



**US Army Corps
of Engineers**

**UPPER MISSISSIPPI RIVER
POOL 18 CHANNEL MAINTENANCE POOL PLAN AND
POOL 18 SEASONAL WATER LEVEL DRAWDOWN**

**AUGUST 30-31, 2005, PUBLIC MEETINGS
COMMENT RESPONSE PACKAGE**

November 2005

Thank you for your participation in the public meetings held in Burlington, Iowa, on August 30, 2005, and in Keithsburg, Illinois, on August 31, 2005. These meetings were about both the Pool 18 Seasonal Drawdown and the Pool 18 Channel Maintenance Pool Plan projects

The enclosed response packet contains the questions and answers discussed at the meetings, the responses submitted on the comment sheets by meeting attendees, the answers to questions asked on the comment sheets, and comments received by letter.

Study team members considered and analyzed the comments you submitted. Your input will help us with the design and decision-making process.

This Comment Response Package is available on the following website:
<http://www.mvr.usace.army.mil/PublicAffairsOffice/DMMP/Pool18.asp>, under “Comment Response Package.”

If you are aware of someone who may wish to be added to the mailing lists for either the Pool 18 Seasonal Drawdown or the Pool 18 Channel Maintenance Pool Plan project, please ask him or her to call Ms. Sue Simmons, US Army Corps of Engineers, at 309-794-5573, or send an email to suzanne.r.simmons@usace.army.mil.

Points of contact for this package are:

- Steve Johnson, US Army Corps of Engineers, Channel Maintenance Management Pool Plan Project Manager for Pool 18, 309-794-5704, steven.m.johnson@usace.army.mil
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Questions and Answers from Public Meetings

Section I presents the questions and answers and statements recorded during the formal presentation at the August 30 Public Meeting in Burlington, Iowa, and the August 31 public meeting in Keithsburg, Illinois.

The information contained herein is not a word for word record; however, it is an attempt to capture as much dialog as possible that was audible on the recording.

Persons who responded are indicated in the some of the responses by the following codes:

- (S) – Steve Johnson, US Army Corps of Engineers, Channel Maintenance Management Pool Plan Project Manager for Pool 18
- (K) – Kevin Landwehr, US Army Corps of Engineers, Pool 18 Drawdown Team Leader
- (C) – Chuck Theiling, US Army Corps of Engineers, Pool 18 Drawdown team member (environmental)
- (KB) – Kenny Brenner, US Army Corps of Engineers, Channel Maintenance Management Pool Plan Project team member (channel maintenance)
- (TC) – Tom Cox, US Fish and Wildlife Service, Mark Twain National Wildlife Refuge

August 30, 2005 - Burlington - 2-4 p.m.

I am a landowner in Pool 19 in Illinois about 140 acres of the river. My real question after watching this is, "What if you did nothing?" It seems to me the only real benefit that comes from this drawdown is to generate the seed beds for moist soil plants and, don't get me wrong, that's not an unreasonable objective; but you can do all those other things without doing that. In other words, tell me what benefit, other than moist soil plants coming up on the mudflats you are going to expose, is going to happen?

Response: (K) I'm a hydraulic engineer playing a biologist trying to answer that, but I will let others respond if I am off base. It's not necessarily the plants, but the services those plants provide to other organisms – whether it is migratory birds, waterfowl, fish, furbearers....

I understand the benefit of that.

Response: Oh.

My question is, "If you decide that that one benefit wasn't key, you're spending a lot of money and doing a lot of things and disenfranchising a lot of people who do a lot of other things on that river for the sake of moist soil plants. I am just curious, what else is the purpose of this?"

Response: That is the purpose here to ...

You have one single objective here and that is moist soil plants.

Response: (K) Is to increase the abundance of plants to provide these services to other ecosystem resources, as well as sediment compaction and sediment oxidation. Now, we don't want to see this. In our minds, we don't want this to be an "us versus them;" "recreation versus ecosystem restoration" battle. To the extent possible, what we are going to try and identify ways to keep recreational access. We are not going to shut down the 9-foot navigation channel. We are going to look for ways to make sure that these things can occur concurrently and look for balance. I showed you a slide of what it looked like in 1930. You wouldn't access any backwaters we have right now in 1930. It was land. If you go to some parts, it was farmland. The river changed dramatically immediately after impoundment. The river's been reacting to that for a long time. What we are looking for is an opportunity to sort of try and find that balance again in a way that benefits the ecosystem. We are trying not to interrupt recreation as much as possible. We don't want to.

(S) (Repeated the question for those who could not hear it). *If we didn't do the water level drawdown, wouldn't there still be a lot of environmental benefits accrued from the vegetation that develops, and what is the advantage beyond that – beyond just the vegetation development?*

Well, yeah; in other words, if you decided it wasn't necessary to get the moist soil plants generated, what other reason is there to do this?

Response: (K) That is the primary reason and that is what is driving this decision.

And to do the dredging?

