifer McKay. And then after those two speakers, I want to plug in one that just came in. Senator Levin was registered with us earlier and just now arrived. So, when you're ready, sir, name and zip code.

MR. SITKINS: Fred Sitkins, zip code 49682. name is S-i-t-k-i-n-s. I work with Inland Seas Education Association as the executive director, however these comments are my personal comments, not on behalf of Inland Seas.

First off, I do want to thank you. I've had the opportunity to hear a couple different times now. You definitely seem passionate; you seem like you -- you know, you understand and you feel the need for this. So we certainly appreciate that.

Inland Seas has been collecting data on the Lakes for 25 years now. I think we've done a great job of not only monitoring the health of the Great Lakes, but our mission is to communicate that information to the public. We are dedicated to protecting the Great Lakes through

education; that's what we do. Unfortunately, over that 25-year period, our message has become bleaker each year. And unfortunately, that's primarily as a result of species.

We have a tremendous amount of data that points to -- I can't even emphasize how significant this issue is when we look at it in data format. Invasive species have decimated this -- these Great Lakes. It's terrifying to think that we're looking at a 25-year solution to this. I know you've heard it a hundred times, it sounds as there are a lot of things that can happen. The issue of years I get is that it's a construction project and there are mitigation issues to consider.

However, there are so many other things that you've alluded to but we haven't spent a lot of time about that can be done in the meantime. I would just that we do everything we possibly can and not let the big ticket of the 25-year solution get in the way of all of small things that we can do, like supporting organizations that are represented in this room that do the outreach and do the education. This is incredibly important.

I would also just emphasize, looking at the options, 1 and 2, to me, don't seem like options, those like requirements. Those -- both of those two things are things that should be done no matter what happens, and so

I'm disenchanted that they're actually considered as an option. That seems like excess (inaudible) to me. So, please, make sure those are done, along with all the other mitigations.

And lastly, you guys are the professionals here. I appreciate the input, but whatever you can do to look at all of the options to say which one's going to bring the fastest resolution -- I know a lot of folks have said 25 years, it's a waste of time. I get that, but --

MODERATOR: 30 seconds.

MR. SITKINS: -- let's keep trying to find that permanent, 25-year solution. Put that in place, but don't take the money away from all the things that we can do between today and the 25 years. Please act as soon as possible.

My last comment would be it sounds to me like Congress wants a recommendation. And I would just look to the professionals to make that recommendation to Congress they can take action. Thank you.

MR. WETHINGTON: Thank you.

MODERATOR: Thank you, Mr. Sitkins. Next McKay, then Senator Levin, if you're ready, and then followed by Jamie Cross.

MS. McKAY: Jennifer McKay, M-c-K-a-y. I'm here representing Tip of the Mitt Watershed Council, and the

code is 49770. First, thank you for the opportunity to provide comments on the GLMRIS report. And I'd like to commend the U.S. Army Corps of Engineers on the work and effort put in to completion of the report.

The report is an essential step in preventing interbasin transfer of invasive species between the Great Lakes and the Mississippi River. The GLMRIS report reaffirms that solutions exist to achieve permanent ecological separation while maintaining management of waters, water supply and conveyance, navigation and recreation. Now we must implement hydrologic separation. And we must do so quickly. Everyone has said it, we afford to wait 25 years, even 10 years.

The Great Lakes and Mississippi River basins provide drinking water, jobs, income, subsistence, recreational activities to millions of people. The threat of Asian carp is far too great to wait that long to implement solutions. And the costs of what happens if aquatic invasive species get into the Great Lakes because didn't take strong enough prevention methods would be many times higher than the cost of implementing physical separation.

The water-borne invaders we have today are causing hundreds of millions of dollars in damage each We now have a once in a lifetime opportunity to

solve the problem of Asian carp and other aquatic nuisance species moving between the Mississippi River and the Great Lakes. We must work rapidly and collaboratively to select and implement measures to restore the ecological barrier.

In addition to expediting the permanent solution of restoring ecological barrier, we must also maintain and take interim steps immediately to provide more protection for the Great Lakes in a part of a long term plan for physical separation. We know from experience the devastating effects of invasive species on our Great Too rarely do we actually have the opportunity to prevent the damage of the invasion before it begins. Yet the opportunity is now at our doorstep, but there are no chances.

The actions by the Corps and all of us here are crucial to the health of the Great Lakes ecosystem and our economy. We cannot miss this opportunity to protect lakes from Asian carp, other invasives, and their devastating legacy.

Again, on behalf of the Tip of the Mitt Council, thank you for the opportunity to provide

MR. WETHINGTON: Thank you.

MODERATOR: Thank you, ma'am. Senator Levin, if you're ready. I'm going to ask the same of you that I've asked of everybody, if I could get your name and zip code

and then --

SEN. LEVIN: Carl Levin, want me to spell it? Happy to; C-a-r-l, L-e-v-i-n. At least that's the way it was on the ballot a few years ago. I'm 48207, Detroit. welcome to the Corps. We're glad to have you in Michigan; we're glad that you're holding these hearings for public comment.

The report, of course, that we've waited for a long time, that was our -- I guess it was 2007 Act which required you to come up with this report. We know that time was truncated a bit. Last year, I guess, we wanted this report. And perhaps that's the reason why the are not analyzed in this report, but it's absolutely essential that we not only look at costs, but that we look at benefits, and those are missing. And it's essential we have you now quickly weigh the benefits because it's a cost/benefit analysis which ultimately is going to move needle hopefully much faster and to a much better result than some of the ones that are (inaudible).

The good news in this report, I think is that total separation of these two basins is feasible and it's the best protection. That's your conclusion and that's should be obvious; at least that it's the best protection. But the fact that it is feasible is also critically important. As your conclusion, we welcome that

Now, some of the costs according to the Great Lakes Commission and to the St. Lawrence Cities group, are exaggerated; they're excessive. If you look at zero, for instance, discharge, that is something which you've required in other projects; you've looked at total removal of contaminated sediments. That's something which has not been required in other projects. And there's other of your costs that go with the total separation which, according to the Great Lakes Commission and to the Cities report, are excessive.

And so when you combine the two of those the fact that there is no assessment of benefits which are so critical to us and the fact that there are some exaggerated costs in this report, we believe that there is distortion; part of which is understandable because you didn't get to the benefits, and a part of which could be corrected.

I am co-chair of the Senate Great Lakes Task and Mark Kirk, my Republican co-chair and I, along with House of Representatives co-chairs will be getting in the next few weeks to send you our recommendation. And our recommendation will --

MODERATOR: 30 seconds.

SEN. LEVIN: Thank you. Our recommendation will be to move immediately to the short-term actions which can

be taken while you are refining the long-term costs and long-term option, which is the best option, but also shortening the period for us to get to the total

I know -- even though I wasn't here -- from my staff that you have felt the passion in this room. The passion for the Great Lakes, which I hope and believe that you share, is something which is real, it's palpable. We feel, in Michigan, we are the stewards of the Great Lakes.

So I hope you take that as a positive; that this is something which we feel so keenly, and that this will energize you to move towards the total separation but in the meantime to take those short-term steps which also will help protect these pleasant lakes. Thank you so much.

MR. WETHINGTON: Thank you.

