NEPA Public Scoping Meeting

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GLMRIS

GREAT LAKES AND MISSISSIPPI RIVER INTERBASIN STUDY

PUBLIC HEARING

FEBRUARY 1, 2011

2:00 P.M.

UNIVERSITY OF CINCINNATI

TANGEMAN UNIVERSITY CENTER

2766 UC MAIN STREET

CINCINNATI, OHIO

A P P E A R A N C E S

PANEL:

GENERAL JOHN PEABODY
MR. DAVE WETHINGTON, III
MR. MIKE SAFFRAN
MR. JOHN ZIMMERMAN

List of Speakers:

P R O C E E D I N G S

MR. ZABOROWSKI: Good afternoon, ladies and gentlemen. If I could ask everybody to be quiet and turn down any cell phones and then we'll get started with this afternoon's meeting.

I'd like to welcome everybody to today's Great Lakes and Mississippi River Interbasin Study, or GLMRIS, NEPA public scoping meeting. My name is Kendall Zaborowski. I'm from the U.S. Army Corps of Engineers, Chicago district and I will be this evening's moderator.

Before beginning the meeting I would like to let everybody know the bathrooms, if you walk out this door and take a right and then there's a small hallway on the left with vending machines, the bathrooms are there. I'd like to now take a moment to introduce today's panel to my left and moving down we have Major General John Peabody. He is the commander of the Great Lakes Ohio River Division of U.S. Army Corps of Engineers. Next to him is Dave Wethington, the GLMRIS project manager. Then there's Mike Saffran who is the Other Pathways project manager. And then last at the table is John Zimmerman who is the chief of planning and policy at the Great Lakes and Ohio River Division. I would like to make an apology.

I would like to make an apology. Normally at these meetings we have a representative from the White House Counsel Environmental Quality who today we were supposed to have Mr. John Goss, the Asian carp director, but due to the weather he cannot make the meeting, but never fear, General Peabody will be addressing some of his slides in the presentation today.

GENERAL PEABODY: Not nearly as well as he does.

MR. ZABOROWSKI: When you arrived today the following materials were available at the front desk: We have the GLMRIS business card which has several of our web sites, our actual project website, Facebook and how to follow us on Twitter and just general contact information. There was this tri-fold brochure which has general information about GLMRIS, the green meeting agenda which speaks to our schedule today, this white written comment form which has instructions on how to submit written comments or mail them into us.

I would like to note that the NEPA scoping period ends March 31st, so any comments must be submitted to us by that date. If you mail them in, they must postmarked no later March 31st. This purple paper is frequently asked questions about GLMRIS. The

peach paper is frequently asked questions about other aquatic nuisance species efforts by the Corps of Engineers and then also we have copies of today's presentation. And then lastly as far as handouts, we have these blue informational booklets that is detailed information about the study that we will present today.

If you have pre-registered on the project website to give an oral comment and have not yet checked into the register-to-speak table, please do so now. If you have not registered online and wish to speak and have not registered yet, please do so now. We need everybody to have filled out one of these yellow registration forms. For people that are registered online, we just need your indication on the privacy statement.

Similarly, if you will be giving a comment today and you have a prepared statement and would like to leave that with us, you can just make sure you grab one of these light blue sheets from the registration table and fill that out. We would gladly accept it and make sure it's included in our NEPA scoping documents.

Our GLMRIS team has organized this public meeting to accomplish two goals, first to present information about GLMRIS and to inform everybody about the study and its goals. Second is to solicit public

input on what they feel are the significant issues that should be included in the study and also what issues are not significant that that can be eliminated from further study.

The Corps of Engineers is hosting 12 public meetings throughout the study area in an effort to provide opportunities for those within the study area to provide comments and to learn about the study. As I mentioned earlier, the NEPA scoping period ends on March 31st of this year.

As indicated on the green agenda, this public meeting is organized in two sessions. An identical presentation will be given at the beginning of both sessions and then following the presentation will be an oral comment period. The first public comment period after this session is scheduled to end at 5 p.m. and the second session is scheduled to begin at 5:30. There will be a 30-minute break between the two sessions. During that break the study staff will be available for informal questions and comments.

I would like to note that any questions asked of the panel during this time will not be included in the NEPA scoping process. For comments to be formally included, they need to be either given during one of our oral comment periods at one of our meetings,

submitted as a written comment or submitted as a web comment through our project website.

If you have any questions or concerns during the presentation or the meeting itself, please find somebody with a red lanyard and we'll try to help you out the best we can.

Now I would like to turn it over to General Peabody to begin the presentation portion of this meeting.

GENERAL PEABODY: Thanks, Kendall. Well good afternoon, everybody, and thanks for braving the weather that's bearing down on us to come out here today. We really do appreciate it. We only have a handful of folks here today so what I would suggest is after we finish the presentation we'll dispense with the normal rules that we have about limiting time for oral comments and we can have as long and as informal discussion as you all might wish. And we really do look forward to your comments, concerns and recommendations.

So first let me hit some of the highlights from the Asian carp control strategy, which is actually coordinated by the Council on Environmental Quality in the White House, and as of September, an Asian carp director was appointed by the Council on Environmental

Quality, Mr. John Goss, who is a former Director of Natural Resources in our state of Indiana and has a large resume which I'm not intimately familiar with, but in natural resource issues, both working in government as well as in private non-governmental sectors.

Okay. So beginning about a year and a half ago, the fall of 2009, after we had found environmental DNA that indicated that Asian carp may be closer to the fish areas than we previously detected a live specimen, the federal family began coordinating on an ad hoc but routine basis to address the concerns related to that issue.

The primary but not all the agencies included the Army Corps of Engineers, the Environmental Protection Agency, U.S. Fish and Wildlife Service, the U.S. Coast Guard, the Illinois Department of Natural Resources, and Chicago Area Metropolitan Reclamation District. And again, those are the primary, the most active players, but there was a whole host of both governmental agencies and non-governmental agencies that contacted us and provided their concerns and recommendations which we have consistently considered and implemented where we could.

In the fall, late fall of 2009, right before

Thanksgiving, we found for the first time environmental DNA of Asian carp above the fish barrier, and since that time we found a smattering of environmental DNA of hundreds of processed. The positive hit rate has been on the order, depending upon the time and location, between two and five percent. So a relatively low order of magnitude and yet clearly an issue of great concern.

In February of 2010 the White House CEQ published really at that point an effort that was led primarily by the EPA who coordinated all the issues, published the first draft Asian carp control strategy framework. That was updated in May of last year and updated again in December of last year. So we've had three iterations of this, but they all have the same basic approaches in common, which is to find and continue to apply the best available technologies and capabilities and research, promising research aspects, to deal with this very important issue for the Great Lakes states.

I do want to remind everybody that the purpose of this meeting is to discuss the Great Lakes and Mississippi River Interbasin Study which has to do not just with Asian carp but with all invasive species on both sides of the basin. Now what is -- what the

federal family did and what has been formalized, increasingly formalized, over the course of the last year plus is put together what we call an Asian carp regional coordinating committee which formalized all the agencies that are involved in actively doing things, taking steps, applying engineering, applying management control technologies and techniques to deal with this issue.

And you can see the executive committee consists of the people listed who represent the agencies indicated were the most active with the exception of the non-federal agencies. And I'm sorry, I did not mention the U.S. Geological Survey has also been very actively involved, mostly in the research side of the equation, and that's Dr. Leon Carl on the slide. Bill Bolen works for EPA Region 5 in Chicago. Cameron Davis is the Great Lakes special advisor to the EPA administrator. Mike Parks is a Rear Admiral in the Coast Guard stationed out the Cleveland. Charlie Wooley is the Deputy Regional Fish and Wild Life Service Director out of Milwaukee. I'm the regional Corps of Engineers commander here stationed out of Cincinnati and my deputy for the Great Lakes and Chicago area commander, Vince Quarles has been actively involved in this, and then Leon Carl as mentioned. And

then Jim Bredin was hired on to assist Jim Goss. He's a former Michigan Department of Natural Resources professional.

And then you can see all the other active players which includes all the Great Lakes states listed in the coordinating committee. We have telephone conferences that generally last an hour, sometimes more, on a minimally biweekly basis, sometimes weekly. And you can see that we have two subgroups, Interconnecting Waterways Workgroup and Communications and Outreach Workgroup that support all this.

So we do have a semi-formalized mechanism to exchange information and to coordinate activities and to try to make sure that we have the most synchronized approach to this issue which is pretty complex, and because we have different authorities in all of our different federal agencies, the synchronization piece is really important to try to achieve.

Now, recently I think in the last two months, I don't have a specific date and John would know but he's not here due to the weather, we set up this non-federal technical and policy group. We didn't stand it up. We were approached by several stakeholders, Dr. Phil Moy who works for Sea Grant in Wisconsin, is that

right, Ernie? Thanks. And he has advised us. He's a former Corps of Engineers employee many years ago, but he's advised us on fish barrier for some number of years. He approached us and recommended that he would like to stand up this policy group of a wide variety of scientists and industry, NGO's, recreational interests and so forth, all indicated there, to get periodic briefings and to advise and make recommendations to us in an informal fashion.

So Mr. Goss agreed to do that and this group now exists. I'm actually not personally familiar with how they interact with Mr. Goss, but he does coordinate their activities with us at their request periodically.

Okay, 2010. Let me just give you kind of the year in review, if you will. So what did we do in 2010? Well, we basically went from a standing start where virtually the only thing that we had to stop Asian carp from migrating into the Great Lakes or from allowing other species to migrate from the Great Lakes down to the Mississippi River through the Illinois River and the Chicago Area Waterway was the fish barrier.

In 2009, in April of 2009, we activated for the first time Barrier IIA. Barrier IIA was the first barrier that we had available that could take the

operating parameters, which is voltage, basically the electrical parameters, voltage, frequency, hertz and so forth, to the levels that our laboratory research indicated needed to be taken to be optimally effective against Asian carp. We had executed a demonstration barrier prior to that which has been shown to be effective in the field but subsequent laboratory tests indicated could not be optimally effective.

When we found the eDNA evidence of Asian carp in August of 2009, or actually July 31st I think it was, within two weeks we took Barrier IIA to these higher operating parameters and have had that barrier operating at those parameters since. Within a month we went back to the administration and said because of the huge concern associated with Asian carp that now appear to be much closer than before, we feel a compelling need to get the third barrier, Barrier IIB, which is kind of an improved version of Barrier IIA that can operate at this higher parameter, to get that up and operational.

But the funding mechanism that Congress follows, as you may know, is at least a two-year process from the time the budget is developed, it's proposed by the President, it goes before the Congress, and Congress either acts or as happened this year does

not act and we operate under continuing resolution.

The administration said we think you're right. We need to put some more resource to this and we just so happen to have a capability that we normally don't have other than supplemental which is the American Recovery Reinvestment Act, the so-called stimulus funding. And so the administration agreed to allocate the funds that we needed to accelerate executing Barrier IIB by a year.

So we accelerated our design process and we began construction in the spring of 2010 and we completed the construction or the most major components of the construction in December and we've been doing safety and operational testing since then. So far that safety and operational testing has gone extremely well. We've had some minor issues we've had to work through, but we are approaching the end of that testing and we believe we'll be able to take Barrier IIB into full operation by the end of February.

Now for some reason if Barrier IIA went down we could turn Barrier IIB on now and it would be operating with confidence. There would still be testing we'd need to work through at some later date though. So at some time in the next few months we believe we're going to take Barrier IIA down for

maintenance and Barrier IIB will come up and it will be the primary operating barrier for some time. That's extremely important because it gives us redundancy in the Chicago Area Waterway System if something would happen to one barrier or the other.

What else have we done in 2010? Well, one of the things that Congress gave us in 2007, which we didn't get funds for until 2009, was an authority to do an efficacy study of the fish barrier. So what are we supposed to do? Well, figure out whether the fish barrier actually works as designed, will the fish barrier -- are there other pathways around the fish barrier that might be of concern and so forth.

So we executed the study and we cycled out four reports in 2010 in the space of just a few months, about eight months or less. Those four reports, first we looked at the possibility of flooding from the Des Plaines River spilling over into the Chicago Area Waterway System and the sanitary and ship canal. And if you look at where the electric barrier is, the star on the map, you can see that above that is kind of a blurred black and blue line. Well, the blue is the Des Plaines River and the black line is the sanitary ship canal. They are separated by only a few dozen meters. The closest point I think is about 150 to 200 meters

part, which is very close.

In higher rain events, the Des Plaines River has a habit of spilling over into the sanitary ship canal which is at a lower point in elevation than the Des Plaines River and that's a problem because if you have fish, Asian carp, that enter the Des Plaines River below the fish barrier and then migrated above it and we have some eDNA evidence to indicate that there may be Asian carp in the Des Plaines River, then they might be able in a flood event to spill over into the sanitary and ship canal.

So we investigated and built a 13-mile barrier under this efficacy study and authority provided by Congress to emergency actions to prevent that from happening, and that was completed in October of 2010 and it's working fine. It's a temporary system. We're going to continue some work to make it a more permanent system, but it is going to be very minor modifications to be able to do that.

What else did we do? We've continued our laboratory and field research on the efficacy of the fish barriers, the actual parameters themselves, and while that report is not complete, the fundamental bottom line is that the evidence that we have continues to reenforce that the current operating parameters are

appropriate to the situation.

So some people ask us, for example, why don't you turn up the barrier? You're not at the maximum voltage. That's true. The point is it's not necessary. It would create increased safety hazards because of the increased amount of electricity going in the water. It would put more stress on the system, which it's like riding in a car consistently at 140 miles and hour versus 60 mile an hour. What's going to happen, the car is going to fail quicker. It could decrease the reliability of the system and it would cost a significant amount of additional money and, quite frankly, we're strained for money. We all read the papers. We don't get all the money we need necessarily. We have to figure those things out.

So that's still ongoing. We hope to have that report completed and published in June. However, like with much scientific research, there will continue to be probably over the months and years going on in the future continued research that we'll have to follow based on new information that becomes available to us over time.

Okay. What else did we do? Well, in January of 2010 we started looking at what we might do with what we have in the system without having to build

something new because it takes a long time to go from drawing board to construction to operation. You've got to get the authorities, you've got to get the money, it's a complicated process. You've got to get the real estate. You know, just because you find an ideal place doesn't mean the seller is going to be willing to give it to you.

What else can we do? We looked at all of the infrastructure that's in the Chicago Area Waterway System and we asked ourselves can we modify the way these structures operate in any way that might be effective to deter or lower the probability that Asian carp if they are present could get into Lake Michigan?

We went through this analysis and did actually two reports and the bottom line was the first report said there is a technology out there which is a combination of lights and sounds and bubbles that you can put in the water that deters fish, but it's not 100 percent effective. It probably borders on a magnitude of less effective than the fish barrier, probably around 70, 80 percent effective is what the science tells us. That could deter fish from going on a certain pathway under certain conditions, but it appears to be very expensive.

So we made the recommendation that that

should be considered and that's up in the administration and Congress is aware of it and whether the administration proposes it or Congress decides they want to fund it even if they don't, you know, remains to be seen. But the fish barrier continues to be clearly much more effective than that and the most effective tool that we have in the toolbox.

The other thing we did is we looked at the locks that enter into Lake Michigan and we looked at some of MWRD's facilities like the Wilmette pumping station for example, and we asked is there ways we can change these. We also looked at the outfalls from the overflow sewage system that MWRD operates. So one of the things we thought about was can we change dissolved oxygen levels in the water to make it more uninhabitable or inhospitable for fish?

The short answer to that is no because you have to violate the Clean Water Act. Effectively you have to drop more raw sewage into the sanitary and ship canal after we spent the last generation trying to clean it up. So that didn't work.

Intuitively we thought by changing the way we operate the locks on a less routine basis that we might be able to reduce the probability of fish passing through the locks. That's what we thought. After we

put a fish and wildlife assistants, we put a panel of fish biologists together, there was a wide variance of opinion, but the bottom line, the one thing they agreed on was that it's really not likely that that's going to make any big difference. And we cannot take just whimsical action. We have to have a good scientific basis, a factual basis to take action. So essentially based on the information they provided we couldn't take action at that time.