Response: (K) Well, the dredging relates a little bit to this project, but it is really related primarily to maintaining the 9-foot navigation channel.

(S) The Channel Maintenance Pool Plan is not related specifically or funded in the same sense as the water level drawdown project. The channel maintenance pool planning is authorized for maintaining the 9-foot channel and is funded through our normal routine budget for operation and maintenance of the 9-

foot navigation channel. It's just a way to do our job a little better by looking at all the channel maintenance, and is a little cheaper hopefully. If, in a course of a 40-year plan, we can save one or two dredging events in one or two cuts, we can pay for the cost of the long-term plan.

OK, then that is my answer to my question. So, if you do this drawdown, dredging is easier? Or dredging is better?

Response: (K) It's actually contrary to maintaining the 9-foot channel. We may be dredging more so it's really not helping us maintain the channel. In fact, it raises concerns. Which is why they need the additional authorization to go forward with that.

Marina owner Pool 19. You draw this down 2 foot, that means every barge that goes up is going to turn more silt up. It's got to spread out on every bank, fill in everything there is except the pool or the main channel. You can go up to the marina now where it goes through that lock, there is no pool down through there for that wingdam because it is all sand. They can hardly get to my place and this is in 19. It's only going to get worse because it's going to affect 19 when you pull that down with the silt that's going to be coming out from underneath these ships. And you can't tell me it don't turn up that much silt that it's got to spread somewhere. Am I right or wrong?

Response: (K) There has been a lot of effort done with the Navigation Study to try to estimate how much silt barges churn up, and it primarily relates to how big the channel is and how much depth is available. Obviously, that affects it. Depending upon where you are if it's currently a dredging problem, we are going to be cleaning out in advance and be dredging it down further. We will be restoring some of that depth. Could there be a location where it turns up a little more silt? I can't say that there isn't. Whether that affects the location in 19 is another matter. Once it passes through dam, it is part of the total sediment load in the river. Right now, there is on average 13½ million tons of sediment moving through Dam 18 each year. That's a lot of sediment. The amount a single barge dredges up is pretty small in comparison to that. In fact, the amount we are dealing with on the dredging side is about 1% of what we are talking about with sediment. 99% of it passes through and heads for New Orleans.

If it passes through, it settles down in all those tributaries coming off the top. It doesn't go down. Jeff Bergman can verify this 'cause they have the conservation park right down below me that they just put the new thing in. The boaters can't put their boats in without going all the way to the wingdam to get out to go across to come back up. They can barely do that. A big boat can't do it. If it's a John boat or a small boat they can get out. There has been nothing done, but all these barges going into that lock and the silt is coming off and coming down these side tributaries. It doesn't go down the main channel, it comes off the side and fills in. It is full now completely almost to the wingdam. Five years from now that wingdam will be closed. You won't even be able to come up that chute. I say the drawdown is going to cause more silt than what we have now coming down that river. Am I right?

Response: (K) It isn't going to cure a problem we have now. If you can identify the exact area we are talking about. If it's occurring in Pool 18, I question whether it's depositing in a specific area in 19 due to barge prop effects. I have no doubt that sedimentation is occurring in many areas of the pool. Whether this will affect it specifically, we would have to look at this specific case. I don't know.

OK. Appreciate it.

(S) Appreciate your comment nonetheless. Thank you very much.

I'm a concerned citizen for the future generation of the Mississippi River. This proposed plan will have a devastating effect on the Mississippi River. For example, look at Pool 19 north of Montrose where the vegetation is down there. And, also, on the Illinois side from Nauvoo to Keokuk. People who live along

there can't even use their docks because the vegetation has caused so much siltation. Their property decreased in value just like these cabins up on O'Connell Chute will someday. Take a look at the wingdams that were put in – the problems that they have created. The siltation has been enormous on them. There's islands built up from that, that the sediment's been trapped. Due to the poor management of the water system, we have lost over one-sixth of the water surface in Pool 18 over the last 40 years. Potholes and sloughs that have filled in due to vegetation and siltation. As a valuable source of habitat and food for the fish and furbearers and migratory birds, you're not providing their main essential need – water. We have lost so much water over the past years that the number of fish and wildlife has declined in great numbers. The DNRs and US Fish and Wildlife Service are seeing a decline in the number of licenses and water pal stamps sold. This should tell somebody that there's a problem someplace. The economic impact with this plan is going to be felt by the people who sell gas, boats, food, etc. Also by the State due to the loss of sales tax that these items provide. Isn't it a fact that the barge traffic has decreased one-third since 1992? The cities and towns that depend on drinking water should be concerned with this drawdown. The pollution bacterial level will increase due to the lower river stage, and quality of water is going to be affected by this plan. Why should the taxpayers pay to have the river dredged? All you have to do is to raise the river stage up. As a stakeholder regarding potential impact this plan would have, I urge all people to contact their State and Federal representatives to vote against this project. Take a look at last Sunday's newspaper – at the economic impact that the drawdown at Lake Odessa has had in Wapello. This is what's going to happen along here. If this plan is approved, how many dollars is it going to cost for every mile of the river? Thank you.