MODERATOR: Thank you, Senator. Next I have Cross, followed by Cheryl Kallio and then Steve Baase. Again, I apologize if I mispronounce any names. When ready, ma'am, name and zip code.

MS. CROSS: Jamie Cross, J-a-m-i-e, Cross with "C"; 49417. And tonight I'm representing the Alliance for the Great Lakes. Thank you for the opportunity to speak behalf of the Great Lakes tonight.

I'm the Adopt-a-Beach manager for the Alliance the Great Lakes. My office is in Grand Haven, and we're

headquartered in Chicago, kind of "ground zero" there, staff in Wisconsin, Michigan, Southeast Michigan, Ohio, New York. Like Jim and many of the people here in the tonight, I'm really fortunate to work for a job that protects the Great Lakes, but it's also personal. I grew in West Michigan fishing in the lakes, swimming in the lakes, family camping along the shores of the Great Lakes. The Great Lakes are a fabric of my life and my family's life.

The Alliance for the Great Lakes draws it as an organization in Michigan and throughout the region through the many collaborations and partnerships that we have. We align ourselves with not only those who care, those in the room tonight, and all of our 10,000-plus volunteers that work on stewardship programs throughout region, but those that want to keep learning more and better, and improving their work for the benefits of the lakes, the beaches, the people and the wildlife and some our partners, like the Watershed Center of Grand Traverse Bay, Friends of Sleeping Bear Dunes, Freshwater Future, Michigan Department of Environmental Quality, NOAA and

My points on GLMRIS are very simple. We don't have time to waste. The time is now. Recent studies confirmed that the electric barrier, currently the last of defense to keep Asian carp out of the Great Lakes, may

not be a barrier at all as it allows small fish to pass through. The status quo is not acceptable and we need action on separation. The cost of what happens if new aquatic invasive species get into the Great Lakes because didn't take strong enough prevention measures would be times higher than the cost of implementing physical separation of the basins. These water-borne invaders are already causing hundreds of millions of dollars of damage health, commerce, recreation and the environment.

Lastly, the health of the Great Lakes as well as our communities and the jobs they support are worth it. cannot put a price tag on our region's quality of life. cannot afford to undermine the investments we are making in the protection and restoration of the Great Lakes.

Thank you for the opportunity to talk on this urgent matter for the Great Lakes.

MR. WETHINGTON: Thank you.

MODERATOR: Thank you, Ms. Cross. When you're ready, ma'am, name and zip code, please.

MS. KALLIO: Hi. My name is Cheryl Kallio, K-a-l-i-o, and my zip code is 49456, and I represent an organization --

REPORTER: Spell "Cheryl."

MS. KALLIO: C-h-e-r-y-l.

MODERATOR: Ma'am, would you move a little

to the microphone, please?

MS. KALLIO: And I represent --

(Off the record interruption)

MS. KALLIO: -- Freshwater Future.

(Off the record interruption)

MODERATOR: Sorry; thank you.

MS. KALLIO: Did you get my organization, Freshwater Future?

MODERATOR: Yes.

MS. KALLIO: Okay. Well, we're pleased to see that you've identified separation as the strongest option, and we couldn't agree more. I'm actually going to not be duplicative as to repeat how important separation is here tonight, but we definitely agree with many of the comments that we have in the room, so I really want to focus my comments on how important the economy of the Great Lakes to our region, and how it's been articulated in your and how I think we might need to do better so that our members of Congress can actually sell this to other of Congress so we can secure that funding.

We feel how -- how it's being valued right now, it's being undervalued how it's articulated in the report. And let me explain that. We recognize that the reasons you are using economic value, which is merely to measure value of one thing compared to another, but we would

encourage you to look at expressing just what that impact is or the total economy is on our Great Lakes those are the numbers that are so important to the livelihood of about every single person that lives here.

For example, I am avid kayaker, and I have twin 6-year-old boys. And recently we took a trip on the Manistique River through Seney National Wildlife Refuge. The economic value wouldn't just measure and present to other people in a report what I might pay to kayak on that river with my boys, but I did pay Northland Outfitters to transport us; I purchased bug spray and food from them. After a day on the river we locally went to Lake Superior Brewing Company for dinner and the hardware store for ice cream afterward. And that day on the river generated economic activity that's part of our recreational economy that is overlooked in your economic assessment. But if Asian carp were in that Manistique River, I likely would have been kayaking there with my young boys, along with others, and that economic activity would not have been generated, and it's lost to those business owners.

Now, that is just a kayak. Think about the fishermen that are spending so much money on equipment and things like that. Those are the figures that make up our billion fishing economy and our $16 billion boating And the numbers reflected in the report we believe

undervalue that. And our members of Congress need those numbers to be able to justify securing these dollars to people who might not be as passionate about the Great So, thank you.

MR. WETHINGTON: Thank you.

MODERATOR: Thank you. Next on my list I have Steve Baase, followed by Mary Lee Orr and then Fred Overdier. So when you're ready, sir, name and zip code please.

MR. BAASE: My name is Steve Baase, B-a-a-s-e; 49621. I'm a Traverse City native and a recently retired trout fisherman, a recreational user and a passionate of clean, freshwater everywhere. And my clear choice is for the total and complete and immediate hydrological separation method.

I would hope that the evaluation criteria places its heaviest priority on the total stoppage of invasive species wherever it's needed and not on monetary costs, politics, or burdensome regulations. We seem -- we have our disposal the best technology and the best minds available in this country and I really hope we use them in a hurry. Thank you.

MR. WETHINGTON: Thank you, sir.

MODERATOR: Thank you, sir. Next, Mary Lee Orr, and then I'll call on Fred Overdier and then Allison

Voglesong. Ma'am, when you're ready if I could get your name and zip code, please.

MS. ORR: Good evening. My name is Mary Lee O-r-r. My zip code is 49635. And I represent the Lake Michigan League of Women Voters, which is a four-state organization, regional focusing on issues related to Lake Michigan.

In 1914, my grandfather bought a cottage overlooking Lake Michigan between the Frankfort and Point Betsie lighthouses. And it was here that my family spent every summer vacation. Recognizing the charm and beauty this location, in 1962 my husband bought our summer home, just north of Point Betsie with a view of Sleeping Bear, where we now live in retirement.

It is an acknowledged fact that the most likely conduit, as has been stated before, for these fish to get into the lakes is at the connection between Lake Michigan and the Chicago Sanitary Canal, an artificially engineered contrivance designed to deal with Chicago wastewater and that has outgrown its usefulness. People who care about this impending threat to the Great Lakes know that the effective solution is to cut off that connection between Lake Michigan and the canal, and ultimately the River.

Already the carp are bumping their noses against

the electric barriers, which are in themselves inadequate. As you know, these barriers do not prevent fingerlings passing through. For the past three years, numerous of carp DNA have been taken from Lake Michigan and waters that lead into the lake. Carp have been sighted and in Minnesota, Wisconsin, Illinois, and Indiana. And as recently as four days ago, a truck carrying live carp into the states was intercepted by Customs officials.

A related issue, as has been referred to this evening to the problem of the carp is the inadequacy of sewage treatment in the water in the Chicago area. sewage overflow has occurred there all too frequently. Climate change predictions of coming storms will only added stress to treatment facilities. Plans are available to upgrade the plants, as there are acknowledged ways to reroute commercial traffic on the canal.