Under GLMRIS we will continue to study more long-term or permanent lock closure as a possibility alternative. Okay? So this study on the lock closure issue is not over, but we just couldn't do it on that timeline.

What else has been done? Fish and Wildlife and Illinois DNR have done a massive, massive effort to fish the waterways and try to detect Asian carp. It's well known by now that although we've caught hundreds of thousands of pounds of fish and killed tens of thousands of fish of all kinds of varieties, we have only found one Asian carp above the barrier. That was in Lake Calumet found in late June of last year.

So we have indeed found an Asian carp. We've continued to apply eDNA and we've continued to work with UND in that matter. We have cycled because they

are primarily a laboratory agency not designed to do long-term operational activities, we cycled the eDNA capability from the University of Notre Dame to the Corps of Engineers research and development center. They are handling that now.

We increased our capacity. We doubled it from about 60 samples a week to 120 samples a week that we can do now. And let me see, what am I missing? Oh, the Illinois DNR has also gone down to the pools, several pools below the Lockport lock and dam, which is the pool where the electric barrier is, to where we have a large concentration of Asian carp and they've done some intensive fishing down there to reduce the population and reduce the population pressure of fish trying to migrate up.

Why do they migrate? Well, more food. If they are in a pool where there's lots of food, there's a lower probability that they will continue to migrate. And then the Illinois government has done some things with trade agreements with China to try to ship the carp over to Asia and things like that.

So there's lots of things we have done in 2010 and I'm not familiar with all of them. USGS has all kinds of research capabilities they are looking at, whether there's pheromones or other capabilities that

they might be able to put in the water that could -- certain kinds of food that just Asian carp would eat and just kill them and all kinds of things that I also intend to look at. But those are the key things that the Corps of Engineers have done in 2010.

Okay. In addition in Indiana just north of here we found, what's the name of that swamp there, Dave? Eagle Marsh, thanks. In Eagle Marsh there are about 20, 30, 40 miles south of Eagle Marsh, the Illinois/Indiana DNR detected a breeding population of Asian carp. It created a big concern and Eagle Marsh is the area that floods almost every year. Every two or three years you get flood waters up to four feet high that move through this area and it allows a temporary pathway, aquatic pathway, for fish species to migrate between the two basins.

So working with GLRI funds, Great Lakes Restoration Issue funds, Indiana was able to put up a fence that is a temporary barrier to the migration of fish through that area and block off that pathway in the short-term at least.

We also accelerated one aspect of the Great Lakes and Mississippi River Interbasin Study which is looking at the other pathways. We had a plan to do that, but when we found out about the Eagle Marsh

issue, we accelerated that plan by just basically throwing more resources at it.

Mr. Mike Saffran, that was his full-time job for several months. And in coordination and corporation with all of the states and a whole host of local experts, we identified what today are 36, up to 37 now?

MR. SAFFRAN: 36.

GENERAL PEABODY: 36 pathways. I think there's one in Minnesota that we're going to take a look at.

MR. SAFFRAN: That went away.

GENERAL PEABODY: That went away? Thanks, Mike. 36 possible pathways that under certain weather conditions might be able to open aquatic connections between the two basins.

It's very complicated. Mike is going to talk about this later, but the bottom line is the only one of major concern was Eagle Marsh. There are others under certain conditions that could be a problem, but in general to get to those points you have to go through or bypass some dams and other issues that are difficult to get around. So the risk associated with those while not zero is much lower. However, we're going to continue to work forward and get the facts we

need about what's the risk associated with these and then as we get a very clear understanding of what the risks are, we'll take a look at recommendations for dealing with the highest risk pathways.

And here's just some photographs of Illinois DNR and Fish and Wildlife personnel. We have had some Corps personnel helping them out periodically doing intensive fishing and gill netting that you see them doing there under winter conditions which is pretty unfriendly.

The December 2010 Asian carp control strategy I believe, help me out with the numbers here, 45 separate actions that we have in that, 48 separate actions that are in that strategy framework. Again, I focus on the dozen or so that the Corps is responsible for, but there's all kinds of things that the other agencies are doing and I kind of hit the highlights of some of those.

I'm not sure what that's a picture of. Okay. The ongoing projects. We talked about the Great Lakes and Mississippi River Interbasin Study. I'll get into that more later. The bottom line is this is a very complex project. We feel good about our Program Management Plan that we published. The public scoping meetings are very important for us and we look forward

to your feedback as we go forward.

I already talked about the fish barrier. There's a couple things I want to highlight though. It has been alleged that the fish barrier is not effective, that we have no evidence that it's effective. Untrue. I want to state that categorically. Untrue. The fish barrier, everything that we have, all the evidence that we have indicates to us the fish barrier is not only effective but highly effective.

We are doing more research to confirm the data that we have, to get more data to increase our confidence. Let me tell you why we know. Two things. Number one, we've done a number of studies in the laboratory, and again, this will be published in a few months, the details of which, but we've testified to this in court so the information in generic terms is available, to determine the optimal parameters of the fish barrier and we have very high confidence that those parameters against adult fish or even juvenile fish are effective.

There are concerns that they may not be effective against small, what do they call them, the young-of-the-year fish, but there are no young-of-the-year fish in that area because they are about four

pools away where they have a breeding population.

The second thing is we've done a lot of field tests with telemetry, with Vixon cameras and other technologies to detect whether or not any fish are passing through the barriers. And even Barrier I we haven't found any fish passing through them. Well, four years ago we did some field tests and we have more field tests that are going on right now to look at Barrier I which is the lower parameters and there was one fish that went through or one I should say transmitter that went through and then it went through in the wake of a boat and shortly after the boat got through the barrier, it stopped, it stayed stationary and then died. They subsequently found the transmitter and it was not in a fish. So the speculation is it may have gone through somehow with the boat's wake or something.

There is a concern that fish, if they are just right underneath the metal hull of a barge or boat, that we do have evidence to indicate that in that very close area that that may nullify the effects of the fish barrier and we have research that we're going to be doing this year to examine that.

So is the fish barrier effective? Yes. Is it perfect? We don't know. We're looking at it. As we

do our research and find out whether there are areas of concern, then we'll attack those areas of concern. Oh, and to go back, you can see the order, from right to left is north to south. So Barrier I has been in place since 2003? 2002, thanks Dave. Barrier IIB has been operating since April -- IIA since April of 2009. IIB is finalizing tests right now and will be able to go in operation in about a month.

Okay. Again, there's all kinds of research and fishing that's being done by the natural resource agencies. This map portrays eDNA and let me just kind of focus on the left lower box there. And what you see there are a bunch of diamonds. Those diamonds indicate to you whether we had a positive or a negative result from the Asian carp eDNA test at those specific locations. And these are published on our Asiancarp.org website. And you can see that, for example, I think this is the Des Plaines River, regardless, you can see that red dot just above the yellow highlight, that indicates that that particular sampling effort and the sampling efforts you go out for a day or two, you collect a couple dozen or a few dozen samples and bring them back and process them. There was one positive hit there.

Question, does eDNA mean there's live Asian

carp there? Answer, we don't know at this point because the research has not progressed to the point where we can say affirmatively that it does. There are opinions on both sides of that equation. We have an independent peer review of the eDNA technology that will be published I hope soon in the next month or so and that may shed more light on that question. But the fundamental issue is right now all it means is there's DNA evidence there. That's all it means. Did it come from a live fish? Maybe. Did it come from dead fish? Maybe. Did it come from eggs? Could be. I mean, we just don't know is the answer. There's many ways that DNA evidence could get in the canals.

Okay. Let's move on to GLMRIS now. I'm a little bit more familiar with this topic. So let me highlight a few things for you in these slides. What are we doing with this study? Well if you look at that authority, it basically tells you four things. First it tells the Corps of Engineers to do a study, and it tells the Corps of Engineers to study the range of options and technologies available. That means we can get them now or the very near future. What are the technologies and options we might apply to the issue of invasive species?

Two, what are we going to do to prevent the

spread of aquatic nuisance species? Where? Between the Great Lakes and Mississippi River basin. So not just Asian carp, not just from the Illinois River toward Lake Michigan but both directions, the whole basin, all 1500 miles, 1500 miles of that very flat complex terrain. And it's complex because it's flat from a hydrologic perspective. Small nuances in the terrain along this entire divide make a huge difference about how water flows and what aquatic species might do.

And finally it tells us specifically to focus on the Chicago Sanitary and Ship Canal and other aquatic pathways. Those are the other pathways monitored that we use for everything outside the Chicago sanitary and ship canal.

So what are the special considerations we've taken from the interaction we've had with public and stakeholders thus far? Well, first of all there's lots of folks that believe that these solutions are hydrologic separation. The Corps of Engineers cannot take a position on an end state of a study. The whole purpose of the study is to determine what are the range of options and technologies.

So although the Great Lakes Commission is doing a study that's focused on how to execute hydrologic separation, and we hope to be able to use

that information if it meets our qualitative standards that they develop. We can not determine that that's what will be the recommendation. I can tell you that we're going to study that option, that will be part of what we take a look at.

Prevent. This has also caused some consternation by some people. The goal of the study is to do exactly what Congress told us to do, prevent the transfer of aquatic nuisance species between the two basins. However, our history tells us that it's possible that we may not be able to get to that perfect ideal end state of 100 percent prevention. We may end up finding that the current state of technology and options that are available to us can only reduce the risk to some smaller amount than 100 percent. And, frankly, that's what all our human experience tells us, that you can reduce risk, but you can never eliminate it completely.

We will still be focused on trying to prevent it as a goal, we just can't guarantee that we can recommend that because we don't know what the study is going to tell us because we haven't done the study yet.

Finally, it's 100 percent federally funded. Some people say that's a great thing. The federal government is going to cover it. Yeah, the federal

government will cover it, but that doesn't mean that the federal government can afford to give us all the funding we need to do the study efficiently. So we may be limited in how quickly we can progress with the study based on the resource limitations of the federal government.

I can tell you this, the administration is very aware of the importance of this study to the nation and this region and this is a priority study that will compete along with other priority studies for the limited funds that are available. Also I will tell you frankly and based on all my experience it's unlikely that this study will be 100 percent funded to our full efficient capability because I don't know of a single study that we have today that is funded 100 percent to full federal capability. There may be one or two, but I'm not aware of them.

Okay. Now where are we going to do it? Well, this map kind of tells it all. It looks great and briefs great in a Power Point slide, but if any of us were to get out our hiking boots and our backpack and our water and walk along that line, it would take several months to do that. 1500 miles is no small thing.

The focus area is in the red square. Chicago

Area Waterway System, Mr. Dave Wethington, he's the man. He's been in charge of the study from the beginning and that's his focus area. That's the only pathway that we know of that's always open to aquatic species to transfer through the water from one basin to another; therefore, it is the priority. And that's where we're putting our priority effort.

The good news is because of the fish barrier and all the efforts I've talked about, we as a federal family feel very confident that the steps we're taking have reduced the risks pretty dramatically of Asian carp or other species transferring through. The bad news is, if you call it bad news, is we don't know everything we need to know and we've got to do a lot more research. Okay?

Now, let me highlight two other things. When we talk about the Great Lakes and Mississippi River basin, the Mississippi River basin includes not just the green area but kind of the gray area in the Missouri River and Arkansas and Red River deltas as well, basins as well off to the west of Illinois and Ohio. But the primary area we're going to focus on for the Mississippi River purposes is the upper Mississippi and the Illinois and Ohio River basin because it's the connecting areas into the Great Lakes and vice-versa

that are of concern. So that's kind of the basis that's the focus. The brown area is obviously the Great Lakes basin itself.

Okay. What's in and what's out? Here's your track record and here's your score card. What in? If it's aquatic pathway, we're looking at it. If it's terrestrial, ground-based pathway, if it's airborne, not doing it. We're going to look at anything that swims, floats or hitchhikes through aquatic pathways, fish, plants, parasites, insects. We're not going to look at insects that fly and we're not going to look at human release, at least that's not going to be the focus area. If there's information that comes to our attention that's of consequence, we'll consider it, but that's not the purpose of the study.

Where? I already showed you the map. The interface between the Great Lakes and the Mississippi River basin does not include the Atlantic slope, does not include the St. Lawrence Seaway, does not include Canada. We have no authority in Canada. That's of some concern that we've heard to some Canadians, and we will take into consideration any information provided by our Canadian allies, but that's not what we're going to focus on in this study. But portions of 31 states are included, and that's a pretty big area.

So, I've already talked about the elements of it, the options and technologies to prevent the interbasin transfers. It's not detailed biological research on aquatic nuisance species, that would take forever. We're not going there. We're basically going to take information that's off the shelf. If there's any information that we think we need from that off-the-shelf information that would inform the study, we'll work with our fish and wild life and our USGS brothers and sisters and ask them to help us out.

The last point, Environmental Impact Statement. This is subject to all of the laws that any study is subject to and it's not just the study authority itself. Okay? There's physical law, there's administrative law, environmental law. There's all kinds of law that this is subject to. And the environmental impact statement process is a tried and true, extremely good process for us to follow and it's the law and we're going to follow it whether we think it's right or not, but we do think it's right because the EIS process ferrets out all the issues of concern that have to be balanced and weighed, environmental, economic and social, in order to come to balanced judgments about the best thing to do with this issue.

Okay. What's our strategy? I talked about

the two focus areas, and the one is not really a focus area, it's everything else, the other pathways, but in general the other pathways have the same characteristics in that they are not open all the time, they are open intermittently.

The primary area is and always will be the Chicago Area Waterway System. We have organized for success both internal to the Corps of Engineers and executive steering committee that includes the federal family members that are primarily involved with authorities and capabilities that may help us, and we have all kinds of stakeholders we're reaching out to both informally and formally through this public hearing scoping process.

We will cycle out interim products and reports as the information is mature enough to do so. If it's pure facts and we are confident that we've got our arm around the facts, then we'll send out a report and say here are the facts that the study ferreted out. If there's analysis required that's more complex and we can only put it out there once it's mature enough and we have confidence that the analysis is complete enough for public scrutiny and comment, but the point is we intend to do that incrementally. And we may recommend incremental approaches to this issue because we

recognize that the issue of aquatic species, especially Asian carp, is a really important one to both of these basins and has a dramatic impact, environmental, social and economic, on our livelihoods in this region that we know and love.

And then we'll adapt to all the situations and new information as it becomes available, and as I mentioned, there's a whole host of legal and regulatory requirements that we have to follow. So I've hit most of this already. I think what's interesting in this slide is the pictures because you think aquatic nuisance species, I thought fish. I'm not a fish biologist. No. It's a heck of a lot more complex than that. It's basically anything that operates and lives in the waterway. So, yes, it's mostly fish, but there's plants, there's insects, there's all kinds of things that could have a negative biological impact if they transferred from one basin to the other. It's the non-native stuff that we're focused on primarily. But the point is not necessarily non-native to the Great Lakes, but if it's in the Great Lakes native, it's indigenous and it's not indigenous to the Mississippi River basin, it applies. And the reverse applies also, native to the Mississippi River basin, not to the Great Lakes, it applies.

However, I would point out that about 4,000 years ago there was a waterway connection between today's Lake Michigan and the Illinois River. So there is an actual factual history of having some waterway connection but that's silted in over time.

Okay. Dave, do you want to talk about this slide first?

MR. WETHINGTON: Thank you, sir. I just want to spend a couple minutes today familiarizing you with the Chicago Area Waterway System, some of the complexities of the study. Again, my name is Dave Wethington. I'm the project manager for the overall GLMRIS project. And on the right-hand side of the slide you see a map of the Chicago area waterways.

There are five points along Lake Michigan numbered one through five at which waters of Lake Michigan and the waters of the Mississippi River basin have an opportunity to intermix, to interact with each other and those are the transfer points. You'll notice there are numbers, one, two, three, four, five, and there's also number six down there and basically what I want to point out is numbers one, two and six are what we call water control structures, whether they are pumping stations or a lock and dam, those are physical structures that can control the water flow between the

two basins.