Granted, the projected cost for this double challenge of upgrading wastewater facilities together with separating the Great Lakes and Mississippi basins are, indeed, mind boggling. Costs must be shared by all that are directly and indirectly affected. Both local and Federal dollars should be allocated. Meetings such as one should encourage all of us who are greatly concerned urge stakeholders and community and government leaders to gather immediately to devise options and to adopt a work

plan.

MODERATOR: 30 seconds.

MS. ORR: To quote Senator Stabenow, it is time move past reports and get moving on actual projects that will stop the Asian carp, to which I add, the costs of ignoring this threat go far beyond the cost of remedy implementation.

MODERATOR: Thank you very much, ma'am. Next I have Fred Overdier, and then Allison Voglesong. Is Mr. Overdier -- going once, going twice -- is Ms. Voglesong available?

MS. VOGLESONG: Allison Voglesong, A-l-l-i-s-o-V as in Victor-o-g-l-e-s-o-n-g, 49684. I'm representing FLOW, "For Love Of Water," a Traverse City-based Great policy and education center dedicated to advancing that use the principles of the public trust and the to protect our water resources. Thank you very much for this opportunity today.

We need strong policies that protect our water quality and quantity and ensure that invasive species overrun our common waters of the Great Lakes. Invasive species and climate change arguably present the two threats to the Great Lakes in this 21st century.

To address the complex ecological and multi-jurisdictional problem there must be a complete

hydrologic separation between the Great Lakes basin and Mississippi River basin through the CAWS.

From an economic standpoint, the Great Lakes support a $7 billion fishery and a $62 billion overall economy. There is too much at risk and the cost of will be far greater than the investments considered here today.

On behalf of FLOW, I present three statements about the GLMRIS plan. The 25-year implementation time frame is too long and we urge research into a realistic shorter time frame. The research in the GLMRIS study is thorough, but the public and our decision-makers need guidance from the agency, and we do suggest prioritizing possible solutions. And we are proponents for plans that establish complete hydrological separation for all five possible pathways considered and prioritized in a plan.

Not to be addressed immediately, but for your consideration I have four questions:

-- Is it economically and logistically feasible scale back portions of these plans that are outside the scope of managing invasives, such as the water treatment, sediment remediation and flood mitigation measures?

-- Second, are there risks eliminating these components?

-- Third, could other plans for complete separation, like those released by the Great Lakes Commission and Great Lakes Cities Initiative be substituted or reconciled with your complete plans to find an economically viable middle ground?

-- And fourth, what is the role of climate in considering the precipitation events when flood risks and recommending flood mitigation which have substantial costs involved in those plans? Doubtless, there are incomparable and difficult tradeoffs involved in solving this problem. The bottom line, is that we must protect the delicate ecological balance of the Great Lakes and protect them from invasive species because the waters of our Great Lakes basin are a shared commons in our legacy for generations to come. Thank you.

And stepping out of my representative role, I a few comments to make, which is that I do encourage plans and 6 since -- to be more to the point. And in my observations, I think there are two considerations that haven't been looked at, possibly because of the "ick" that could be involved. One is utilizing wastewater for drinking supplies therefore reducing flows that will go the natural system; and promoting the commercial providing of Asian carp for consumption. Thank you very much for time.

MODERATOR: Thank you.

MR. WETHINGTON: Thank you, Allison. And I'd take a quick moment to try and summarize a quick response with regard to some of the questions you laid out. Obviously we will give it further thought.

With regard to scaling back plans, you know, we wanted to do was provide something that was feasible implementable with regard to the specific challenge at There are certainly efficiencies to be gained in looking any of these projects. They are at a conceptual level of design and so if there is kind of a common voice like heard tonight toward moving toward one of these particular alternatives, that additional design, additional kind of investigation would help us find efficiencies. We did very closely with environmental regulatory agencies, state agencies, to help make sure that these plans are as regulatorily implementable as possible. So that was one the key things.

I guess in speaking, too, you mentioned the Lakes Commission study and another gentleman did that as well. With regard to how the two different studies relate to each other, I'm -- the Great Lakes Commission St. Lawrence Cities Initiative study have done an job in beginning this conversation, putting out the idea that physical separation is possible, but it will also be

expensive and it will take a certain amount of time. If I remember correctly the range of costs that the Great Lakes Commission put out was between $5 to $10 billion.

They also included language within that report that said these costs could be up to 50 percent less or up to 100 percent more than that, giving an actual cost range of hydrologic separation between $2.5 and $20 billion. So the costs that we've come up with doing detailed design detailed study are really pretty much on track with those costs that the Great Lakes Commission came up with.

And with regard to climate change, obviously that's a very -- that's a tricky situation. We're trying to, as an organization, as the Corps of Engineers, try to incorporate the concepts with regard to global climate change and how it may affect our water resources projects. Since we are primarily a water resource organization, it's something that we're conscious of and continually try to evolve our environmental operating principles to address climate change.

So thank you for your comments and we'll look forward to further consideration of these plans.

MODERATOR: Thank you. And right now it is Panel, do you want to waive your break or do you -- we have a lot of people signed up.

MR. WETHINGTON: Let's keep going.

COL. DRUMMOND: Keep going.

MODERATOR: All right.

(Off the record interruption)

MODERATOR: By chance, did Mr. Overdier -- Fred Overdier come back? I don't want to skip you if --

ALL: (No response)

MODERATOR: All right. I have [redacted]. No? [redacted] maybe? And then following [redacted], I have Ryan Matuzak and then Rob Wylie.

(Off the record interruption)

MODERATOR: All right. After Ryan Matuzak, I Jim Carruthers and then [redacted].

MR. MATUZAK: Hi. Ryan Matuzak, M-a-t-u-z-a-k; 49637. I want to thank you for coming up here and talking to us today. I represent the Grand Traverse Area Sportfishing Association, and a great group of fishermen this area.

My first thought is I'm disappointed in the results. I think I was looking for a little bit more information as Senator Levin has alluded to. Our members are a group of people who look at things for what they really are, like the rest of the group in this room here. We want action. And all the money trucks in the world to everybody to study this is great, but at the end of the day when there's not going to be action in a reasonable

amount of time, it -- it makes an alarming situation So I would like to advocate for the full hydrological separation. That's something that we need to make this correct.

Another thing I wanted to touch on is there's a few comments about the comfort of the folks in this Chicago region and how we want to make sure that we're not making anybody uncomfortable for too long while they go through this process. Well, I know there's millions of people in that Chicago area, but what about the millions millions of people who touch the water that flows through there; every river, every town, every community, every little village that could be affected here. That group of people on that small chunk of real estate that is encompassing this whole Great Lakes system is nothing and for them to look at us as if we're nothing is not right.

We're asking for things to be put back to the it should be, which is the way it was originally. And I know it's a really daunting task, but ultimately, let's take a look at this and think it's going to be something "comfortable." Because surely if these carp make a home outside of where they already are, we're going to be the ones who are uncomfortable and it's going to last forever, not just 25 years. So thanks for your time. I appreciate it.

MR. WETHINGTON: Thanks for your comments.

MODERATOR: Thank you, sir. Mr. Jim Carruthers, and then following him, [redacted] and then Charles Weaver.

MR. CARRUTHERS: Jim Carruthers, C-a-r-r-u-t-h-r-s, 49684. I'm City Commissioner and Mayor pro-tem for City of Traverse City.

Tourism, recreation and the fishing industry are major economies for us up north, while the environmental protection is a core value for many people who live within Traverse City and the region. That said, anything that be done to stop invasives, particularly Asian, carp coming into our Great Lakes system is extremely important to us the people that live and recreate here. And I encourage to do whatever possible you can to make these things not 25 years, not 10 years, but now. We need that to for Traverse City because these waters are what make us thrive. And we all love it and we all want to be here and we all want to stay here long and keep them fresh and safe and clean for everybody without the effects of what's our way. So please take that in mind and do whatever it takes. I would like to thank you for your time.

MR. WETHINGTON: Thank you.

MODERATOR: Thank you, Mr. Carruthers.

[redacted]: My name is [redacted], [redacted]

[redacted]; 49684. I'm a Traverse City resident who's very concerned about the invasion of Asian carp. We must cut off the access to the Great Lakes from all sources of current carp infiltration, including water access from Indiana and Illinois. The states and provinces the Great Lakes cannot afford to have Federal government institutions dawdle any longer. We must have separation soon as possible, not 25 years from now.

Michigan Senators Levin and Stabenow and our congressmen are in favor of immediate division. We are drawing support from the current administration or much interest from either political party. I suggest the Asian carp become a political issue in our upcoming elections. Thank you.

MR. WETHINGTON: Thank you.

MODERATOR: Thank you, sir. So after -- I have next Mr. Charles Weaver and then David Schichtel and then Donald Ramisdert -- I apologize on that name if I got it wrong. So, sir, when you're ready, name and zip code.

MR. WEAVER: My name is Charles Weaver, W-e-a-v-r. My zip code is 49646. I'm a river guide here in northern Michigan. I assist people fly fishing on these rivers for trout and other salmonoid species. And I'm disappointed in what I have read and to some degree have heard today.

These fish are terrorists. They don't wear ski masks and they don't carry AK-47's, but they have just as much potential to disrupt our society, our culture, et cetera. When you have terrorists on the radar, you study it for 18 months, and you don't look at 25-year You take care of the problem now. And now is when it to happen. And that is -- in the words of the Corps of Engineers is "hydrologic separation," but now. Thank you.

MR. WETHINGTON: Thank you.

MODERATOR: Thank you, sir. Let's see. David Schichtel? Sir, name and zip code when you're ready, please.

MR. SCHICHTEL: Hello, I'm Dave Schichtel, like the electric razor, Schichtel, S-c-h-i-c-h-t-e-l, 49684. am going to yield most of my time here because so much has been said but I'm a local person here and we talk about a glass being half full. Well, I'm an old man and my glass almost ready to run over. But I've got a lot of relatives -- literally hundreds of them here. I've been here all my life, and my grandparents and a lot of friends and relatives I made and so my concern -- and we talked a lot about this is, you know, over the years when this was coming up -- I do a lot of fishing as well; my and great-grandchildren are doing it. And so I'm just concerned and I'm glad that you all are here and that

putting your effort into because I think everyone here is really concerned.

And, again, I'm glad we got some politicians and this to me is more important than just about anything that I see the rest of my life. The national debt and fish that can affect this area is going to be the two biggest things that I see that I'm going to be leaving my great-grandchildren and my friends to.

So thank you for being here and doing what you can. Thank you very much.

MR. WETHINGTON: Thank you.

MODERATOR: Thank you, Mr. Schichtel. Donald Ramisdert? I apologize if that is nowhere near correct. there a Donald --

ALL: (No verbal response)

MODERATOR: Okay. So I will move on. Next I John O'Neill, then [redacted], and then Tony Gourlay. And when you're ready, sir, name and zip code, please.

MR. O'NEILL: I'm John O'Neill, John with an O'Neill, O-apostrophe-capital N-e-i-l-l.

First of all, I'm -- thank you for your work, I'm disappointed; there seems to be a lack of urgency in report. There's already DNA in the lakes, and we don't 10 years, let alone 25 years. I think it's important to a cost/benefit analysis; the value of shipping versus the

value of a healthy lake system. And that value is far exceeded by just the value of the boating industry and the fishing industry. Tourism is our number 2 or number 3 industry in this state and if you take -- and the value of second homes is very contingent upon the value and the enjoyability of the lakes. If you take that away, all property values around a thousand-mile coastline, are to drop. That's very important to look at. Look at the cost of what it took -- that industry -- and we take it in its entirety in the multiplier effect, and it's value actually to the entire nation has got to be far in excess economic activity of GM, and look how much we spent to rescue GM and the benefits of that.

Hydrologic separation is the only long-term solution. And we need to put that in place as quickly as possible. And I would suggest we close the locks. If there's an unusual rainstorm or something then we could them up and we are where we are now. But for most of the time they could be closed. So the valuable of that shipping -- lost shipping is inconsequential compared to value of the lakes.

It took one year to build the Empire State Building, three years to build the Mackinac Bridge, eight years to go to the moon and 25 years to build most of the interstate highway system. We can do this much, much

faster. I also -- if you look at a 25-year time period, that -- that's an excuse for not doing anything. Because into the fifth year, you're going to find that the fish in the lakes and then that's going to be dropped. It have any effect whatsoever after that.

Finally, I want to say that ballast control is issue that may exceed your purview, but it's very to be done and it's really an inexpensive thing that needs to be done, compared to the cost of the two lakes. Thank you very much.

MR. WETHINGTON: Thank you, sir.

MODERATOR: Thank you, sir. Welcome back, sir. Name and zip code, please, and then when you're ready.

[redacted]: My name is [redacted] and the code is 49621. Somebody earlier said that we're in an emergency. And I can -- I can only echo that. And I thought about, well, what defines an emergency? When Carl Levin, Debbie Stabenow, Dave Camp, Captain Eric, me and my neighbor, Steve, all are here for the same thing, we're agreeing on the same thing, we're in an emergency. I think these many people have agreed on anything since

Honestly, we're in an emergency. Captain Eric, know you know how important this is. This -- time is of essence. So all of the above, as much as we can do is so important. So all the little stuff is -- like you say, 1

and 2, yeah, we got to do that. Well, we got to do that anyway. We've got to take care of our bait and we've got take care of all the right things the right time, all the time.

So all of the above is important. But inaction going to kill us. And we cannot -- I mean, I'm a Navy you're an Army guy, you know, I'm not going to pitch that whole thing, but it's time for action. It's time for action, and Senator, I mean, I sure hope you bring that to Washington. We cannot sit on this. This is critical. mean, five years is too much. So when I look at those check marks and said, "Well, you know the efficiency of these things are going to actually kick in 25 years from now"? That's way late. I thought I had a couple but I might have got them there.

Significant water events, I have a question on that. Even with all these best-placed practices in an event, which one won't be effective? You know, which one these plans? In other words, is hydrological separation only one that even still doesn't get affected by a significant water event? A big flood, you know, like when this stuff happens in Indiana. Thank you, folks.

MODERATOR: Thank you.