If you look at four and five, which are wholly located within the state of Indiana the other three are in the state of Illinois, four and five are what we call uncontrolled. Basically it means there is no physical blockage between that those waterways -- no physical structures. And you can imagine the Chicago waterway system are kind of like the prongs on a fork. There are five prongs and they all flow into the one handle. The handle of the fork is basically the Chicago ship and sanitary canal. So all five of those points drain into the single connecting waterway.

If you look there's number seven. Number seven is where we have located the fish barrier. So that's why the fish barrier, the electronic barrier, is effective at controlling the spread of specifically Asian carp into the Great Lake system because it provides that choke point for all those waterways into the Great Lakes.

If you look on the left-hand side, basically this outlines the Corps of Engineers planning process that we are using for the interbasin study. Specifying problems and opportunities, that's what we're here doing today.

We put a team together. We're working with,

as General Peabody said, the federal family, non-federal state resource agencies, stakeholders and persons like yourself to see what are the problems, what are the potential opportunities for this study, what's important, what's significant, and just importantly, what may be not significant to the scope of this study.

From there we're going to inventory forecast conditions to basically develop a baseline. What is the status? What are the existing uses of the waterways? You might have heard a lot about commercial navigation and that's the main usage for the water. There are actually several other very important uses for the Chicago area waterways, those include but are not limited to recreation, industrial uses such as water supply, water discharge. The entire Chicagoland area has a wastewater treatment infrastructure that discharges into the Chicago Sanitary and Ship Canal.

About 70 to 80 percent of the total volume of the Chicago River is that industrial -- the local municipal wastewater discharge.

Another very, very important use of the Chicago area waterway is flood risk management. There are large storm events in the city of Chicago. It doesn't happen very often, maybe every couple years,

every five years. Usually storm waters flow into our system or we have excess storm water flowing into the Chicago Area Waterway System and be carried down toward the Mississippi River.

If we have a large enough storm events, we need to open up those locks at structure number two up there and allow water to backflow, so go the opposite direction from which it normally goes, into Lake Michigan to alleviate the pressure on the Chicago area sewer infrastructure. If that were not able to happen, you would have not only overbank flooding in the downtown area, you'd have enormous sewer backup throughout the Chicagoland area affecting millions of residents, businesses, industry, et cetera.

So once we collected all this information on what waterway uses are, then we have to look at what are the potential impacts of these controls that we are looking at for the study. So if you were to do hydrologic separation, for example, what are the impacts to water supply, water discharge, navigation, et cetera. So those are all the alternative evaluation processes that the interbasin study will look at as well as potentially lead to mitigate for any adverse impacts.

Again, as General Peabody mentioned several

times, we are collaborating with our state, federal and other regional agencies including Native American tribes, governmental and non-governmental organizations. With that, I'll turn it back to you, sir.

GENERAL PEABODY: Thank you very much. Other Pathways, as I talked about earlier, Mr. Mike Saffrin has been the lead for this and is most familiar with this and I will ask him to give comments on where we're at.

MR. SAFFRAN: Thank you, sir. It's a pleasure to be here today. I appreciate everybody that's come out to hear this and contribute your comments. The Other Pathways, when we started into the GLMRIS, a lot was known about the Chicago area waterways and the risk associated with Chicago sanitary and ship canal. Very little was known about other aquatic pathways and whether or not there was any risk associated with other pathways besides Chicago sanitary and ship canal. As General Peabody mentioned, there were some indications early last summer that there was a potential serious connection in the Fort Wayne area.

When he heard that, he basically tasked a division-led team to within 60 days produce a draft report that provided an inventory of all potential

aquatic pathways, a preliminary risk characterization to make sure if there was any significant risk especially associated with the interbasin transfer of Asian carp, that we identify those quickly because we made what's been described here as very significant investments in keeping the Chicago Sanitary and Ship Canal blocking the passage there. All those investments potentially could be compromised if it was around the flank, if you will, way for carp to get into the Great Lakes.

So anyway, that's where we started. As General Peabody mentioned, it's about a 1500-mile long basin divide there. It's a very subtle divide, very flat topography over a portion of that. So we knew there was a tremendous task that he challenged us with.

So first thing we did was say we need to get the best local experts to help us with that. And so there's eight districts of Corps of Engineers that are along that boundary. So we contacted hydraulics and hydrology folks in each of those eight districts. We also contacted the state DNR's, USGS, Fish and Wildlife. We got all of the stakeholder agencies that are in the region to help us get this done. And long story short, it worked very well.

We identified a total of 36 locations that

are shown along the divide up there. And again, as General Peabody said, one of those locations jumped out as really a very significant risk, which was Eagle Marsh. We actually found 18 locations that we thought the risks were significant or at least there was enough uncertainty in the risk that we needed to carry it forward and complete the risk characterization.

Eagle Marsh, I'll take a few minutes to briefly say what the conditions are there. General Peabody indicated when you have a significant rainfall event in the Maumee River basin, it's basically the headwaters of the Maumee are formed by two rivers, the St. Joseph River which drains from southern Michigan, southeast Michigan, towards Fort Wayne, and then the St. Mary's River which drains from central and western Ohio into up toward Fort Wayne. You have these two rivers that basically flow toward the west, one southwest and the other northwest, and they meet in the county of Fort Wayne.

When you have the largest storm you'd expect in any given year, those flood waters hit and water back flows across the basin divide into the Wabash River basin across Eagle Marsh. When you have a ten-year level event, the 2009 flood insurance study indicated that you have a four and a half foot depth of

water across the basin divide at that location.

When you couple that circumstance for the hydraulics with the fact that there's significant populations of Asian carp that have been observed in the Wabash River, which is the longest stretch of undammed river east of the Mississippi River, we knew we had a serious circumstance.

We held a meeting on site there in late July including all the stakeholder organizations I've already mentioned, the Indiana DNR stepped up and said we have the best ability to get this done quickly and in less than 60 days a temporary barrier was put across Eagle Marsh that is providing a barrier to prevent Asian carp from transferring across that location.

The Corp of Engineers is in the progress right now of completing a feasibility study for a more permanent solution. That's supposed to be completed this year. And last but on least on the other pathways is that we're in the process of developing a plan to complete the risk characterization at those other 17 locations. And that effort is also scheduled to be completed this year. Thank you, sir.

GENERAL PEABODY: Thank you, Mike, appreciate it. Okay. Almost done, folks. Just a handful of slides left. So what have we done to date? I'm not

going to go into details here. You can see on the left side, this tells you our timeline, how we've managed to develop the Program Management Plan because this is really called a program because it's so much more complex than a normal study project is. And that has been limited by funding available up until this year we had just $450,000 and we've got an infusion of GRI funds which has been decisive and has enabled us to move forward.

Simultaneously in addition to all the things I talked about relating to the Chicago Area Waterway System and the fish barrier which is part of this equation, we've done these specific things on the right related to the study itself. So this Asian carp literature review is a pretty thorough effort and we hope we get some input and criticisms from scientists and academia because there's probably stuff we haven't found that's out there.

We have a draft aquatic nuisance species white paper that we have developed in coordination the Fish and Wildlife Service to identify the species of concern and kind of hone those down to the ones that are the most concern that can have the most impact so we don't try to be perfect and get every little species that may have a marginal impact and really focus on the

ones with the major impact.

We've got the risk characterization report that Mike Saffran just talked to you about, Eagle Marsh. It sounds like a simple thing to put that fence up in Eagle Marsh, but you've got to get the real estate, you've got to get the permits, you've got to get the money and the authorities and it's not. And the fact that we could respond within a matter of about three months from the time we identified the problem to the time we finished the fence, maybe four months, it was pretty remarkable.

So the project schedule. This is an area I'm sure that you'll have questions about because everybody wants us to go faster, but the horse has a top speed and the top speed is limited by a number of factors. It's limited by funds available. It's limited by the complexity of the problem and the need to get to the right standards of qualitative knowledge and understanding of the situation and the options and technologies to deal with it and all the impacts those options and technologies may have.

As I indicated, the top line there kind of talks to you what Dave walked you through, which is the study process, the pieces, the phases. As we go along, we do intend to put out these interim reports. This is

very important. This is unusual for the Corps to do this in a systematic way. The only way I know that we've done it systematically prior to this was with the efficacy study related to the fish barrier. It's the only way we can get the solutions faster than waiting for the study to be complete at the end, which we don't want to do if we can get to some partial solutions sooner.

The Other Pathways follows a similar process timeline, is a little bit different. You can see the details of the timeline at the bottom. I'm not going to go into that. I do want to highlight though there's an asterisk at the bottom and most people tend to ignore the asterisk and focus on the 2015. The asterisk says this is the best case scenario timeline. Okay. So if pretty much everything goes exactly right and we don't have any huge surprises, we don't have funding difficulties, we don't have any major issues that have to cause additional investigation. We can get to 2015.

That's not satisfying to very many people. It's not satisfying to me quite frankly, but it is what it is and we really have to do this properly in order to come to proper judgments about the best way to approach this and not just jump the gun and go to some

solution that we may end up finding out later on if we had just thought about it with more discernment we may have chosen a different alternative.

I've already talked about this. There are some interim products that are published already that are out there. They are indicated on this slide. They are indicated on previous slides. One of the things we need to get at is the navigation study and surveys because the big concern that the Michiganders have and Wisconsin and other Great Lakes states is we've got to close the locks. Close the locks, that's the answer. Actually the fish barrier is the answer in my personal opinion and I'm very confident in that and if we close the locks we still have other pathways that are unhindered by major physical obstacles that will allow fish to migrate through.

We do have to understand, however, what the impact to navigation is of closing the locks, the impact to the water quality, impact to social activity, the uses of the waterways, and we need to understand the impact of the fisheries and the recreation on Lake Michigan and the other Great Lakes if Asian carp were to get in there.

Now, can we understand that to perfection? Probably not. The USGS is going to help us out in this

regard because they have some capabilities that the Corps just doesn't have. At least that's our plan and everything is subject to funding.

Well, what can you do for us? First of all, thanks for coming to this meeting. We really appreciate your interest. We really look forward to your input and we need you and we encourage you to stay engaged and there's some examples of social media and other techniques to stay engaged. Again, I'm not going to go through the list. You can read it, but there's a number of inputs that we need from other agencies to help accelerate this study or at least go as fast as we possibly can.

We can't do it alone. There's no way the Corps of Engineers is smart enough. There's no way we have enough capabilities. There's no way we have enough local knowledge. And that's where we really need the states to help us out, not just the states themselves, the local county resource experts, the local fishermen that have some local knowledge about how water flows in the areas. We need help from pretty much everyone that has a capability to apply to this study that we can use because this is just a massive, massive study. There is no simple way to get at this issue or single approach that's going to work on all 19 of the

identified high risk pathways that are out there, 19 includes the Chicago Waterway System.

We are at number seven, meeting number seven. Meeting number eight in Ann Arbor has been postponed until March 8th thanks to Mother Nature, we bow to her power. That is far beyond our control and we're going to get diverted here tomorrow to go do some emergency management support to FEMA for this winter storm because Indiana and Ohio in particular are going to get some ice and we're going to have some snow north of that line and the Corp of Engineers is FEMA's engineer. We do some power support for them and so forth.

You can see we're going all the way down to New Orleans with this effort. We added Milwaukee and New Orleans at the request of some stakeholders at previous meetings.

If you're into social media, our kids are, I'm not, some adults are, you can stay engaged that way. We're definitely on the web and I think we've got copies of the slides so you can take them home and you can punch them into your laptop and you can pull up the website or pull up the social media connection and get in there. Okay?

All right. Thanks for your time and attention. I'll turn it back over to you to mediate.

MR. ZABOROWSKI: Thank you, General. And before proceeding to the oral comment portion of this meeting, I'd like to reiterate the General's last comments that the GLMRIS website is a good source for study information. We update it constantly. Any products or documents, like all of our handouts here today, are available for download off of our website. Also you can, the Corps of Engineers has an e-mail list that you can sign up for there to get project updates.

Lastly I would like to reiterate because John Goss didn't make it here, if you would like more information on Asian carp efforts being conducted or interagency Asian carp efforts, please visit Asiancarp.org.

As the General mentioned at the beginning of the meeting, I think we're going to skip our more formal proceedings as far as giving oral comments. Normally we like to limit people to three minutes just to give everybody an opportunity to speak. I don't think we're going to have an issue with that today. So at this point in time I'm just going to call in order the people that came to the registration table. Before doing that, I would like to mention that we have a stenographer with us, so when you go come to the microphone, please first give us your first and last

name and if you wouldn't mind spelling your last name so that we can have that clear in our records, and then also give us your zip code. And then again, just speak slowly and clearly when you come to the microphone to give our stenographer a chance to keep up.

At this point in time I would like to call number one, which is Tim, and I apologize if I pronounce it wrong, Guilfoile.

MR. GUILFOILE: My Tim Guilfoile, G-U-I-L-F-O-I-L-E, and the zip is 41017.

I wanted to say first of all that I'm very pleased to be in the blue line because when I selected my shirt today I was hoping I would be and I appreciate that. Second is that I have absolutely no idea how to get back to the garage in which I'm parked. The University of Cincinnati is the most intimidating place I've ever been. It took me two and a half hours once I got to -- I'm kidding.

First of all, I want to thank you for coming to Cincinnati. I think it's unusual, but I'm really thankful that you did. So again thank you. My background is healthcare. I spent 30 year in healthcare, 22 at Children's Hospital Medical Center which is the largest Children's Hospital in the United States, first as a clinician and then as a researcher

and then as an administrator. So I do know something about how to design, first construct a hypothesis, design a research study, execute it and then implement the results.

And it's not as big as this, but I'm going to give you some other examples that are actually bigger. Now once retired I joined the Sierra Club's Water Sentinels Program. I'm the Deputy director. We train volunteers all over the country. We have 51 programs in 20 states, about 12,000 volunteers doing water quality monitoring, stream side assessment, grab samples for metals and bacteria and you name it, habitat assessment and biological assessment of invertebrates. And in addition I'm an avid fly fisher and I do fish tributaries to some of the Great Lakes. So I'm personally involved. I'm not an engineer. I'm not a hydrologist, so quite honestly I'm not going to make suggestions or be presumptuous enough to make suggestions about engineering stuff and stuff that is better addressed by a hydrologist.

I'm also not going to repeat the obvious. We all know what the consequences of this are, both in ecological terms and in economic terms. Nobody disagrees. So that said, what the hell do I have to say? Well what I have to say is what -- is it Colonel

or General?

GENERAL PEABODY: General. I was a Colonel once, you can call me that if you want.

MR. GUILFOILE: No, no, I don't want to be disrespectful. But what the General had to say about timing. And I feel very strongly about this. The timetable is completely and totally unacceptable. Believe me, I do understand that this is a really, really complicated problem. But we in the United States have faced actually far more complex problems, grabbed them by the neck, wrestled them to the ground and fixed them. Now my background is in medicine so the examples that I'm going to give you are medical. I'm not an engineer, and the first one has to do with polio.

The Salk vaccine, research began on it in 1952. Now remember. Salk didn't have mass spectrometers and genetic markers. He had test tubes, Bunsen burners and lab rats. And by 1955, three years, he had developed, tested and distributed the oral polio vaccine throughout the United States and he cut the rate of polio dramatically. However, this polio vaccine didn't fix it all. Right? Didn't fix the intestinal infection portion.

And so Dr. Sabin, right here in Cincinnati, Children's Hospital where I worked, he began his

testing in 1955 and by 1960 the drug, the vaccine, was being distributed throughout the United States. Now that's five years, but that's five years to discover, to test and to distribute the drug, and what we're talking about here is five years looks like minimally to do the study, right? And I guess we really don't have any idea how long it's going to take to implement the recommendations.

Now, I believe in research. I believe we have to, absolutely have to study the issue and I think to presume that we know the answer, whether it's a barrier or whether it's a hydrologic solution or an ecologic solution or a combination of some of those or all of those, we don't have the answer to it. Right? We don't. You know that better than I do. So we have to do the research, and I believe that with all my heart.

In 1982 the AIDS virus was characterized and by 1987 we had developed antiretroviral drugs. Right? We had developed them, tested them and they were in use in five years. We develop a brand new flu vaccine every single year and the first flu vaccine took about three years to develop. Now fine.

The human genome project, and there is no more complicated research study than this, I mean, I

think we all know that as well. And you talk about the 1500 miles that we have to deal with, you put those genes back to back, it's a hell of a lot longer than that.

Now, the federal government took ten years to complete the project at a cost of $3 billion. That's the human genome project conducted by the federal government, the Center of Disease Control, $3 billion, ten years. Celera Corporation, a private gene research company, did this on a parallel track. They developed, they completed the gene mapping in three years for $300 million.

Now, I know dealing in the federal government is much more complex and much more difficult, a lot more hurdles than in the private sector, but we have an opportunity here to take those barriers, grab them by the neck, wrestle them to the ground and fix them and get them out of the way. If you need help, as you said you might, I will bring to the table hundreds and hundreds of people at the front door of Geoff Davis our congressmen and I'll bet you in every congressional district that has any kind of connection to this project, they'll do the same damn thing. So don't take this personally, please.

GENERAL PEABODY: We don't.

MR. GUILFOILE: But I do feel very strongly that a five-year study timetable and then an implementation of who knows what is absolutely and completely and entirely unacceptable. And I will do, and I'm sure there's a hell of a lot of other people that will do anything that we can to speed it up. And I think we have lots and lots of examples where we as a nation have done things equally complicated and have done it in a much shorter period of time. So thank you very much. I appreciate the opportunity.

MR. ZABOROWSKI: Thank you, Mr. Guilfoile.

GENERAL PEABODY: Mr. Guilfoile, thanks very much. I appreciate your thankfulness that we came all the way to Cincinnati. I hate to tell you this, but my office is on the 10th floor of the Federal Building downtown so for a change I didn't have a very long trip. Now Dave came from Chicago, Mike came from Louisville, John came from downtown Cincinnati with me and some of our other staff came from other places also.

You know, your comment about the timeline is probably, I don't know if it's -- I don't have the data to prove this, but it's probably the most common concern and criticism that we receive. I appreciate the analogies to other major research challenges that

this country or specific individuals in this country have faced and overcome. You can come up with dozens and hundreds of them I'm sure, not just in the health arena but other scientific endeavors as well.

I say this with all respect, but I'm not sure that the analogy equates. Now I'm not a scientist. I'm an engineer, probably not even a very good one, I'm kind of a B student, and they hired me for this job though because of my leadership experience. And I just ask you to consider these thoughts, and that's really all they are is kind of thoughts, I don't think that the folks that, well, the federal government certainly had processes they had to follow when they did the human genome project, but Celera, is that a company that did it for a tenth of the cost?

MR. GUILFOILE: Yes.

GENERAL PEABODY: There are processes, legal requirements, that we must abide by. I learn to my chagrin every single day that there's some other legal issue that I was either not aware of or had not properly considered in approaching a variety of issues that further complicates my ability to deal with one issue or another.

In the case of this study, there are a host of laws we have to follow. The fundamental ones though

are several laws and policies that are derivative of those laws that tell us how to do a study. Okay? And we have to abide by the regulations just like we have to abide by the laws.

Now, here's the good news. The good news is the Corps of Engineers has recognized that our study process is, in your words, unacceptable. It's too complex, it's too bureaucratic, it's just too pedantic. It's takes too darn long. The chief of engineers has directed in his senior people in the civil works directorate, which is led by a Two-Star General, are coming to closure soon and I think in the next couple months; is that right, John, on the planning study, where we're trying to come up with an ability to get a simple study done in 18 months.

Now, this is not a simple study, but we recognize that we've kind of made this more difficult on ourselves in some cases than we need to. Now all of the processes that we follow were added over about a 40-year period one at a time and each for a very good reason but collectively when you put it all together it's cumbersome. So that's the good news.

And we have suggested that this particular study may be an appropriate pilot to look at this. It may not fit actually because it is so complex, but

whatever comes out of the new study guidelines we intend to apply as aggressively as we can to abbreviate the timeline to every degree possible.

Now the problem with this particular issue as compared to the human genome project or polio and the other, I'm missing something, I think there was another example you cited, is that we also have to address the consequences of the alternatives, and that's why I say I'm not sure that the examples are entirely analogous. And I don't mean this as a criticism, but polio was very difficult thing to understand but it's clearly bounded, fix polio. We have to consider economic consequences to navigations, to fisheries, to recreation users, to water supply, to the industrial uses, all the folks that Dave kind of outlined when he was talking about it, social consequences, environmental consequences. And each one of these issues in and of itself is not necessarily that hard, but when you put them together and you have to balance them, it can be difficult to understand. Let me give you an example.

There is a study that Dr. Mark Pegg has conducted, I think he published it in 2008, that hypothesizes that it's unlikely that Asian carp are going to be able to get into Lake Michigan and develop

a sustainable population because in his study he indicates that there's what amounts to a toxic zone or a plankton dead zone in the near shore area of Lake Michigan, that they would have to swim through and get to sources of other foods to be able to, you know, thrive to survive and multiply. I have no idea whether it's true or not.

The point is that's the only study that I'm aware of that specifically addresses the specific environmental aspects of Lake Michigan and whether Asian carp could survive or not. All the other information that I'm aware of, at least to this date, is essentially drawing conclusions from general information about the kinds of climates that Asian carp can survive in. There's no doubt they can survive in the Great Lakes climate. Is there any other studies I'm not aware of not aware of that you've found, Dave?

MR. WETHINGTON: No.

GENERAL PEABODY: We have to understand that in order to understand whether it's appropriate, you know, to close the locks as one of the alternatives as an example. So because there's a whole range of options and technologies that we have to look at, it's not a single, it's not a well-bounded problem I guess is the way I would characterize it. It's not -- it is

bounded, that's a good thing, but it's pretty complex in our minds.

I'm not sure if I'm answering your concern appropriately, but I will tell you this, we are committed, Mr. Guilfoile, to execute this study as fast as we can. We clearly understand the public's concern related to the timeline. We'd like to go faster as well, but we also have a host of policy requirements that must be met. We have qualitative information requirements that must be met. They are all in the public interest and we will be limited by funds. I don't expect we're going to get $300 million much less $3 billion to fund the study. We do expect we'll be funded to -- we hope we'll be funded to a reasonably robust degree. We don't expect to be funded to our full capability.

MR. GUILFOILE: I'll note I've got to leave right after this, don't take that personally either, no disrespect intended. Just wanted to point out two things. Number one, I also appreciate the fact that it appears as if you're taking interim steps pretty quickly. I mean, you're responding, and I think that's great and I appreciate it and thank you. Finally, I think that the development of drugs and other medical breakthroughs have almost all of the ramifications that

you've described in terms of complexity. More importantly, it involves human life. It's a life or death situation.

So as far as I'm concerned, I mean, this is really important and it will kill economics and it will kill the ecology, but it's likely not to kill any person and if you screw up on the things that I've articulated, people will die. So that's it. So just let's not minimize that.

Again, I apologize I have to go and I apologize I can't listen to anybody else, but I really do -- it's likely to take me three hours to find my parking spot.

GENERAL PEABODY: Thank you, sir. We appreciate your input.

MR. ZABOROWSKI: Thank you, Mr. Guilfoile. At this point I'd like to invite Michael Toombs to the microphone.

MR. TOOMBS: I'm Michael Toombs, T-O-O-M-B-S, and my zip is 45230.

Although I lived here in Cincinnati, I'm a board member of a cottage association on the northernmost edge of Lake Huron. Almost 70 percent of our members are residents of the U.S. I come to speak to those Americans and the rest of Americans about the

Great Lakes and the Asian carp problem which is an American problem to fix.

There's a sense afoot these days that the Americans are dragging their feet. After 30 years of trying to stop them, now they want to do five more years of study. The carp are getting in. They achieve sufficient numbers. As global warming progresses they will devastate the Great Lakes in a generation. They must be stopped now and permanently prevented from ever getting in.

According to the newest environmental DNA data coming from the University of Notre Dame, it is now indisputable that some Asian carp are already getting into the Great Lakes of Chicago. When there are enough of them and they begin establishing reproducing populations, they will spread over the entire Great Lakes, its shallows, tributary rivers and waterways like McGregor Bay and strangle them of their native fish stocks. The only solution is to close all of the rivers and canals in the Chicago area and return their flows to their original watersheds so that in the end besides protecting the Great Lakes watershed we also protect the Mississippi and its watershed.

Given that the problem is on the American soil and while its resolution will affect the entire

Canadian heartland, it's our problem to solve and the only solution before global warming really gains a toehold in North America is to permanently separate the two watersheds at the Chicago crest the way it used to be before the white man came.

Except for the commercial interests of a handful of barging companies and local tourist industries and marina owners in the Chicago area, though not to be denied compensation, we must first stop the carp from getting into the Great Lakes now, even if it means closing the locks of the Chicago river. The Great Lakes belong to all of us not just a few.

While we in McGregor Bay are about as far away as one can get, we urge bay Americans and all Americans to contact their Congress people, their president, the governors, the Army Corps of Engineers, and the USEPA to urge them to do everything they can to stop the carp now and remake the Chicago crest. The Great Lakes don't belong just to the Canadians, they belong to Americans too, and we should do more of our fair share in taking responsibility for them.

When most folks dream of their time in McGregor Bay they see the trees, the rocks, the sky, the sun and the water. Of all of these it is the water

that is primary. It is its spiritual center. Of all of these it is transportation, it is recreation and sport. It is what separates us gladly from our neighbors. It reflects the morning sun. It grows flat and hard at noon and softens to misty tints in the gloom of evening light. It can bristle with white caps under the pressure of the wind and lay flat and fallow seeming in sheltered bays, its surface broken only by Terns and Ospreys spiking from above. Though only a few dare drink it straight, it fills our sinks and washes our clothes and cooks our pasta but except for a very few among us who angle in our dreams, what lies below its implacable surface is unknown. As long as it doesn't threaten what's above, under water is the deepest mystery to most. Since we have no gills to speak of, what's below is a world separate where curiosity and reflection stop. But what lurks there is the heart of the Great Lakes, and the ecology of its littoral is entirely dependent upon its diversity.

As global warming inexorably pushes north and the waters of the upper Great Lakes are drained away, if the Asian carp ascends to the top of the food chain, in a generation the Great Lakes watershed is said to become Planet Earth's newest dead zone. While most none anglers will never note its decline, its

ecological decay will haunt our nightmares.

The most recent pieces in the New Yorker and on National Public Radio here in the states serve only to remind us of how helpless we are so far to stop it. If we don't stop the Asian carp at Chicago now, in the future McGregor Bay will be our own personal reminder of how vast and arrogant is the hand of man who uncomprehendingly turns the entirety of nature to the interest of commercial enterprise unto eternity. When we are gone, our children's children's children see what we have not done to stop it, may we hope for their forgiveness. Thank you.

MR. ZABOROWSKI: Thank you, Mr. Toombs.

GENERAL PEABODY: Mr. Toombs, if I could comment, that's one of the most powerful statements I've heard. Are you a writer?

MR. TOOMBS: Yes.

GENERAL PEABODY: I figured as much. I appreciate your concern. I grew up on the shores or near the shores of Lake Erie actually. And I remember as a kid going to Nickle Beach here in Ohio, not Lake Huron. And when I ate my lunch, I had to hold my nose because of the stench of the dead fish that lined the beach. And I remember very clearly the front pages of the Cleveland Dealer, the Cleveland Plain Dealer I

think in July of 1969 when the Cuyahoga River caught fire.

So I share your emotional attachment to the Great Lakes and I personally am committed to doing everything we can within our power to prevent not just Asian carp from getting into Lake Michigan but to follow the study authority and prevent the spread of aquatic species into either of the basins. There's already great damage done down in the Mississippi now because of the Zebra mussels that got into the Mississippi River basin, whether through the Chicago Area Waterway System or other means, we're not sure.

I'd like to make a couple of comments if I may and if you have questions, I'd be happy to answer them. In your statement you indicated that we need to close the rivers and the canals in the Chicago Area Waterway System. We will certainly study that as part of the alternatives and options and technologies available. We have to though understand what the impacts are to doing that. And that's under law. We have to balance those impacts and make recommendations, and fundamentally it will be up to the administration and the Congress talking to each other to determine, you know, what they want to do.

Some of the impacts that we know about though

that are of serious concern not just to the navigation or the recreation or the tourism industry that uses the passenger vessels that uses the Chicago Area Waterway System, firefighters from Chicago pass through the Chicago lock on a frequent basis, police boats do as well. So there's a safety and security aspect to that, Department of Homeland Security uses that system.

The concern that I as an engineer am most concerned about is the flooding impact that could happen because it's a very flat area. So on a frequent basis when we get heavy rains, we have to backflow water and it would happen naturally if there were no locks there from the Chicago Area Waterway System from moving south and it backflowed going north into Lake Michigan. And it happened most recently in August of this past year when we had a massive rain event in the Chicago area.

The locks are not something that we operate under our own authority. They are operated under several different statutory authorities that have been developed by the Congress for primarily the purposes of navigation, water diversion and flood control and also water quality, and we have to follow the law as we understand the law. Now that case was is under litigation now. People are familiar with the judgment

that's been rendered thus far and I'm not going to comment on the litigation, but so far our judgment as to our ability to operate that lock has been upheld by the courts.

If you have any questions, sir, I'd be happy to follow-up on any specific questions. Thanks for attending, sir.

MR. ZABOROWSKI: Next I'd like to invite Mr. Josh Lillard up to the microphone.

MR. LILLARD: Josh Lillard, L-I-L-L-A-R-D, 41048. I'd like to thank you guys for coming out here and talking to us today. It's been a real pleasure to listen to what you've said. I'm here on behalf of the Northern Kentucky Fly Fishers. I'm the president of that organization. And we as a club strongly believe that the timeline is too long as well. I'm not here to tell you guys how to do your job, but if my boss told me that, he would -- that timeline wouldn't be acceptable. I'm not a biologist. I'm not a scientist. I'm just an avid fisherman and a fly fisherman at that. And I've probably fished nearly every river that exits Lake Erie and Lake Michigan for salmon, steel head trout, small mouth bass, during my 33 years, and we just ask that you do everything that you can to prevent Asian carp from inhabiting the Great Lakes and beyond that, to get

rid of Asian carp from the United States. I have no further comments. Thank you.

MR. ZABOROWSKI: Thank you. At this point in time we have invited everybody that indicated that they wished to make a comment to the microphone. Is there anybody else in the audience that would like to come up and make a comment to the panel or ask a question to the panel? Please, sir, I just ask when you approached the microphone that you give your name.

MR. TIMMERMAN: My name is Raymond J. Timmerman. I'm kind of a visitor. I was attending a class over just across the way and saw your table and said can I come? Because I belong to the Sierra club, I'm probably the oldest member around.

MR. ZABOROWSKI: Can I ask you to state your full name.

MR. TIMMERMAN: Beg pardon. Raymond J. Timmerman, T-I-M-M-E-R-M-A-N. I live in Fort Thomas, Kentucky, 41075, and I'm a retired physician. I know Dr. Guilfoile slightly, but not that well and I know he's a member of our club, but I didn't know that until today, but I just thought about this as I sat there and it's been my impression over my years that it's very hard to get rid of everything that appears. You've got a job. We have a lot of native species in the United

States that used to be foreign species, they were the fish of maybe my day or before that appeared in the United States. There's several trout species. There are a number of other creatures and animals and what have you that are here.

What I wanted to say is I don't know what the experience has been with these Asian carp and the mussels and I wonder if this has been studied by anyone of significance. The Chinese I would guess know something about Asian carp. I guess that's where they are from, and they just finished a huge dam system and they must have thought about it and they must have been concerned with it.

Now I don't know about the other way over in Europe or the other creatures, but I suspect they too have been known about and there are many people aggravated with them and perhaps there have been problems that they have been able to solve, and I just propose that this information. If it's not known be known before we decide on any course. I heard a lot of very diffuse talks. The talks I heard were very good. I thought that we're talking more about mechanical problems if, in fact, engineering, then we're talking about the creatures themselves. What do you do with the darn things? But that's enough for me. Thank you

very much for allowing me to speak.