MR. WETHINGTON: And, [redacted], I believe you speak -- your question is to the effectiveness of the

controls. And so we looked at planning for the effectiveness of physical separation. We -- Col. Drummond was just talking a little bit ago, we were talking about significant precipitation events that happen within the Chicago area. And in the past five years, we've had maybe four, significant rainfall events at or greater than a, quote, "100-year storm." And so when we look at designing these different features, the control technologies, the physical barriers, we wanted to ensure that they would not be swamped in storms we've seen in recent history. So if we had a recent -- if we had a significant storm, like 100-year storm, it's designed to at that engineering level it would simply over top.

So what we did is we, instead, designed ours to 500-year level. And the reason we did that is to kind of account for that control, that preventiveness because we not see a 500-year storm. But will we see a couple 100-storms stack up right after each other with the whole idea of global climate change? It's becoming more and more of realistic possibility. So that's -- that 500-year level analysis is what we used within the study.

MODERATOR: Thank you. Next, Mr. Tony Gourlay, and then following him I have John Stinson. And when ready, name and zip code, please.

MR. GOURLAY: Tony Gourlay, 49685.

MODERATOR: Would you mind spelling your last name? I happen to know it's unique, so --

MR. GOURLEY: Tony Gourlay, G-o-u-r-l-a-y.

MODERATOR: Thank you. When you're ready.

MR. GOURLAY: I am speaking for Greenpeace. And believe through the conclusion of what we have all been talking about here in my perspective is that it has to with economics and education of a full circle of that's been taking place as in both sides. I am for the project, I am not for the project, so I -- to me it bother me. I live in Traverse City, I enjoy Traverse City area, it does not affect me. But for the Chicago area and for many other homes and families it does affect, and so what I understood from this convention -- setting -- gathering, which is very nice, thank you very much for coming in. We all appreciate it, I believe, and Traverse City appreciates it, if I can speak for my city. I was and raised here so I don't care. But I do believe that it kind of falls into the education and academics.

I think that everyone may agree or may not but I think everyone may be looking for what it entails. And on the dollar bill, it kind of says -- it does say on the dollar bill -- on the United States of America which I don't believe we've touched a dollar bill, it says, "In we trust." And when you're dealing with engineering

projects, you're dealing with nature and God's creation. And having those academics within that area of nature and how to regulate nature and how nature flows is a big area. So I believe that if we can, as a people, learn more about the academics and education of the project, then I think we'd all have a better understanding. So that's my and I thank you.

MODERATOR: Thank you very much, Mr. Gourlay. Sir, name and zip code.

(Off the record interruption)

MR. STINSON: John Stinson, S-t-i-n-s-o-n,

MODERATOR: When you're ready, sir.

MR. STINSON: Okay. I just wanted to say I'm encouraged about what I'm hearing tonight, and I thank you people for coming. And it looks like you're on top of it and there are people on top of you who are on top of it, I know you have a tough job, considering not only the engineering, but all the many strings that are attached to your positions. But I want to thank you very much for you're doing.

I think for myself, I suppose, you know, ecological -- the separation is obviously the no-brainer everybody has said. I'd like to also thank our senators have been so much on top of it as well. I knew there was reason I keep voting for you.

I would like just a couple of clarifications. seems to that even back in the 80's, Governor Milliken's time, they were talking about invasive species and that vast majority of them come up the St. Lawrence rather than through Chicago, and that that is -- the fact that the are coming from Chicago, that's maybe the biggest one of all, but one could easily come up the St. Lawrence; it's even bigger, I assume. So if you would, clarify for me the Corps is doing or will do to -- for the big picture, rather than just the Chicago. And I hope our senators consider that as well, that we need a total picture, than just Chicago.

And also clarify for me -- I'm sorry, I did not read the report, but clarify for me if someone told you to go now to do what you can do to take the one or two most effec- -- what are the -- I guess what are the one or two most effective steps that you can take this year that hurt the people of Chicago? If you can clarify that for Thank you.

MODERATOR: Thank you, sir.

MR. WETHINGTON: John, thank you for your comments. I want to answer your two questions you had. With regard to the big picture, we certainly looked at the big picture, heard the legislation that was given to us. Our congressional authority, that's how we operate. So

we're given authorities. When we get the appropriations, the authority that we conducted this study under asked us look at that basin divide between the Great Lakes and the Mississippi River basin. You are absolutely correct, that the St. Lawrence Seaway, the waterway there, is a significant source, especially in the past, for aquatic nuisance species coming via ships and et cetera. And we not examine that, because it was strictly outside of our authority and ability to study with regard to this project.

The second, you asked about which would be the most effective, and we have rankings and ratings of effectiveness of different controls. But I think what you're speaking to and what many other folks here in the room have alluded to is looking for something that could implemented more quickly. I mean, we've tried to provide some of that information within the report, looking at things like best management practices and those non-structural alternatives; things like going down and if we're really concerned about, specifically the Asian carp population -- that's what I hear today is the Asian carp the primary concern -- that there are potentially efficiencies to be gained by addressing that issue -- that species, in itself by continuing the work that's being being led by the Asian Carp Regional Coordinating

fishing down populations, monitoring where they are, to develop tools, poisons, that would address specifically Asian carp, those are all things that could happen fairly quickly. With regard to fishing, that's something that's something that's happening right now, bringing down the population.

So I think there's a lot of existing work and a lot of future work that could be certainly focused on redoubling efforts to controlling those Asian carp populations. Thank you.

MODERATOR: That is all I have for names that been submitted. I'm going to review a couple that did not come when I called, just to see if they've come back into the room. Mr. Fred Overdier?

ALL: (No verbal response)

MODERATOR: [redacted]?

ALL: (No verbal response)

MODERATOR: Mr. Wylie, would you like to -- At this point in time is there anybody that registered on our project website or registered at the table whose name have not called yet?

ALL: (No verbal response)

MODERATOR: No? It's 6:28 right now, so we have about half an hour left on our program schedule. Is there anyone that would like to come back up? Sir, --

AUDIENCE MEMBER: I have one question.

MODERATOR: Would you -- I'm sorry -- could you please come to the microphone? And name and zip code too, please. I know it's tedious, but --

CAPT. ANDERSEN: Capt. Eric Andersen, vice president, Michigan Charter Boat Association. Zip code is 49645. Last name is Andersen, A-n-d-e-r-s-e-n.

A question I have for you fellows up there is did you base your 25-year assessment on construction -- of these -- something that I'm -- we've been hearing the 25-year --

MR. WETHINGTON: Right. So the 25 years is an estimate. Obviously this is, you know, we came out front and said this is a conceptual kind of level of design. There may be efficiencies to be gained by further studying one or more of these alternatives to really nail down time lines. So by looking specifically at the things would need to be constructed to mitigate or provide -- and alleviate those adverse impacts to either flooding or quality impacts to Lake Michigan, we looked at how long it would take to construct those tunnels and those We have a lot of experience in the Chicago area because there are similar projects that are currently being constructed or currently being completed. So we have a of really good information with regard to how long it

to build deep tunnels and large reservoirs. So we used information to help drive those time lines for these.

CAPT. ANDERSEN: That was my question, because I was wondering whether you were relying on construction companies or personnel or something that's got expertise that, who would give you an estimated time of building that --

MR. WETHINGTON: Correct; and we have, you know, --

CAPT. ANDERSEN: -- that infrastructure.

MR. WETHINGTON: -- on the ground -- yeah; infrastructure experience on building large tunnels and reservoirs. Now, again, we make certain assumptions in report; commensurate funding with the kind of demand for construction schedule. There -- again, there may be efficiencies to be gained. If there is excess capacity in existing reservoirs, things that we could certainly look in more detail, but given the time line and given the of alternatives we came up with, we didn't have the opportunity to dive deeply beyond that conceptual level of design.

CAPT. ANDERSEN: Another question I have is do have some type of estimated time that you've built into going to Congressional approval on this? Is there any standards on that?

MR. WETHINGTON: Yes. All of the construction time frames have started or I imagine to begin at 2017, given the time between now and that approximate date to finalize designs, get approvals, et cetera.

CAPT. ANDERSEN: Okay. Those are the couple I had.

MR. WETHINGTON: Thank you.

MODERATOR: Sir, if you'll come back up to the microphone, we'll go one and then two. And then, again, going to ask name and zip code, please.

[redacted]: [redacted], 49684. The last time you all were here, you also had representative from the Coast Guard explaining some of the dangers of the electrical barriers. And my question is, there any reason for lowering the electrical current or turning it off for -- say, for instance, for combustible materials passing through that area?

COL. DRUMMOND: I'll go ahead and touch on that. You know, we're close partners with the 9th Coast Guard. I've worked with them often and almost on an every other basis. I also know that they're closely aligned with Traverse City here. So to answer your question specifically, I mean, we have it -- I have it within my means to shut it off any time on life safety issues. a given. If there's somebody in the water and life safety

is present, we shut it off.

As far as the operating parameters, right now we currently operate it at 2.3 volts per inch at 30 We know through scientific studies through ERDC (phonetic) that that has a direct effect on a wide range of the Asian carp. We know that. Recently we released a Corps report that talked about -- and a couple had mentioned it -- on small little fish potentially getting through the barrier. You know, because it was scientific testing through ERDC, wanted to ensure real life, that we were taking a look at what was happening in the waterway.

So we dropped these cameras down, and we did a series of about 70 tests and these are not Asian carp whatsoever. These are fish that are commonly found in the area. And the reason I know that is we net the area all time; thousands of hours of netting. And what we found is it's a type of fish, a shad that -- you know, they're together in groups. It is a phenomena to see what's going on, and they're pushing through one part of this long electric barrier; just one little part of it. That is enough for me to say that, "Hey, look, I want to test I want to look at this a little bit closer."

So we're extracting these fish, we're getting same type of fish, taking them down to the lab and we're going to put some electrical volts on -- volts on them and

sort of test it out. Because I can and I do have some that I can turn this thing up and I can sort of -- for of a better word -- "fine tune" it.

But when I fine tune that barrier, it also has other effects. And as Dave had mentioned earlier about electrical barrier that he was talking about, that is a barrier to where we can fine tune it to exactly what we want. Chicago Sanitary Ship Canal, you know, it's a long canal, 37 miles long, and we're in one area of that. So answer your question, there is ranges that I can fine tune that.

I might add that we have about 3.6 million detections, over 260 fish tagged. These are non-Asian fish. These are fish that have the same similarities as Asian carp and these fish have been put into the water no upward passes of the barrier. We can see the detection go up to the barrier and then all of a sudden they start floating back downstream. But my job is to prevent and that's what I'm after. So that's why we're going to work closely with ERDC as well as the Coast Guard on looking at a range of things that we can do potentially with reconfiguring the barges and a whole host of others. I that answered your question.

(Off the record interruption)

COL. DRUMMOND: I'm sorry, I can't hear you.

MODERATOR: The gentleman asked do you need to lower the voltage at any time?

COL. DRUMMOND: I mean, I can but I'm not. I mean, right now I have it within my capability to do that, but right now we have it set at 2.3 volts and that's where we're going to maintain it for the near term.

MR. WETHINGTON: And, to clarify, barges with combustible materials, we don't need to lower the voltages when those pass through; those can pass through at operating parameters.

COL. DRUMMOND: Yeah.

MODERATOR: Thank you. Is there anyone that like to come up? Sir -- yeah; just approach the please and then name and zip code.

MR. BREEDERLAND: Yeah; Mark Breederland, B-r-e's-d-e-r-l-a-n-d, 49684. Just a question. You guys are doing a great series of public meetings in Milwaukee, Chicago, Cleveland, Buffalo, Erie; I think tomorrow at Ann Arbor, et cetera, public comment is open until March 3rd. What are the next steps? What happens to specifically the GLMRIS study in March, April, May, June, July, August, even the close of the fiscal year this year? It's already been presented at Congress is my understanding so I was curious what actually happens during the next basically months? Thank you.

MR. WETHINGTON: Sure. Sure. Absolutely; great question. You know, our number one goal was to take After completing the report, we would complete the report time and because the control of aquatic nuisance species a whole is a shared responsibility, we wanted to have not only conversations with the public, but we've also had a series of state-agency meetings. You mentioned a lot of cities we've had public meetings. We've been to Indianapolis. We've been to Columbus, Ohio. We've been East Lansing. And -- I don't know if it was in Lansing or East Lansing; I don't know.

But, you know, we've been talking to many of the states. We had a telecon with our friends in the State of New York to talk about what those next steps are. And I think really the idea right now is working with folks like Jim Bredin and John Goss from the Asian Carp Regional Coordinating Committee and continuing this conversation trying to formulate what is the consensus for the path forward. You know, when we have this range of it's very difficult for us as the Corps of Engineers with specific missions, specific authorities, to identify necessarily the best path forward.

There are many trade-offs among these various alternatives that need to be appropriately discussed, analyzed among those agencies and those responsible

stakeholders. And so this is part of that process. So very difficult for me to tell you exactly three months now we'll have a decision, we'll move forward. I think what we're trying to do is capture this urgency. We hear the urgency. Trust me; we hear you. And try to capture this urgency and take that and move it forward how we can in working with other partners and working with other to identify that path forward; identify those species of most concern and, really, refine our options to try and there toward that strategic control of aquatic nuisance species.

MODERATOR: Sir, name and zip code.

MR. O'NEILL: Again, John O'Neill, with an "h"; apostrophe-capital N-e-i-l-l; 49621. Very briefly I'd to know what you've heard from areas that may not have so close to the Great Lakes. But I don't think I heard a single person -- unless they didn't speak to the issue -- say they were not in favor of hydrologic separation. And those are 25-year lag periods. I don't have any that we have 25 years. What combination of steps can you see to either accelerate that or to give us that 25 years? What alternatives are there? Can you close the shipping canal and only open it when it floods? Or can you -- you know, what is it that you can do? What practical ways you can do -- if someone says to you, "This has to be done in

three years," you know, what is there out there?

MR. WETHINGTON: Excellent questions. I want to hit on a couple of them for you. I'll hit your first one last because I want to kind of get on this -- this

There are a combination of steps; we are implementing a lot of them. We are building a new barrier, one to replace the demonstration barrier so that there are three electric barriers of full, kind of design strength that are optimized to the greatest efficiencies that we know today toward combating Asian carp from transferring up through the system.