MR. ZABOROWSKI: Thank you, sir.

MR. WETHINGTON: Thank you again for coming by today and sharing your thoughts with us. There have been others who have study Asian carp and part of the literature review that General Peabody spoke to that we have compiled does include information from other countries, other folks. One of the people on our team actually did her Master's work looking at Asian carp, the life profile, et cetera. So we are incorporating all information that's available to us as part of the Asian carp study.

But again what you mentioned that is really critical is this is -- it is kind of an engineering study. We're not looking at necessarily what the Asian carp themselves may or may not do but looking at the potential options or controls that could be implemented to prevent the transfer of Asian carp and other aquatic nuisance species from between the Great Lakes and Mississippi River basin. So as you did state, we are looking at the engineering type solutions on how to prevent the transfer and not necessarily going about the what-if scenarios. Thank you for coming today and I appreciate your thoughts.

MR. ZABOROWSKI: Thank you. Sir. Please,

come to the microphone.

MR. BETTS: Could I ask a specific question about the carp itself? I don't know whether that's in your --

MR. ZABOROWSKI: Sure. We'll answer it if we can.

MR. BETTS: My name is Andy Betts, B-E-T-T-S, zip code 45243. Although my family does own a cottage just north of the fourth S in Mississippi, about 45 minutes north of where you guys were a couple days ago I believe.

I was listening to an NPR program, it might have been science Friday, and there was an expert on or someone who was purported to be an expert and he essentially shrugged off the question of carp in the Great Lakes or the problem because he said, well, the Asian carp are a warm water fish, this is cold water. And then that was pretty much all there was.

So my question is, well first of all, I think if that was absolutely the case we wouldn't be here right now. But my question is how does temperature affect these fish? Are the shallows of Lake Erie going to be more susceptable to them than Lake Superior, et cetera?

GENERAL PEABODY: That's a great question. I

appreciate it. I am not a fish expert, but I've spent a lot of time talking to people both in the USGS and the fish and wildlife and some of our Corps employees are fish biologists as we and, Dave, I'd like you to follow up on this, but here is what they've told me.

First of all, if you look at the latitude of where these fish are native, it corresponds in Asia and it corresponds with the Great Lakes. So in general you have the same kind of temperate climate in Asia that these fish are native to as you do in the United States. One other comment I will make, I don't know what this means, but we have -- we know for sure that these fish are producing what you call biological combinations with each other. So they are not necessarily pure silver, Asian silver carp and the big head carp any more necessarily. They are mutations. So we found that. I have no idea what that means to their survivability to climatic conditions.

The second thing they told me is assuming Dr. Pegg is wrong and there is no plankton dead zone or at least it's not sufficient impact to prevent them from establishing themselves so at least migrating through the dead zone and surviving in Lake Michigan, the area that they are likely to establish themselves in is the near shore area and the tributaries and near shore,

because they are a riverine fish, that's their native habitat.

The other thing is they respond, their mating habits respond to water velocity. So in general in the springtime in Asia when you have increased water flows, that triggers whatever in these fish to spawn and procreate. Okay? So I'm also told that they need at least 60 miles or kilometers? I forget the exact distance, but they need a fairly substantial length of riverine habitat in which to spawn.

So while they are clearly prolific eaters, and one of the species, I forget which one, has no stomach and has to basically eat constantly and they can grow to huge sizes over 100 pounds and they have been shown to crowd out much of the native habitat in portions of the Mississippi basin. There are susceptibilities or unique characteristics that may make them susceptible to their ability to survive in the Great Lakes.

The way they would probably affect the Great Lakes is by consuming the plankton, vital plankton and zoo plankton, basically consuming the bottom of the food chain and algae in the near shore area. How that would affect the fisheries of the lakes themselves, the deep water fish, I have no idea. Again. This is why

we've asked the USGS to help us with the study of these specific issues so that we have as great a clarity as we can get without actually putting the fish in the lake, and nobody wants to do that. Does that answer your question, sir?

MR. BETTS: Not really.

GENERAL PEABODY: I'll pass it to Dave.

MR. BETTS: But it was useful to hear.

MR. WETHINGTON: Unfortunately I'm going to have the same, as well I'm not a fish expert, Asian carp expert, so I'm probably not going to tell you a whole lot new, but I will tell you that this issue is being cited by the ecologic survey as well as the Canadian natural resource agency that just recently kicked off a detailed risk assessment on looking at the survivability of the Great Lakes in the Lake Michigan and Great Lakes watersheds. So the Canadians are looking at this. Specifically they are looking at within the next year or so to finalize that risk assessment.

And again, you know, what General Peabody said and what a lot of the experts have said is basically you can argue it either direction. The same renowned expert in Asian carp could make arguments as to why Asian carp could and the similar could not

survive in the Great Lakes. We at this point in time don't know. We're trying to find out and do risk assessments to evaluate that to the best potential. We may never know, but at this point in time there are dedicated scientists in both scores looking into answering this question for the best of our abilities.

MR. BETTS: So my best bet would be to wait for the Canadian group to issue their report?

GENERAL PEABODY: Depends on what it says. I think the take-away that I have is, yes, they can survive. It is possible. In fact, some would say it is not only likely but probable. Again, Dr. Pegg, there's one study out there that talks about the near shore area and plankton dead zone, I don't know if it's one of the areas we want the USGS to look at. Some people say it's true, plankton dead zone area, but these fish can travel a long way, so maybe they can get to it. Again I'm not an expert.

Could they survive in the Great Lakes? I think the answer is definitely yes. There are limitations to their ability to procreate because of a need for riverine habitat. There's little doubt that the fish experts believe that they would have a negative, unbalanced negative impact at least in the near shore area in the riverine area, the streams and

tributaries that flow into any portion of the Great Lakes that they would migrate toward.

So it's definitely a possibility. In fact, most people I think thinks it's a likelihood, but we don't have any definitive studies to give us the qualitative information that we require in order to have some really informed, make some informed judgments on this issue. We just need more information and that's part of what this process will do. I hope that satisfies.

MR. BETTS: Thank you.

GENERAL PEABODY: Thank you, sir.

MR. ZABOROWSKI: Again, at this point in time if there's anybody that would like to come to the panel and ask a question or make any additional comments, we invite you to do so now.

So seeing no hands go up, it is now 3:53 p.m. and we will close the oral comment period for this first session. Is there anyone on the panel that would like to make any additional comments?

GENERAL PEABODY: John?

MR. ZIMMERMAN: No.

GENERAL PEABODY: The last comment I would say is we'll stay here for as long as people would like to chat with you informally. Again, it won't be part of

the formal scoping hearing process, but we'd be delighted to engage with you on anything that's of interest to you.

MR. ZABOROWSKI: And as the General has stated, the panel will be available for informal questions and answers, but please note that because it is not going to be included in the formal oral comment period, we will not be able to include your comments in our NEPA scoping process.

And again just to remind you, please stay involved. Our GLMRIS business cards and some of our other handouts today have our website, Facebook, Twitter, how to mail in any information. And last note that the NEPA scoping comment period ends on March 31st. Thank you very much for coming today and we appreciate your input and time.

(Concluded at 3:53 p.m.)

C E R T I F I C A T E

I, Lisa K. Keller, a Registered Professional Reporter, do hereby certify that the foregoing is a full, true and correct transcript of my notes taken in the above-styled case and thereafter transcribed by me.

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Lisa K. Keller, RMR

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GLMRIS

GREAT LAKES AND MISSISSIPPI RIVER INTERBASIN STUDY

PUBLIC HEARING

FEBRUARY 1, 2011

5:30 P.M.

UNIVERSITY OF CINCINNATI

TANGEMAN UNIVERSITY CENTER

2766 UC MAIN STREET

CINCINNATI, OHIO

A P P E A R A N C E S

PANEL:

GENERAL JOHN PEABODY

MR. DAVE WETHINGTON, III

MR. MIKE SAFFRAN

MR. JOHN ZIMMERMAN

List of Speakers:

P R O C E E D I N G S

MR. ZABOROWSKI: Welcome to the Great Lakes and Mississippi River Interbasin Study or GLMRIS, NEPA public scoping meeting. My name is Kendall Zaborowski. I'm from the Chicago District of U.S. Army Corps of Engineers and I'll be moderating tonight's meeting.

Before beginning the presentations I would like to tell everyone that the bathrooms are located just if you hang a right, pass the tables and then the first hallway on the left if you need to use the restrooms.

Now I'd like to introduce tonight's panel. To my left we have Major General John Peabody. He's the commander of the Great Lakes and Ohio River Division of the U.S. Army Corps of Engineers. Next to him is Dave Wethington, the GLMRIS project manager. Then we have Mike Saffran, the Other Pathways project manager. And finally John Zimmerman, the chief of planning and policies for the Great Lakes and Ohio River Division.

When you arrived today the following materials were available at the welcome and registration tables. We have the GLMRIS business card which has ways to stay in touch or stay informed about the study. We have the tri-fold brochure which is

basic information about the study and its goals. Then there's the green meeting agenda which outlines our course of action for tonight. Then we have the white written comment forms which has space for you to write any comments that you may have and instructions on mailing any comments. Please note that the NEPA scoping period ends on March 31st of this year and any comments that you wished to be considered in our scoping period need to be submitted to us by that date.

Then we have this purple sheet which is frequently asked questions about the study that we'll be discussing tonight. We have this peach sheet which is frequently asked questions about other aquatic nuisance species efforts that the Corp of Engineers is undertaking or involved in. And lastly in that packet of information is a copy of tonight's presentation. You would have also received a light blue booklet which is detailed information on GLMRIS.

I forgot to mention when I was introducing the panel that normally we have a representative from the White House Counsel of Environmental Quality. Tonight it was supposed to be Mr. John Goss who is the Asian Carp Director for the White House, and due to the weather he was unable to make it. So General Peabody will try to do his best to give Mr. Goss's

presentation.

GENERAL PEABODY: Ringing endorsement there.

MR. ZABOROWSKI: I would like to mention that if you registered online to speak at today's meeting and have not checked in at the registration table, please do so. Similarly, if you did not register online but would like to make a comment tonight, please go to the register-to-speak table. In either case we would ask you to look at this yellow form for people that registered online, we need your privacy statement consent. And then for anybody else we would just need you to fill out the form.

And continuing on that line, if you have any prepared statements that you would like to leave with us tonight, if you would just grab one of these light blue forms. Again they can be found at the registration table and fill that out and leave your statement with us and we will ensure that it is included in our NEPA scoping documents.

Our GLMRIS team has organized this public meeting to accomplish two goals. First is to present information about the study and second, to solicit your comments on what you feel to be significant issues that should be included in further study and similarly the insignificant issues that could be eliminated in

further studies.

The Corp of Engineers is hosting 12 public meetings such as this within the study area in an effort to provide people that live within the study area an opportunity to learn about the study and to give us their input and their comments. And again, please note that the NEPA public scoping period ends on March 31st of this year.

Now as indicated on the green agenda, this is the second session of today's meeting. A brief presentation will be given after I'm done here and then following that we will open up the floor to oral comments or questions for the panel. Seeing as how the crowd is not very great, we will forego our normal more formal process and turn it to more of an open question and answer session. I would like to note that we are scheduled to end at 8:00 p.m. If you have any questions or concerns during the presentation. Please find somebody with a red lanyard and we'll try our best to help you out.

At this point in time I would like to turn it over to General Peabody. He will begin the presentation portion of this.

GENERAL PEABODY: That is to the best of my ability. Thanks, Kendall. That's good. First of all,

I really want to thank people for braving the weather and coming out tonight /we're supposed to get up to a tenth of an inch of ice I guess, especially in the north and west area of Cincinnati, so if anybody is going that direction particularly, take care leaving tonight but take care regardless. As important as this is, it's not worth anybody getting hurt.

The primary purpose of this session is really to do a scoping meeting in accordance with the National Environmental Policy Act for the Great Lakes and Mississippi River Interbasin study. But we typically, as Kendall indicated, have had Mr. John Goss the Asian Carp Director from the Counsel of Environmental Quality attend these sessions because much of the public's interest related to this issue has been focused on Asian carp. So I'll briefly, as briefly as I can, go over a few key aspects of where we're at with the Asian carp efforts and then we'll get into the Great Lakes and Mississippi River Interbasin Study, for short we call GLMRIS, is the acronym.

We've actually gone through three iterations of the control strategy to deal with Asian carp coming up the Illinois waterway system and without going into a great deal of the history of it, this kind of exploded very rapidly over a few short months in the

summer and fall timeframe of 2009, and as a result, the federal agencies have really been working together very cooperatively and very closely to deal with this issue.

The federal agencies that are the key agencies that have capabilities and authorities to respond to this situation include obviously U.S. Army Corps of Engineers which operates the fish barrier and has other authorities related to the Chicago Area Waterway System, specifically the locks but some others as well, the Environmental Protection Agency which includes Mr. Cameron Davis. He's the special advisor for Great Lakes issues to the administrator of EPA, and Mr. Bill Bolen who is one of the professionals at EPA Region 5 in Chicago, the U.S. Coast Guard currently led by Admiral Mike Parks out of Cleveland, Ohio, and they have an office, a Coast Guard captain on Lake Michigan that handles the Chicago area system. Mr. Charlie Wooley is the deputy administrator for Fish and Wildlife Service region out of Milwaukee, Wisconsin, and I've got the lead for the Corps of Engineering aspects overall but Vincent Quarles, Mr. Dave Wethington's boss in Chicago, the Chicago District commander and he's really leading the vast majority of the detailed efforts on the ground.

And then we also have Mr. Leon Carl from the

U.S. Geological Survey who is supporting a lot of the research efforts that we're doing. Jim Bredin who is also on that chart works for John Goss. He's on loan from Michigan Department of Natural Resources supporting Mr. Goss directly. In addition we have the regional coordinating committee which includes all the other agencies listed there, Great Lakes Fisheries Commission, NOAA, Department of Transportation. They largely have an advisory capacity plus all the states that have, the Great Lakes states that have an interest in this, plus the City of Chicago and the MWRD stands for the Metropolitan Water Reclamation District, that's the district that manages the water flow in the Chicago Area Waterway System. So we've been working in a collaborative fashion together kind of ad hoc in 2009. Became more formalized late 2009, early 2010, to deal with this issue.

In addition, Dr. Phil Moy who is with Sea Grant, Wisconsin came to us and said we'd like to form this non-federal technical policy group to consult with you and provide advice. So Mr. Goss agreed to do that. You can see all the kinds of capabilities and specialists that are associated on this team, scientists, industry academia, tribal interests, recreational interests, passenger vessels, navigation

interests and so forth.

Okay. What have we done? Some of the key things we've done in 2010. First and foremost, the star on that chart and the blowup above it which kind of shows you how the barrier system is laid out geographically from north to south, you have Barrier I which is the demonstration barrier, and that has an upper limit on its operating capabilities. And then Barrier IIA and IIB, both of which are operable right now. IIA is in operation and IIB we're finishing testing on. We'll bring that online in about a month or so. That's where it is.

The fish barrier has been constructed to prevent invasive species or any fish for that matter from transitioning between the two basins. Now the fish barrier was originally built not for Asian carp but for the round goby. Unfortunately by the time we got funding to execute the demonstration barrier, the round goby had been found to transition south of the fish barrier. I don't have any information on numbers related to the round goby.

You can see the red squares indicate other physical barriers to migratory passage in the Chicagoland area. They include the locks and dams below the fish barrier and then the Hoffman Dam, the

Wilmette Pumping Station, the Chicago Lock and Dam, and the O'Brien Lock and Dam in Chicago and south of Chicago.

I want to point out that there's two waterways to the lower right of the O'Brien Lock, which is the lower right red square and that is the Little Calumet River and the Grand Calumet River. Those pathways are effectively unobstructed. There's a small weir in the Grand Calumet, but they are effectively unobstructed pathways that fish can currently migrate between Lake Michigan and the Chicago Area Waterway System.

Okay. What have we done? Very simply, we've built a demonstration barrier. Based on information we gathered from that, we improved and put into operation Barrier IIA and increased the operating parameters of Barrier IIA which allows us to operate along a range of electrical parameters and we can adjust those and we're operating those now currently based on the best laboratory information indicating what's most effective against Asian carp because that's the species of greatest concern today.

We'll continue to research and adjust those parameters as science dictates and indicates, but right now we're operating on that information and we're very

confident that we have it about right. We don't know that we have it perfectly because we need to do some more research. That will follow.

Barrier IIB has been constructed well over a year ahead of time. It probably would have taken two years to construct under normal funding patterns, but when we got the evidence, the environmental DNA evidence, that Asian carp were closer than previously thought, within a matter of two or three weeks we went to the administration and requested additional American Recovery and Reinvestment Act funding that has allowed us to accelerate the design and construction process for that barrier. So without the stimulus funding being available, we would not have been able to do that.

Originally it would have gone into operation sometime probably FY12, maybe FY13. Now we're putting it in early operation FY11. It should be operational in about a month. That's important because that gives us the capability to have redundancy if something were to happen to one of the two primary barrier systems.

The other thing we did this year in 2010 is we produced four studies, interim reports, as part of a larger study called the efficacy study that allows us to look at whether the fish barrier is effective or

not. It's authorized and funded by Congress. The first report, interim one, allowed us to build a 13-mile barrier to flood waters that are able to pass between the Des Plaines River and the sanitary and ship canal when you have high water. And that's a problem because the fish, if you look below the barrier right above Lockport lock and dam, you can see the Des Plaines River enters the sanitary and ship canal right below there. So fish can get in the Des Plaines River, swim past the barrier in the Des Plaines River and then in a flood event spill over in the sanitary and ship canal. They no longer can do that because this barrier we completed in October.

The second thing we did is we looked at starting in January and we completed the report I believe in June, it was approved in June, we studied whether or not it is possible to change the way we operate the infrastructure that's in the Chicago Area Waterway System now. So today, for example, we looked at Wilmette pumping station and the metropolitan water reclamation district looked at how they could change that to minimize the chance that fish could swim through the pumping station.

We looked at outfall canals and we considered whether we're going to modify the outfall canals from

sewage disposal to modify the water quality. Can't do it because of the Clean Water Act, but we looked at it as a way to impede fish from moving in the area.

We also looked at modifying the way we operate the locks and under the notion that if we change the frequency, we'll change the probability the fish might move through. We put that before a panel of fish biologists from a variety of agencies and the panel concluded that effectively no, you're not really going to change the probability by changing the way you modify the locks. So we can't take action if it's not going to be effective, so we were not able to do that either.

The fourth report that -- the third report that we executed was a report that looked at a technology that allows us to put bubbles and lights and sound in the water that would deter fish. It's a rather expensive technology. Our initial indicators were that it would be relatively off-the-shelf and inexpensive. That turned out not to be the case. So pending finding, that may or may not happen as another deterrent and another reinforcement in the system.

Finally we've done a fair amount of laboratory research on what the most effective parameters are to deter Asian carp or to prevent them

from moving through the fish barrier. That report is not complete, but we've applied that information as it becomes available. Now there's a host of other things that some of our partner agencies have done and I'll discuss those as we go through here.

What you see here is a picture of a fence, kind of a standard chain link fence but it's in a key location. It's in Eagle Marsh in Indiana near Fort Wayne and this marsh is a point where we can get fairly high water on a fairly frequent basis that would allow when the waters in this marsh, it doesn't look like much of a marsh in the photograph, but it frequently is covered in water and several feet of water not infrequently, allows a transition point for any fish to migrate either between Lake Erie through the Maumee River and the Wabash River basin or vice-versa and because we found some Asian carp, the Indiana DNR found some Asian carp spawning near that area about 25 miles south of that area in the summer of 2010, we immediately worked to take action in this regard. And you can see what we've done there today. So it's a temporary measure. It's imperfect, but it would prevent any adult fish from swimming through that location. And this star on the map here indicates the approximate geographic location of where that is on the

map.

Now the other thing we've done this year is we've investigated, done the initial investigation of what we call the other pathways. Other pathways being all those pathways outside of the Chicago Area Waterway System. And you can see all the numbered points here, those are indicated in the 18, including the star in Eagle Marsh, the 18 points we've identified there at significant risk of a water event occurring that would open up a pathway between the two basins. There's actually a grand total of 36 locations that we found. So literally half of them are consequential enough that we think we need to investigate further and take more steps to deal with that.

We're working with the local DNR's for all the states to prosecute this investigation further. We've got an excellent baseline and we know with a good degree of fidelity where the locations are. Now we need to get to the specific issues of what to do about each of those locations and we have more research to do to indicate what the real risk is. For example, some of these locations there's dammed streams and rivers that fish would have to go through or bypass. We need to understand whether it's actually physically possible to for fish to bypass those dams.

You see here some photographs of some hardy souls from the Illinois Department of Natural Resources and Fish and Wildlife Service doing some fish netting for Asian carp in the Chicago Area Waterway System. These photos actually were taken about this time last year and we really intensified our fishing efforts in the Chicago Area Waterway System to try to confirm what the environmental DNA indicated that there might be life Asian carp present.

So far, as is widely known, we have found only one Asian carp in the, what was the name of the lake, the Calumet Lake, just north of the O'Brien lock and dam in late June of 2010. And this is out of tens of thousands of fish that have been captured or killed and hundreds of thousands of pounds of fish that have been captured or killed.

So the Asian carp strategy is a living document. We update it as situations warrant. The latest version is December 2010. If you'd like to read it you can go to Asiancarp.org and download it. There are currently 48 separate actions that all the agencies are taking to deal with this issue, and the Corp of Engineers has 12 or 15 -- how many do we have specific in the framework? Do you know, Ernie?

UNIDENTIFIED SPEAKER: 12.

GENERAL PEABODY: We have 12. Thanks. The number does vary from time to time. New projects. I'm not sure which project. This is John Goss's slide, so I'm not sure what this is showing. I believe it's related to some of the research we're doing in tagging some of the fish in the Chicago Area Waterway System.

So, for example, we put transmitters in some of the fish and tag them and we have receivers along the sides of the canal near the fish barrier and through telemetry we can determine whether any fish are bypassing or swimming through the fish barrier system. And so far our research indicates very strongly that's not happening. We'll have about 200 fish, I forget the precise number, tagged by sometime this spring and summer.

I'm going to talk about this, the GLMRIS study, in the next portion, so I'm going to skip over this. I do want to highlight though the bottom major bullet on collaboration. We really do have a federal and local and state, a number of partners collaborating with us and without that collaboration we just can't be effective in taking the actions that we need to on this issue.

This is simply a detailed view of the fish barrier system. North is to your right in this view

instead of the top side of the screen and you can see the barrier, the Barrier I, which is the demonstration barrier, still in operation, but it's not -- it cannot operate at optimal parameters that Barrier IIB and IIA can operate at. IIA, the one on the left, is the one in operation today. It needs to come down for maintenance very soon. IIB will be in operation in about a month, maybe five or six weeks according to current projections. Once we complete all our safety and operational testing and then we'll take IIA down for maintenance. But this does give us redundant capability which is essential.

And that just shows you some of the more fishing operations. I want to emphasize, one of the additional things we started this year, the Illinois DNR did, is they went down to the pools where there are large concentrations, we know there's large concentrations of Asian carp because we find them easily and we have not been able to find them in the Chicago Area Waterway System and they've been doing some intensive fish netting operations in those locations to reduce the population pressure of the fish so that they are nice and happen with the food sources there and they don't feel compelled to migrate further north.

Lastly, this just shows an example of an environmental DNA document that indicates where we've sampled. And if you look at the lower left-hand box, that highlights a specific area that we sampled. This looks like it's in the area of the fish barrier, and the little diamonds indicate whether you have positive or negative hits from Asian carp eDNA.

We've been sampling. We've taken hundreds, I think well over 200,000 samples to date, and the positive hit rate above the fish barrier has been trending around two percent lately. It has been as high as close to five percent. We don't know if that means that live Asian carp are there. Some people say that it does; some don't. All we can say for certain at this stage of the scientific process is that it is evidence that Asian carp DNA is present. How it got there is another story. We're not sure. Life Asian carp is a possibility so we're taking this very seriously.

Okay. Now let's go to the purpose of the scoping meeting, which is the study that we're carrying out to meet the intent of Congress on aquatic invasive species. So here's the extract of the authority. This was passed I think in very late 2007, the Water Resource Development Act. We got our funding for the

first time in the summer of 2009. So over a two-year timeframe from the time Congress passed this until we got funding to do something with it and we need both of those capabilities in order to take actually take action under the law.

What does it tell us to do? First it tells us to do the study at full federal expense of the range of options and technology available. So figure out what's currently available, both technologies and management options that we might take, construction, whatever, to prevent the spread of aquatic nuisance species, so the goal is prevent aquatic nuisance species, between where the Great Lakes and Mississippi River basins and specifically through the Chicago Sanitary and Ship Canal and other aquatic pathways. So the words that we use are specified in the authority there.

Some special considerations are we will include hydrologic or eco-separation, ecological separation as part of the study. We will not do what the Great Lakes commission is doing and that's presume that the proper end state is hydrologic separation and then study how to achieve hydrologic separation. We will take any information that the Great Lakes commission can provide us that's useful and that meets

our qualitative standards of information and science and we'll apply that to the study. So we look forward to what they have to offer.

Prevent. Much has been made of this a month or so in the press because we've talked about risk reduction. The goal and what Congress told us to do is prevent and that's what we're going to give them ranges of options and technologies to consider to prevent. However, all of our experience and all human endeavors inform us that perfect prevention in the natural word by human beings is usually perhaps a close approximation but rarely if ever perfect. So it's with a certain amount of humility that we approach this, understanding that we may not be able to get the technologies and options that can meet the intent of Congress.

What we are committed to doing is getting the best technologies and options that come as close to possible to prevent. If we think we can actually 100 percent prevent, we'll include that in the study, but there's probably going to be some amount of residual risk no matter what we recommend and no matter what we actually do and we believe by what we're told by our other policies and other authorities that we are required to make that a part of our study process and

we're going to do that.

And lastly the study is 100 percent federally funded. That doesn't mean that the federal government will definitely fund 100 percent of our capabilities. All it means is that it's going to be funded 100 percent out of the source of federal funds. It is extremely rare, in fact, I don't know personally of any cases where the federal government has 100 percent funded the capability of any one study in any particular year. I will tell you that this study is a very high priority for the administration and it will be very competitive for the limited sources of funding that we have to carry out the study of the Corps of Engineers.

This actually shows you where specifically we're authorized to do the study. Now primarily we're going to focus on the brown area of the Great Lakes basin in the United States side of the border, not Canada. We don't have authority in Canada. That includes the lakes themselves that are under U.S. jurisdiction, and we're going to look at the upper Mississippi basin which includes the upper Mississippi River, the Illinois River and the Ohio River basin, primarily those areas that are closest to the actual basin divide itself. We're not going to exclude

anything that's not in the Mississippi River basin because that's what the study tells us to do.

So if there's information that comes from the Missouri River Basin or the Arkansas or Red River Basin, we will use that information and apply it to the study, but that's not going to be a primary focus area unless information comes to our attention to indicate that we need to pursue things in that region.

Okay. This is kind of a score card that tells you what's in and what's out. So what's in? If it swims, it's in. If it walks and doesn't swim, it's out. If it flies, it's out. If it gets in there because humans have brought it in, it's out. If it's a natural swimmer or floater or hitchhiker, an insect, parasite, plant, algae, fish, it's in part of the study. It's not just fish though. It's anything that operates biologically in an aquatic ecosystem.

Locations, I've addressed this. I want to emphasize it does not include the Atlantic slope. So we're not going over the Appalachian Mountains. It does not include St. Lawrence Seaway and it does not include Canada. That does not mean if we get information from sources in these areas that are of concern we won't consider it; we will. It does mean we will not actively seek to go look at those areas.

Really in the elements we've already covered. I do want to emphasize the last point in the bottom left of that slide that's the environmental impact statement. That is one of the major other laws that we must abide by, the Natural Environmental Policy Act, so we'll do an Environmental Impact Statement that assesses the economic, social and environmental and other impacts and the benefits and the costs and we'll weigh and try to balance out what the benefits and costs are and make recommendations based on what the facts tell us.

Our strategy. So we're going to study two areas. And if you go back to this slide, notice that this is a 1500-mile divide by the way. That's a long way. That's a big area. The red square is the primary focus area, the Chicago Area Waterway System. One simple reason, that's where water flows continuously between two basins. It's the only place that water flows continuously between the two basins that we know of, and all the research we've done so far confirms that. If we get more information to tell us otherwise, then we'll perhaps modify our approach, but that's the primary focus area. Everything else is secondary. But we don't want to ignore the fact or the possibility that aquatic nuisance species might outflank us and get

around the primary contact, which is the Chicago Area Waterway System. So those two areas.

We're organized internally. We've got some great organizational charts that we won't dazzle you with, but we feel very confident that we have the right team and we're able to leverage all of the capabilities of the Corp of Engineers internally and then we're going to reach out. We must reach out to federal, state and local partners, tribal authorities, NGO's, to get the information they and some of you have available to you.

Simply put, we cannot do this alone. We're not that smart, we're not that good. This is way two complex. We've got to have the local knowledge and the good ideas that come from a whole range of other authorities to help us out. So fundamentally we need your help. We need your good ideas. We'll be happy to take your criticisms. Those count too, but we really need your good ideas on not just what to do but how to do it better. Specific information and facts, scientifically based, are of most value to us.

Now just like we did with the efficacy study, we will cycle out -- which is still not complete by the way, we've got four interim reports and the study is not complete -- we almost never do that in the Corps.

Usually we'll wait until the whole study is complete before we do anything. That's not the approach we're going to take here. We will cycle out information as it is completed, and we're confident in the quality of the information and we will cycle out perhaps recommendations if we can become confident that particular recommendations can provide interim improvements in the ability to prevent aquatic nuisance species from transmitting between the two basins. Okay?

And then the last two bullets are we've got to adapt to the information that's evolved, so we may have to change some of our approaches and that might lengthen the study period and there's a whole host of other legal and regulatory guidance or requirements that we have to follow and abide by.

So we really kind of already hit this, but what's interesting to me on this slide is the pictures in the middle there and that brings out some of the complexity and some of the unique species, not just fish but plant, micro plants, you know, small aquatic insects that are at issue here that we're going to include in the study. It doesn't show any mussels, but mussels are part of the study as well.

Okay. I'd like Mr. Wethington, Dave, who is

the project manager, program manager I'd like to say, for the Chicago Area Waterway System component to talk about how he's going to execute the primary focus and the principle aspect of the study. And Dave is also the author, the intellectual author of practically everything I've said here today.

MR. WETHINGTON: Thanks. I appreciate the compliment. Thanks for showing up tonight. My name is Dave Wethington. I'm with the Chicago District Army Corps of Engineers. What I want to speak very briefly about is some of what General Peabody has already covered this evening. The map on the right-hand side is a depiction of the Chicago Area Waterway System and there are a couple things I like to point out so that you're familiar with this as you can be.

There are points numbered one through five along the shoreline starting at the top and going down through the state of Illinois to the state of Indiana that indicates five points at which the Great Lakes basin and the Mississippi River basin have the opportunity to interact. Those are the potential connection points through the Chicago Area Waterway System because it can be kind of described as a fork. So the five prongs of the fork are spots, are points one through five, they all funnel into a single

channel, the Chicago Sanitary and Ship Canal, which would be analogous to the handle of the fork.

So what you can see on this map is point number seven is where we have established and continued to operate and maintain the electric barrier that General Peabody spoke about earlier. So that's how that one single choke point is what we're using as an effective means to prevent the spread of Asian carp specifically from the Mississippi River basin into the Great Lakes basin.