We are continuing to monitor where the locations of Asian carp are. Currently they are 55 miles -- adult populations are 55 miles downstream of the shores of Lake Michigan. Our barrier is 34 miles downstream, so we have least 20 miles and two lock and dams in between the and the most forward adult Asian carp. We have 130 miles right? -- 130 miles or so -- 133 -- oh, 143, sorry -- 143 miles between Lake Michigan and where reproducing populations are. So we are educating ourselves and that we stay on top of where those populations are.

What other things can we do? We, again, in this report present a range of non-structural alternatives that we can enhance what we're currently doing today. I mean, we're spending "x" amount of dollars, "x" amount of time

addressing fishing down species of Asian carp. If that's I mean, if that's the biggest concern, we could spend more money. We -- and I'm sorry if I'm using "we" as the -- not necessarily the Corps of Engineers, but the agencies where the authorities lie could spend additional time and resources trying to address those populations of Asian carp. That would certainly buy us more time, and us more time to implement other potential measures.

We in our report have outlined other that could be implemented in 10 years or potentially less we're looking at specifically addressing Asian carp populations or populations of species that are swimming up from the Mississippi River basin; that buffer zone technology I highlighted a little bit during my presentation. There's the concept of putting in the navigation channel with a GLMRIS lock at that Brandon Road checkpoint, which could be implemented potentially five to seven years, if we had that authority to go out and construct it. At this point in time the Corps of does not have that authority. We receive authorities and appropriations from Congress.

The -- oh, you wanted to hear about what was happening at other cities that are not so, maybe, involved with the Great Lakes. We have been to date, Chicago, Milwaukee, Cleveland, Ann Arbor, Traverse City. In

there was certainly a more balanced perspective. I guess there was not -- we had folks whose livelihoods are made, you know, driving barges up and down the river and so they came and spoke and testified to the importance of maintaining navigation in Chicago, so we had a little bit more of a variety. But, very honestly, in Cleveland, Ann Arbor and Traverse City, the voice we heard, the urgency, the dedication toward preventing Asian carp from coming the lakes is certainly a common theme.

We have not yet been to New Orleans or or St. Louis, but all this information will be summarized a report that we're going to put together, put up on our website. The transcripts that you hear today, every word that is spoken in a microphone will be recorded and will be up for public viewing, as well as viewing by our Congressional -- our elected officials. So I hope that provides enough information for you. Thank you.

MODERATOR: It's 6:43. Sir, if you will the microphone and name and zip code.

(Off the record interruption)

MR. PETROVE: Yes; I'm David Petrove, that's P-t-r-o-v-e, and it's 49643. Given the likelihood that -- that many unwanted invasives will migrate through the Lakes, should we not begin defensive measures to prevent them from moving up rivers and streams and into our inland

lakes? Given that dams increase the difficulty of fish moving upstream, is it a bad time to be removing dams? this the 9th alternative: The problem is coming and we should be planning the best means of diminishing further impact. I'm saying this because we're tearing down dams down here in Traverse City right now and maybe we should looking at, okay, protecting all of our other little lakes if we're -- you know, we may not be able to do anything the Great Lakes. Thank you.

MR. WETHINGTON: Thank you.

MODERATOR: Thank you, sir. Yes, sir, please approach the microphone and then name and zip code, if you don't mind.

MR. DeGOOD: Dan DeGood, D-e-G-o-o-d; 49640. Drummond, thank you for the business card; I will take you up on that.

COL. DRUMMOND: Yup, come on down.

MR. DeGOOD: You'll get a letter from me and I intend --

COL. DRUMMOND: Give me a little notice.

MR. DeGOOD: -- to come to Chicago. But to you, sir, everybody says 25 is not a -- is too long. Right now you seem to be, for lack of a better term, the man with finger on the button. If you were a betting man, how do feel about the Asian carp and where they are and what

got to fight them with at this very moment? The gentleman next to you says it's going to take 25 years or 19 years 18 years or 27 years or whatever it's going to take; too long. You've got to fight it right now. What's your feeling?

COL. DRUMMOND: Well, I think you heard early on in this, you know, the Chicago Area Waterways is very complex. I think you also heard, you know, the statement, 155 miles downstream is where the larva and eggs and that kind of stuff, the spawning, is generally going on. Now, about -- or, 143 miles down. And then you've got the 55 miles; that's the leading edge. We put things in characterization of risk. And so especially down at the mile range, where there is known silver carp, the characterization of risk, if -- there has not been any substantial movement of that front line since 2006, none. We've got scientists looking at it; we've got biologists looking at it. We've got our labs looking at it. We're trying to understand why is it, because there was two that they got to get up. Is it because the Sanitary Ship Canal was a man-made canal that is not conducive to spawning, is that the reason? I don't know.

My charter from Congress is to prevent. So, you know, I'm focused on "prevent." You know, I realize that they're down there. I've heard statements tonight that it

is a critical urgency, and I've got it that it's critical. But, you know, for a lack of a better word, we have some time. Time is not a good thing. Nobody here wants to that, but these are very, very tough, complex issues that are going to require -- you often hear the Corps of Engineers as the "nation's engineers." And I take quite a lot of pride in that.

And I think what you have seen tonight is an -- very elaborate eight options that was laid out that's to -- sort of buy that risk down, as David had talked It is a -- it's the most complex issues I have dealt with 34 years. I heard a gentleman that wrote the Great Lakes Commission book, Restoring the Natural Divide. 43 years the business, he stood up there -- his name is Dave and he said, "In 43 years I've never seen something so complex." So it is a very complex undertaking, and I'll on my closing comments tonight by just adding right now, you're -- it -- I appreciate sitting here, listening to everybody; the fisherman that live here, the commercial folks that live on the lake, because it does -- your voice does count as we move through this process. I hope that answered the question.

MR. BREDIN: And if I might add also to that because I know a lot of stuff has come up tonight about Asian carp, first of all, I'm not a betting man. I don't

bet. And so on this issue, what we're doing is we have Asian Carp Regional Coordinating Committee. We have -- every state we have one technical person, a fisheries biologist, and one policy person. We have all of the Federal agencies that should be involved, they are We have the City of Chicago, the utility for the City of Chicago, the Municipal Water Reclamation District. And so we -- we are looking at this issues; not necessarily from all-encompassing, all invasive species issue, we're at it from an Asian carp issue.

We are meeting next month. We are going to get together -- we're going to tear this report apart. We're going to find out what's in it that can deal with Asian carp, and try to look at it and see if we can't implement some of things much faster than what we're seeing tonight, because this -- this is looking at all invasive species, what is it going to take to stop all invasive species and know Asian carp is a serious priority. And we're going to be trying to address that. And hopefully whatever we come up with -- well, you know, we're looking at technologies to try to -- to beat back the fish and to keep them out of areas. So we're looking at that now. We're not saying we're going to be satisfied with 25 years; we're looking it as if we can try to do something in the near future, that's how we're going to move on this issue.

COL. DRUMMOND: Let me just add a couple more comments. I might add that, you know, my time in this this is probably the flattest organization that I've seen; working with the ACRCC, John Goss and Jim Bredin, I mean, meet routinely. It's open and it's very transparent. There's a lot of discussion that goes on. The Great Lakes Commission report that you heard about earlier, that we listened to them, we brought the engineers in. It was open and transparent. As a matter of fact, one of the guys on that report, Tim Eder, sat on our executive group for this. That, to me, is an extremely flat organization to where, you know, we got everybody talking the right direction.