Another element about the Chicago Area Waterway System I'd like to note very briefly, points one through three, number one being the Wilmette pumping station, number two the Chicago lock and the third one actually is point number six which is the O'Brien lock and dam and those are what we call control structures. So those are physical points where we can control the flow of water between the Great Lakes and Mississippi River basins. You'll notice that points four and five are what we call uncontrolled points. So there are no physical structures that exist today that will stop or block the flow of water between Lake Michigan and -- I'm sorry, between the Great Lakes and the Mississippi River basins.

On the left hand side is basically the

process, the planning process the Corps of Engineers is using to approach the study. Number one, specifying opportunities, we put together a team. General Peabody has spoken a lot to who all is involved, not only the Corps of Engineers but the federal family, non-federal agencies and other stakeholders. Part of the reason why we're here today is specifying these problems and opportunities, how do we approach this project. And your input today is just as important as anyone else's.

After we have specified these problems and opportunities we'll move down to forecasting conditions and by doing that what we want to do is collect the data necessary to evaluate the uses of the waterways in the Chicagoland area specifically.

You might have heard a lot about commercial navigation as being a primary use. It is a use, but there are a number of other very important uses for the Chicago area waterways to include but not limited to recreation, industrial use, water supply, water discharge. For example, the Chicago Area Waterway System is a primary outlet for the Metropolitan Water Reclamation District's municipal wastewater discharge. About 70 to 80 percent of the flow of the Chicago River is made up of wastewater discharge.

Another very important thing to the folks in

Chicago and surrounding suburbs is the role of the Chicago Area Waterway System in flood risk management. It doesn't happen very often, maybe every couple years, five years, but we get significant rain in the Chicagoland area that instead of allowing water to just flow down river as it normally does when it collects in the Chicagoland area, we must open the gates at control structure number two and allow water to backflow or flow into Lake Michigan to alleviate the flood pressure of the water in the Chicagoland area.

If we weren't able to do that, you'd see significant overbank flooding in downtown Chicago as well as due to the way the Chicago infrastructure is constructed, significant basin flooding throughout downtown Chicago and well into the suburbs affecting potentially millions of people. Although this sounds like kind of an inconvenience, it does pose a health and human safety risk.

So once you've identified what all these uses of the Chicago area waterways are, what we're going to do is look at applying these aquatic nuisance species controls. So the purpose of our study is to evaluate and see what happens when we apply a physical barrier or a barrier system and see what the effects on the existing condition of the baseline condition are when

we apply certain aquatic use nuisance species controls and if there are any adverse impacts of that, we also must identify the means to mitigate for those.

That basically kind of steps down through the process of formulating the plans, evaluating the effects of the plans, as well as comparing alternatives and selecting the recommended plan which we will provide through the Secretary of the Army to Congress.

Again, as has been pointed out earlier, we are in collaboration with not just the federal stakeholders but also state and regional governmental agencies, Native American tribes, hydro industries and non-governmental agencies. I thank you for I'm your attendance and I'll turn it back to General Peabody.

GENERAL PEABODY: Thank you very much. I'd like Mr. Mike Saffran now who is the project manager for the Other Pathways to talk about the efforts we've done to date and what we're going to do going to do going forward.

MR. SAFFRAN: Thank you, sir. It's a pleasure to be here tonight and I appreciate the folks that have made it here. The Other Pathways portion of the GLMRIS was virtually unknown I guess this time last year, what was really entailed with that. A lot was known about Chicago's Sanitary and Ship Canal. There's been

significant investments as already has been described in preventing species transfer through that particular pathway, but we knew very little last summer relative to where aquatic pathways could exist outside of the Chicago area waterway and whether or not it poses any risk. So last year, end of June sort of timeframe, General Peabody tasked the division team to develop a plan and implement it to produce a report by the first of September, a draft report that provided an inventory of all the potential aquatic pathways along that 1500-mile long divide and then to conduct a preliminary risk characterization to determine if any of them posed a significant risk that could potentially compromise all the investments we have in the Chicago area waterways to prevent species migration. In other words, is there a location where Asian carp could outflank us and get to the lakes through another avenue.

Given just the sheer size of that, the basin divide, there are eight different Corps of Engineers districts that abut either side of the basin divide. When we started into it, the first thing we did is something that large and so locally specific, the requirements for information was we contacted each of the state DNR's and the folks responsible for water management in the states. We contacted USGS and Fish

and Wildlife Services for help in understanding what the universe of what all the aquatic nuisance species are. So we got the best and brightest folks that we could to help us form individual teams to go out and identify the pathways and perform the risk characterization.

Long story short, we developed an inventory of about 36 different aquatic pathways. We performed a risk characterization, 18 of those 36 we determined had significant risk or there was enough uncertainty relative to the risk that we could not dismiss them at that preliminary stage. One of the 18, the Eagle Marsh in Fort Wayne, really jumped out as a very significant potential aquatic pathway that posed risk and near term risk.

That location there was a combination of two things. First of all, it's an intermittent aquatic pathway where a storm event equal to the largest storm you would expect to occur in any given year initiates flow from the Maumee River basin across the Eagle Marsh and into the Wabash River basin. When you have a really large storm event, the St. Mary's River and the St. Joseph's River comes from the north and the south into Fort Wayne and form the Maumee River which flows to the northeast out of Fort Wayne. When you have a

big event there, the water gets into Fort Wayne so quick and naturally overflows into the Wabash basin.

We had a 2009 flood insurance study there that indicated that from the biggest storm you'd expect in a ten-year period, the depth of water across that basin divide is four and a half feet. So we had that information that indicated that we have an intermittent but potentially significant aquatic pathway that forms there and then about 22 miles below that location we had significant evidence of reproducing Asian carp population. So the combination of those two things led us to quickly identify we need to do something.

We had a meeting with all of the interested stakeholders, again, all the agencies that were mentioned earlier, as well as some of the local folks. We quickly came to a solution that we needed some sort of an interim remedy that could be placed very quickly and then needed some sort of a long-term solution for that location as well. The Indiana DNR stepped up to the plate and said we can do this interim solution. We can get that in place quickly. The USEPA and other partners came through and helped supply some of the money for it. Long story short, less than two months after that meeting the fence was up and in place. And the state biologist Doug Keller really sweated that the

size of the openings in it but is very confident that the chain link fence is going to prevent Asian carp from migrating across that location. So the smaller fish would not have the ability to migrate where they have been spotted to get that far up the little river which is generally a very -- has very little flow in it.

Currently right now the Corps of Engineers Louisville District is completing a feasibility for a long-term remedy at that location. And then to ramp up the work we have on the other pathways we're right now completing the plan, have been discussing with the state DNR's the plan to complete the risk characterization at all 18 locations. And both feasibility report for Eagle Marsh and the risk characterization for all other 18 pathways are scheduled to be completed this year. And that's the other pathways.

GENERAL PEABODY: Thank you. Okay. We're almost done with the presentation here. Just a few more points to emphasize. First, we've done a fair amount in the last year and a half on this already. You can see we didn't get funds until June of '09 and, in fact, without additional funding from the EPA using the Great Lakes restoration initiative funds, we would

not be even close to where we are today.

The Other Pathways component, we would just have probably some interim data and that's all we would have and we certainly would not have been able to do anything in Eagle Marsh without the Great Lakes restoration initiative funding from the EPA.

On the left side of this chart you can see the process issues that we followed and the steps. This is part of our process to form the team and to get the information and to gather it and develop the plan. And the plan development includes a fairly significant public engagement as well, especially the federal agencies. And then simultaneously in addition to all the things I talked about related to the fish barrier and the Asian carp and the Chicago Area Waterway System and the efficacy study, in addition to all that, which is supportive of that study effort, you can see the other things we've done on the right-hand side.

So literature review is not a small thing as you can see, about 700 pieces of literature on Asian carp and aquatic nuisance species, that's what the ANS stands for. We've got 154 species of concern between the two basins that we've identified and we know there's over 180 species in the Great Lakes alone. Not all of those are necessarily of concern to the

Mississippi basin.

We talked about the risk characterization report from the Other Pathways and about Eagle Marsh. So we've done a lot. We recognize that it does not satisfy the public's need for urgent action, so we're moving forward as best as we can.

Now the project schedule. You can see the schedule here at the top follows the planning process, major steps that Mr. Wethington talked to you about, and notionally depending upon information development and analysis capabilities and the material of that information, we will cycle out interim products. That may be reports about certain facts that we've developed because we want that out there so the scientific and academic community in particular can review it. And if they say hey they are missing something, we know of something over here, they can give that to us and help inform the development process.

It's possible, although uncertain, that we may cycle out other interim recommendations depending upon the urgency of the information related to the other pathways or if there's a certain promising technology or capability that we discover where we said, you know, this is something that we can do before we go to some final product.

It's impossible to know whether we'll be able to do that at this point, but we definitely did that with the efficacy study and we certainly want to follow that model for the rest of this study.

The last thing I want to emphasize on this slide is the lower left-hand corner. You see the asterisk there, it says best case scenario. Unfortunately that's the truth. The schedule that we have assumes that we have no major new information to uncover, no major new leads to go after, no major complicating factors that need to be studied and that is just the whole nature of the study is uncertainty.

We are trying to uncover things that we don't know today, develop those into options that we can look at, weigh the impacts of those options using the EIS process and then develop recommendations after all that information has been taken together and gathered and it's anything but simple.

So this just lists some of the possible interim products. I want to emphasize about the middle of the slide, see the navigation surveys and below that is the fishery surveys. That is really all about the concern related to the locks. So we did the study about whether we could modify the locks or not and we concluded that we didn't have enough information to

justify that.

Now going forward we will be doing detailed navigation studies to get as much information as we can to understand the economic and social impacts of closing the locks as well as the environmental impacts and the possible environment, economic and other impacts to Lake Michigan and the Great Lakes if Asian carp were to get into Lake Michigan and if they were to be able to establish a sustainable population.

That last piece is a question we don't know the answer to today. Can they establish a sustainable population? That is something that the U.S. geological survey will be undertaking on our behalf and we look forward to the results of that survey. And there's a bunch more detail we can go into, but you get the gist.

How can you help? This is really important. We need your help. If you have access to somebody you think has the capability or scientific knowledge or specific geographic information related to a possible transition point between the basins or whatever, we need your recommendations. We need your suggestions. We get a lot of criticisms and we welcome those, but the criticisms don't necessarily help us execute the study. It's recommendations on how to do the study, on how to get after the criticisms that really, really is

going to help us do what you want us to do and that is go faster, go better and come up with a solution as quickly as we possibly can. I'm telling you we can't do it alone.

You see listed on this slide all the different things we are pursuing currently to accelerate or leverage the capabilities of multiple other authorities out there, the federal, the state, the local and the NGO communities that may be able to assist us. If you think that you can help in this regard, get active, get on our social media, send us e-mails, send us recommendations. We'll look into it.

We're on the seventh of 12 planned public scoping meetings. February 1st, the one in Ann Arbor, Michigan which was planned for this Thursday has been postponed until March 8th. Many of us have a number of commitments in late February in Capital Hill and other places that prevent us from doing this sooner. So because of the weather we're not going to try to fight Mother Nature, but we'll go back up to Ann Arbor on March 8th is the date and the detailed information will be published once we have that through our web sites and execute that there. You notice we're going down to New Orleans also at the suggestion of a previous scoping meeting.

Finally, there's lots of ways to stay in touch. Your physical presence here is really appreciated. We look forward to your comments and recommendations, but you can stay in touch via the websites listed there and via the social media as well. With that, Kendall, I'll turn back to you and we can get to the question and comment portion. Thank you very much.

MR. ZABOROWSKI: Thank you, General. Just to follow up on the General's last comments there, I would like to note that the GLMRIS website, the project website, is a great source of study information. On the website you can sign up on our e-mail list and we will send you updates about the study and any information or products that have been developed. Also I would like to note that if you are interested in learning more about Asian carp or the interagency efforts regarding them, please visit Asiancarp.org.

And as I mentioned earlier, I think we're going to try and forego our more formal comment process. So anybody that has indicated they would like to make a comment, please come up to the central microphone, that would be easier for everyone. And then I'd like to note that we also have a stenographer with us, so when you approach the microphone to make

your comments, first please state your first and last name, if you wouldn't mind taking the time to spell your last name, that would be greatly appreciated and also say your zip code. And then from there proceed to give your comment or ask a question.

So at this point in time I would like to call or invite Mr. John Hallock up to the microphone.

MR. HALLOCK: John Hallock, H-A-L-L-O-C-K, zip code 45140. I'm going to speak to you as a rock hunter. The manmade link between the Mississippi River and the Great Lakes is an invasive species superhighway and it has to be closed. I am a rock hunter. I'm here to talk to you about the Asian carp crisis.

First it is a crisis, an environmental crisis and a crisis of leadership. The ecosystem containing one-fifth of the world's fresh surface water supply, 84 percent of North America's supply, needs to be preserved and cherished. If a president is going to claim to be the Great Lakes president, he shouldn't be hanging tight with his cronies in Illinois. He should expect to be held accountable to that water resource and his Great Lakes legacy seven generations from now.

Asian carp are not like Zebra mussels slipping in unknown through the dark of night. Once the Asian carp have established breeding populations,

like 9/11, the world will have changed permanently. Personally I'm tired of reading articles this past year saying if they get in or if they get past the barriers. Truth is they are getting in and they have been getting in since December 2009, by the U.S. Army Corps of Engineers' own press release January 19, 2010.

The eDNA science behind that announcement has gone through an exhaustive review over the past year and is coming through with flying colors. The reality is the politicians with the power to stop this, want to defer, delay and equivocate until they can say, well, it's too late. We tried.

I call upon each of you to also have a voice. Here is an opportunity to stop one, or we just going to let it happen? We know exactly what we need to do to stop it. We have to stop wasting time and money to try to slow the Asian carp down and take the real medicine and seriously stop them in the their tracks now, like yesterday, not in five years. We have to close the locks now.

The manmade link between the Mississippi River and the Great Lakes is clearly injuring the Great Lakes ecosystem and has to be closed. Fresh water is the most valuable resource we have. The economic concerns of closing the Chicago Shipping and Sanitary

Canal are myopic. Shouldn't we be looking out seven generations from now? It's not that far.

I myself am actually a fifth generation cottager on the coast of Georgian Bay, Lake Huron, and I can tell you there's a whole lot more economy out there than the $7 billion fishing industry they like to prattle on about. Entire economies have been built around the Great Lakes lifestyle. Call it tourism, call it cottaging, visiting, buying, owning, staying, but if that lifestyle forever changes, there will be cascading negative economic consequences. The Great Lakes basin is the second largest economy in the world.

Have so many people fought so hard to keep our native fish populations thriving just to let the Asian carp steal their food supply and kill them off? Are we losing our natural way of life? The Great Lakes are already an ecosystem under serious stress. It's irresponsible not to protect them.

The manmade link between the Mississippi River and the Great Lakes is an invasive species superhighway and it has to be closed. Thank you.

MR. ZABOROWSKI: Thank you, Mr. Hallock.

GENERAL PEABODY: Sir, we appreciate your testimony. Did you have any particular questions you'd like us to answer for you?

MR. HALLOCK: What's it going to take to close the locks?

GENERAL PEABODY: Fundamentally it would take a change in the law. Those locks were constructed and built under several statutes from Congress, mostly in the 30's and 40's, but those statutes are authorized for several purposes, the primary one of which is navigation but also a water diversion, flood control and environmental quality, so the water quality component to operating those locks as well.

So we do what Congress tells us to do. If the Congress or the president were to change the law or propose a law change the law to operate those for purposes of Asian carp prevention, we would do so. We want to emphasize though that that would not stop the pathway between the Lake Michigan and Chicago Area Waterway System from being closed because you'd still have the pathways open in the Grand Calumet and Little Calumet Rivers. So that's something we are studying as part of this process also what we can do about this.

MR. HALLOCK: There are several lawsuits going 100 years back relating to all this that can be shown that the locks are harming the Great Lakes and can be closed.

GENERAL PEABODY: I'm not sure I understand

the question.

MR. HALLOCK: I believe there are several open lawsuits that were brought up initially to the Supreme Court. Has anyone rejected it at this point?

GENERAL PEABODY: I'm not at liberty to discuss pending litigation. As you may be aware, the basis for that lawsuit is still under litigation, and if you have any questions related to that, Department of Justice can field questions for it about the lawsuit. Thank you, sir. Appreciate it.

MR. ZABOROWSKI: At this time I'd like to invite Mr. Nathan Holscher. Please start with your name and spell your last name.

MR. HOLSCHER: Nathan Holscher, last name, H-O-L-S-C-H-E-R, and I don't yet have enough information to offer comments and criticisms, but I have a question. I'm with Rivers Unlimited, we're an Ohio River protection organization and we're trying to study the threat that can be posed to the rivers, the tributaries of Lake Erie and eventually the tributaries of the Ohio and to understand with rivers, many of which have some higher velocity of flow than say the Illinois River, is they are the same kind of threat to have a compromised ecosystem. And a lot of the tributaries in the State of Ohio that we've seen, you

know, that the population is decimating the Illinois River. Just any insight and color you guys can provide on that would be greatly appreciated.

GENERAL PEABODY: If I can ask you to clarify then I'm going to refer to one of you guys. Is this question related specifically to Asian carp?

MR. HOLSCHER: It is, yes.

MR. ZABOROWSKI: Before you answer it Mr. Holscher, can I get your zip code?

MR. HOLSCHER: 45232.

MR. ZABOROWSKI: Thank you.

MR. WETHINGTON: I'll say a couple words and then pass it on to maybe Mike or John. I don't know if we're going to be able to give you a good answer. The scope of the interbasin study that we're describing today is really looking at preventing the transfer of aquatic nuisance species in the Great Lakes. And that's the focus of our study and the work that we've been doing.

My recommendation would probably be, if you're looking at rivers in Ohio, is to work with the state of Ohio Department of Natural Resources Environmental Policy Act. There are folks there like Mike Saffran has worked with the Other Pathways study who can provide you with more detailed information

about the specific habitats in the state of Ohio with regards to the rivers.

Additionally there's probably other literature out there looking at, you know, the habitat requirements for a carp that really aren't being considered specifically as part of the invasive study. Do you want to add anything else to that?

MR. SAFFRAN: First I appreciate the question because we haven't gotten that question very much. There's been much more concern about impacts of the Great Lakes than we've heard all on the inland rivers and lakes that we have. And to be honest, I have no real direct information on Ohio, but I do have some pretty good anecdotal information in Indiana.

In the Wabash River, again, the Asian carp are very prevalent and in the lower parts of the Wabash River are the only species being found. Mr. Goss tells a story about the White River through Indianapolis and the dams that most believed would be impenetrable to Asian carp being able to migrate above that location. He said there was a single rainfall I guess in the last year or so and that there are significant populations of Asian carp now above that 20-foot dam structure.

So the answer is, yes, the Ohio streams are at risk. I don't think there's a lot of data right now

on numbers or locations. The difficulty with the Asian carp is that they have to be there in great numbers before you detect them in general. They are not the type of fish you catch on a hook.

Again, I appreciate the question and I think it's a very good one because I've not seen the sensitivity for the ecosystems in the inland streams and lakes that we have seen for the Great Lakes which are obviously irreplaceable treasures. Thanks.

MR. ZABOROWSKI: Thank you. At this point I've actually gone through the list of people that have indicated that they wanted to make a comment before they came into the meeting. Is there anybody else in the audience that would like to come to the microphone or come back to the microphone and ask a question or make any additional comments on our panel? Don't be shy. Is there anything that the panel would like to convey again?

MR. ZIMMERMAN: I'll add something to the answer that Mike gave. Again I'll just say that number one, we don't have a lot of factual data that illustrates numbers in terms of population quantities off the tributaries of the Ohio River. I will say that we have some sightings that have been authenticated that tell us that there's a potential that the

migration of the Ohio River has gone at least as far as a facility we have which is pretty far east of here. There are not a lot of control structures that prevent fish from getting in the tributaries and while we believe that the Illinois River is a tributary of the Mississippi and is one of the primary migration paths this far for whatever reason, nutrition load, whatever.

There are estimates out there that say in the Illinois River, for example, the Asian carp population constitutes somewhere around 90 to 95 percent biomass in the river. It has surplanted (sic) all the other native species. We know that there are the presence of Asian Carp as far as the Upper Mud. We know on the lower end of the river in Kentucky and on Wabash and some of the other tribs down there that we have a significant population. Do the math and figure it out, but without significant barriers or prevention of any further migration it may be too late. Quite frankly that's my opinion, not necessarily one that's shared by biologists in the field that you probably do have some problems that have not grown to the level they are apparent to in the other tributaries linked to Ohio.

MR. ZABOROWSKI: Thank you, John. Sir, if I could ask you to please come to the microphone and then if you could state your name again before you begin.

MR. HALLOCK: John Hallock, 45140. I have a question about the Eagle Marsh chain link fence up there now. So what's going to stop the smaller Asian carp? Is there a long-term plan.

MR. SAFFRAN: In the town of Huntington which is 22 miles west of Fort Wayne there's the Wabash River separates from the Little River, the Little River is the headwaters that run up to Fort Wayne. Typically the Little River runs less than a foot depth of water. The biologists for the state of Indiana are very certain that the fish have not mated above Huntington.

There's eDNA testing done this past October in the Eagle Marsh and the tailwaters of the Roush Dam and basically the Little River right in the Huntington. So they did eDNA testing on that side of the river as well as on the Maumee side and St. Joseph's river as well and no eDNA for Asian carp were found there. The thought process is that there's none above Huntington, but if we have another real big storm event, that that would create the condition that the adult fish can swim up above that and the Asian carp, some reports say they'll travel as much as 50 miles in a day. So from an adult fish perspective, they can very much -- very likely make that trek, that 20-mile trek once the water runs high.

MR. HALLOCK: What about the smaller fish coming along for the ride?

MR. SAFFRAN: Smaller fish would have to swim upstream and the thought is they would not have the ability to navigate that 20 miles up the stream that would be necessary. They wouldn't have the locomotive capacity to do that.

MR. HALLOCK: That assumes it's a one-day cycle then.

MR. SAFFRAN: Again, I'm telling you what the basis is. Everybody knows there is an interim solution.

MR. HALLOCK: I guess that's my question, is there a longer-term plan?

MR. WETHINGTON: Mike might be able to answer that, but we are looking at specifically at a long-term remedy at the Eagle Marsh location. This is just an interim risk reduction recognizing that there are adult Asian carp within about 20, 25 miles of the potential Interbasin.

So we work with the state agency. They have the representative authorities to construct something which the Corps of Engineers. We have to basically dot our I's and cross our T's in order to recommend a long-term term solution because, very honestly, Eagle Marsh

is a floodway for the city of Fort Wayne. So we can't necessarily build a dam cross there because again the impacts of implementing control may have significant adverse impacts.

We have to look what the impacts are, but Mike and his team are spending more time and he can address that more.

MR. SAFFRAN: I guess two things, one, that the feasibility study for the long-term is to be completed this year, so we should have something by the end of the year to recommended.

Another thing about the chain link fence, another thing about the chain link fence is it has the ability to catch netting or other things to it that can make the effective diameter, if you will, smaller. So that in combination with the plain monitoring program. There's risks there, but they are being managed, its effects are managed, but with the process thought that we need to get the permanent remedy in as soon as possible.

MR. ZIMMERMAN: I would add too that we didn't just go out and pull the chain link as whatever is available in garden variety. There was a great deal of scientific thought exactly along the lines about the question of small fish being able to swim during

certain conditions. And Mike is right, you have to do this on a risk-based standpoint, what is doable, what's affordable in the interim period and what would be the most effective. And so all those things went into consideration of the sizing of the chain link.

And as Dave said, there's some concern about inducing flooding that is not there right now if we would go out and create a barrier that, you know, during extremely high water events could cause the flooding problem. So it would prevent any potential and would give us a relative zero risk factor as far as the passage of the small fish.

All things were considered, and based on scientific input from other agencies and entities, academia. Also we came to the conclusion that this was the best solution. Now we don't know what the final solution may be out there. It may include some mechanisms similar to this and it may include other things of all the control structures.

MR. HALLOCK: The problem I have with a lot of this and a lot of other people is the whole idea of risk reduction seems like we're slowing them down and not really out to permanently stop them. Risk reduction of the goby, they built the electric fences for the goby, they are a disaster. I believe there's

an effort to stop them because they slipped in through ballasts.

But all these things are changing the ecosystem. The goby changed the way of life up there already. I'd like to see us getting ahead of the bowling ball or the Asian carp. It's going to massively change boats you're able to use, what you're able to do on the water, how you can travel, when you can travel. Thank you for your efforts.

MR. ZABOROWSKI: Thank you again. I'll ask you to start with your name.

MR. GRAHAM: My name is David Graham, G-R-A-H-A-M, and my zip code is 45212. I have a couple of questions and it's kind of a long-term thing. We have a place up on Lake Huron so I have seen all the invasive species come in. And I guess my question is first of all do we know that the Great Lakes are a good fit for the Asian carp or do the Asian carp, I mean, do they fit just every where? Do they have natural predators, that kind of thing? And also what I've noticed with the other invasive species is, sure, they come in and explode out like typical populations when they get their nitch, but then somehow things start to adjust and then they can come back and then it kind of self-controls itself. Yes, they will always be there

and whatever, but do we have any information on that kind of thing? Thank you.

GENERAL PEABODY: Yes, sir. None of us are fish biologists or fish experts, so a caveat. I think you deserve an answer and so the easiest way is for me to say I can't answer that question, but you deserve an answer. To put it very simply, the fish experts that we talk to, which are primarily the USGS, the U.S. Geological Survey, U.S. Fish and Wild Life Service, Illinois DNR, our own biologists and Corps of Engineers, in general they believe two things.

Number one is it's very unlikely that Asian carp are past the fish barrier in any numbers that could establish a sustainable population and inhabit the Great Lakes and propagate. Okay? It's not certain, as Mike pointed out, these fish are difficult to find, but despite intensive efforts that we've had above the fish barrier, we've not been able to validate the environmental DNA evidence with live Asian carp.

We found one Asian carp in Lake Calumet. It was a bighead and we didn't find any bighead eDNA in Lake Calumet. We found some silver carp eDNA in Lake Calumet. That's my first point.

Second, and the other thing I want to emphasize is eDNA does not equal live Asian carp under

our current understanding. There are some people who believe that; the federal government does not. And the reason we don't believe that is because the state of the science, this is an emerging technology that is still undergoing independent external peer review. It has not been replicated by other independent scientists outside of UND and it just needs to go through more of the scientific process to get to the point where we can make that judgment. It does tell us and we have very high confidence that eDNA does tell us that there's DNA evidence from an Asian carp where the sample was taken.

Third point, what would be the effect if they got in the Great Lakes? I think the short answer is we don't know, but the fish biologists that I've talked to believe that it would likely be serious, major consequential, and it would likely be in the near shore area and the tributaries. Now there's a lot of factors about this fish. Every species has its unique nuances. One of the issues with this fish is for them to spawn they have to have a certain flowing velocity in a river and you need to have a certain river that's so long. I'm not sure how long that is. But in general the tributaries tend to be fairly short going into the Great Lakes.

Having said all of that, USGS is looking at a

number of possible biological approaches to control or kill this species in the habitat that they are in and we're going to research the question of their sustainability in Lake Michigan if they were to get in. And that's part of what the geological study is going to do for us.

MR. ZABOROWSKI: He asked about natural predators.

GENERAL PEABODY: Yeah. Again, I'm not the expert. What they've told me, and I can let Dave comment on this, but when they are small, like young-of-the-year, fish eat them, but when they get big, they don't appear to have to our knowledge any natural predators. So once they get big enough they are not going to be consumed by the native habitat, then they are only going to die of natural causes. Dave?

MR. WETHINGTON: I would echo what the General said. There was a gentleman who I met a couple times who has been a long-time fisherman on the Great Lakes and he came to our meeting, we had a meeting in Traverse City last week and he was wearing a shirt that said perch -- and there was some other fish on there -- perch and walleye eat baby Asian carp. So that's obviously kind of just coincidental-type information, but there is some indication that as young-of-the-year

they have some predators.

Another thing to note that this is also just facts you can do whatever you want to with, there have been I believe four instances of adult Asian carp pulled from Lake Erie between 1998 and 2005. So the idea that the fish have never seen the Great Lakes is not -- you can go to the U.S. Geological website and find the four or five instances between those years when Asian carp species have been pulled from Lake Erie. But there's also an indication at this point in time that they've been able to develop a sustaining population. Some experts say yes; some say no.

We're doing a lot of work, the geological survey is doing a lot of work. Our brethren in Canada are doing a dedicated risk assessment looking at the potential for Asian carp specifically to survive and thrive in the Great Lakes system. So I believe that that research will be completed within about next year as well.

MR. GRAHAM: Do you have links to that kind of thing where you can look at it?

MR. WETHINGTON: Asiancarp.org, I believe you can find a lot of Asian carp specific information. And, again, you can search on the U.S. Geologic website for those times when Asian carp were pulled and they

identify when and where they are pulled.

MR. ZIMMERMAN: You can actually Google that and get the newspaper articles. You can see the articles from the local communities when they've done that.

MR. SAFFRAN: USGS has a wonderful database that you can get to and find locations where silver, bighead carp have been collected. The Preliminary Risk Characterization Report used the databases from those to plot those locations relative to the aquatic pathways. Again, that report is available on the Chicago District website.

MR. ZABOROWSKI: Okay. Thank you for your questions. At this point in time would anybody else like to come to the microphone and ask a question of the panel or make any more comments? Again I'll ask the panel if there's any outstanding comments that they would like to make?

GENERAL PEABODY: I again want to thank everybody for coming out tonight. We appreciate it. But the thing I would conclude on is this is not a simple problem. It's a complex problem, especially when you're looking just beyond Asian carp. Asian carp is only one species. It's a species that gets most of the attention today or concern, but we need to look at

all the invasive species in accordance with the authority and we intend to do that.

The anecdote that Asian carp were found above a dam that was presumed to be impenetrable is one that we need to take seriously. And that indicates to us that, you know, you may have a physical object that appears to be impossible to bypass or get around and yet somehow the species got past it.

So we need to have great clarity on what are the factors of how these species migrate and have a multi-pronged approach. Simple physical separation, even if we were able to fund it and achieve it and if it was technologically feasible, none of which is certain at this point in the Chicago Area Waterway System, such a separation would not necessarily achieve the intent.

So we really have to have a multi-pronged approach to this. We have to use all the biological, scientific capabilities that we have to attack this in biological ways, not just engineering and physical solutions, and we have to weigh on this complex problem against the cost of making changes to the way the system operates today. And there are always costs to somebody when you make changes. Under the law that's what we intend to do.

Lastly we are simply following the law. As the Corps of Engineers we're doing our very best to attack this as quickly as we can with the limitations of funding and the current state of knowledge. And if you have -- I want to emphasize, if you have access to any information, facts, data, scientific data, resources, academics, scientists that you know of that may have knowledge that can help us accelerate this study, we really encourage you to have those people get into contact with us and we'll work with them and the information they provide to propagate the study. Thank you very much.

MR. ZABOROWSKI: In closing then I would like to remind everybody that again you can see any updates on our study website that can be found on several of the handouts that you were given today. And I would like to remind everyone that the NEPA scoping period ends on March 31st. So if you have any additional comments that you would like to make after tonight's meeting, you can submit them in written form or through our project website.

And just as a reminder, that all forms of comments submitted will be weighed equally. The time now is 7:02 p.m., and this will conclude the oral comment session this evening.

GENERAL PEABODY: We'll hang around and talk to you informally as long as you'd like.

MR. ZABOROWSKI: Thank you.

(Concluded at 7:02 p.m.)

C E R T I F I C A T E

I, Lisa K. Keller, a Registered Professional Reporter, do hereby certify that the foregoing is a full, true and correct transcript of my notes taken in the above-styled case and thereafter transcribed by me.

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Lisa K. Keller, RMR