Back to the 25-year point, and Dave talked about this a little bit more, in Chicago we have two large reservoirs. There's many large reservoirs, but there's one's called McCook, about 10 billion gallons, and the one is called Thornton, which is a little less than that, about 7 billion gallons. Both of these are absolutely critical to the Chicago Waterway System. And so when Dave says we have pretty good calculation on how long it takes, he's accurate. We know how long it takes to build these tunnels. Could it be accelerated? Well, as Dave said, the right appropriations and the right authorization, it certainly could. But these are very -- very complex time.

MR. WETHINGTON: Thank you, sir.

MODERATOR: We still have a few minutes before 7:00 o'clock, if anyone else has --

MR. WETHINGTON: We've got someone that hasn't been up yet, so you can be second. Name and zip code, please.

MR. BAASE: Steve Baase, --

(Off the record interruption)

MR. BAASE: -- B-a-a-s-e; 49621. The Army Corps of Engineers has got a long and storied history with engineering and you've got a lot of successes under your belt, and a lot of your projects come to a conclusion; of them go on forever and ever. And you're our white for this, you know. We're really going to put ourself in your hands, and we expect results. This, you agree, is of the biggest projects you've encountered, and it would make me nervous if I has to answer all that you have to answer. Because of its complexity, it's got a weak -- weakness somewhere. What, in your estimation, is its weakness? Thank you.

(Off the record interruption)

MR. WETHINGTON: I think the greatest weakness any type of infrastructure project or any project toward trying to prevent aquatic nuisance species transfer is, honestly, us. And I mean you and me. There are other

for aquatic nuisance species to transfer that are strictly outside of the aquatic pathway. And I think that's what makes me, personally, most nervous. Because we could certainly spend 25 years and several billions of dollars infrastructure, on creating a new waterway -- a new of a waterway -- changing the way infrastructure moves and wastewater moves and all that, but that could all be by something that you or I or our kids or our grandkids or somebody does. And that's what makes me most nervous.

(Off the record interruption)

MR. WETHINGTON: The gentleman said the Asian came all the way across the Pacific Ocean, didn't swim by itself.

MODERATOR: [redacted], and then -- or, sir -- [redacted] deferred. Name and zip code, please.

MR. ALENT: My name is Lance Alent, A-l-e-n-t; zip code is 49635. And I'd like to ask you guys, how is the political will to get this done?

COL. DRUMMOND: Well, I think it was pretty obvious tonight, you know, I will admit they have very -- very busy schedules. Senator Stabenow is at every one of the meetings. We were in Ohio, Congresswoman Kaptur the entire night; was the last one that left. As you earlier, there was 16 Congressional representatives that signed on, I think, with Senator Levin here a few months

back. The Great Lakes, I think, you know, they're all starting to talk. I can tell you I deal with staffers a lot, my team deals with the staffers all the time. One of the first visits we did on January 6 was with 53 different representatives' staffs in a room like this, explaining report, very deliberately.

Our door is always open to our Congressional representatives. The minute they call, we stop what we're doing and we're answering questions because, you know, we want you to be informed, but we also want the decision-makers to be informed so they can help this along. I routinely do staff visits -- Congressional and Senatorial staff visits and GLMRIS is always one of the number one topics. Specific to that is Asian carp.

MODERATOR: We have about -- time for one more question or comment if somebody would like to --

COL. DRUMMOND: Yes, sir. Come on up.

(Off the record interruption)

[redacted]: I'm [redacted] again and you probably know my zip code, 49621. Just two things. I wasn't here at the beginning, so I work for a living and I had to drive a ways to get here. So I think -- I don't your group here, sir, on the far left. I don't know your group. Are you the gentleman that was here a few years and are an avid fisherman?

MR. BREDIN: As -- well, I'm Jim Bredin with the White House Council on Environmental Quality. And I --

[redacted]: How do I follow your group? So I know to follow GLMRIS, I've been following GLMRIS on Facebook and all over. So I follow you guys all the time I know what you're doing and when your reports come out. And as a matter of fact I messaged you the other day and said, "Put it on here so we know it's out" so I could it.

MR. BREDIN: Right here. That's "asiancarp" -- www.asiancarp.us.

COL. DRUMMOND: And it's on the back of the

[redacted]: Yeah; I can grab that one. And, know, I mean just to kind of reiterate, I drove by the DNR truck today, and it said, "Fish are our future." They "Coho in the Classroom" here in Manistee, so you know, if could reiterate the urgency, you know, just -- we want to give you -- gentlemen, we want to give you all the ammunition you can to be able to go back to the higher-ups and get what we need. Thank you very much. Thank you

MR. WETHINGTON: Thanks.

MODERATOR: Thank you very much. So, first I'd like to thank again everybody, especially all of you that stayed for the entire time for coming out tonight and participating in this discussion with the Corps of

and the Asian Carp Regional Coordinating Committee. At point I'd like to ask the panel if they have any closing comments for the meeting.

COL. DRUMMOND: I'd like to thank everybody still here with us, and obviously I appreciate both Stabenow and Senator Levin and the various Congressional well as the mayor that was in attendance tonight. It highly of not only this location, but your pure dedication to following GLMRIS and helping us through this very and difficult topic.

It was quite evident to me, you know, the resonated within this area. We hear it, we hear it in Michigan. I deal with the Michigan DNR and a whole host folks on the ACRCC. The other day when we were sitting Senator Stabenow and a whole -- the whole staff of the DNR in Lansing, Michigan, it was a two-way discussion; one of the better discussions I've heard in many years. And it's open and transparent. And they understand the complexity this, and they want to help just as much as anybody else.

I had mentioned early on the folks in this room that are wearing the red lanyard, they live in Chicago, love the Great Lakes just as much as anybody else here. I get reminded of that every day when I walk into my office. If I'm saying something wrong, I'm getting reminded real quick. So you can trust this -- I just -- I would ask

that -- and most of you care about this, just take the 25-page report, take that, go home, when you have a chance -- don't take too long, we've got until the 3rd of March. But, you know, take the time, look at the 232 and sort of ask yourself, what do you think is reasonable implement? And I -- there's some things in there I think that each and every one of you may -- may -- it may spark fire and you'll start writing, and just send it to us. I think that's going to help the process along.

When we're done here, we're going to be around a little bit. By all means, please feel free to ask of us any questions that perhaps you didn't want to bring up, or you want to know something more about. But I appreciate your time tonight. Thank you very much.

MODERATOR: We've had over 35 individual today for an approximate total of 180 minutes of I'd like to remind everybody that the public comment runs through March 3rd of this year. And if you didn't receive a copy of our meeting materials or want extra copies, feel free to grab some on the way out.

So this concludes this meeting of the Great and Mississippi River Interbasin Study. The time is now 7:01 p.m.

(Meeting concluded at 7:01 p.m.)

REPORTER'S CERTIFICATE

I certify that this transcript, consisting of 123 pages, is a complete, true and correct record of the testimony held in this case on January 23, 2014.

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Ann M.Holmes, CER 2629

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