Response: (S) Thank you for your comments. Are there any issues that you would like to address?

Response: (K) One comment I would like to make. It has been raised by a number of people, the question, “Why don't you raise the river?” The primary concern here is real estate. The Federal Government doesn't own the right to flood lands adjacent to the navigation channel so one major concern is that specifically we don't have the right to do it.

You don't own from levee to levee?

Response: (K) The Corps of Engineers bought land for the construction of the 9-foot channel which is a very irregular line and there are lots of reasons for it. But we don't necessarily own everything up to the levee.

Pool 18?

Response: (K) Correct. And it is a long pool, so in every case it may not be that we own - and it may be that the Government only acquired an interest in the form of a flowage easement that was subject to the project originally designed. So what we have to do is go out to acquire additional real estate interests, not to mention potential impacts to drainage districts in the form of seepage or other effects.

What about the drainage districts? Doesn't the taxpayer subsidize the drainage districts?

Response: I'm not an expert on drainage districts, but it is my understanding that the drainage districts obtain their funding through taxes levied through their landowners within the drainage district.

Is it true the barge traffic declined a third in the last 13 years?

Response: (K) I don't have the numbers. Depending upon how you interpreted the numbers. I've seen many things printed in the newspaper. Irregardless, this has nothing to do with the navigation. We are seeking this from ecosystem restoration stand point. This isn't linked to the number of barges or levels of traffic in any way.

(S) In terms of the dredged material management plans, the channel management pool plan would be of interest; but actually, if Congress authorizes it for one barge, you have to maintain the channel.

I understand you guys don't make that decision

Response: (S) And the comment about amount of traffic, different reports and sometimes the same report look at that both in terms of tonnage, number of tows, number of barges. There's a number of different ways to look at it.

Tonnage is actually about equivalent - depends on how you measure it. The tonnage upriver has actually increased about 30% over the last 10-15 years. The tonnage downriver has decreased close to a third, but the tonnage upriver has made up for it. The reason the tonnage downriver has decreased is the rail markets in Missouri and in Iowa have become competition, even in Illinois – Galva, for example, because the in price cost of freight is we have short locks. So if we expanded our locks and made our river system more efficient, we would have more barges. They could make it cheaper freight.

Another audience member: According to this article – I just didn't pull that one-third out of the air. There's an article from the Chicago Tribune that everybody ought to read about it.

Louisa County Board of Supervisors and recreational boater. Where is the impetus coming from for the project?

Response: (K) If I can give a little bit in terms of the Rock Island District. I can't speak for the St. Louis and St. Paul (Districts). They have ongoing efforts for over a decade. The proposal for pool scale drawdowns originally came from the Fish and Wildlife Interagency Committee. It is a group made up of US Fish and Wildlife Service, State Departments of Natural Resources, the Corps sits in on these meetings as well as biologists who just have a concern about the river. We did a test application in Pool 13 as a result of their request. So we tried it one time to see what happens. Because of the successes they have seen in Pool 5 and in Pool 8, as well as in the St Louis area, they have asked us to consider extending this in other areas.

They is who?

Response: (K) On the Navigation Study we worked with a very large group of stakeholders. This included the States, towing industry, Departments of Natural Resources, natural resource agencies (many who sit on the NECC (Navigation Environmental Coordination Committee)).

So when you say they are asking, is that group you're talking about....

Response: (K) It's primarily ecosystem resource managers.

Is this in response to mitigation to extending the locks? This is the other side of it where you are doing some side benefits?

Response: (K) No, the interest was there even before the Navigation Study recommendation. As I mentioned, they have already been doing this in some areas of the river for as much as a decade.

(C) These drawdowns are really common. They've been using drawdowns in regulated management for waterfowl management for over 60 years. So to take a part of the river, isolate it, and manage it independently from the river, you can get optimal growing conditions for the food plants that the waterfowl eat. It's an old science. Now rather than building big structures with control pipes and pumps, we have the ability to use our big lock and dam system to affect thousands of acres versus hundreds of acres that we've put in huge costs to manage small areas. So for the cost of dredging, which is minimal

compared to the cost of building of one of these management units, we can expect much more acreage. That's why we're looking at the drawdown.

I didn't hear it answered earlier, but is this going to be yearly or just every so many years, or what?

Response: (K) I think that answer is up in the air. We are not positive of what the persistence of the vegetation will be the following year after you do a drawdown. In Pool 5 and Pool 8, their anticipation is that they will get a buy back this next year and that vegetation will reoccur. But they have different water clarity conditions in Pool 5 and Pool 8 than we do down here. In Pools 24 through 26, they do not get a buy back the next year. Typically, they're growing annuals and so they do it year after year. We are in the middle. Part of what we want to do is learn from implementing it the first time, to see how much of those plants come back year after year. And it may not be a simple answer. If the next year is the flood of '93, those plants are probably gone. If that next year is '88 and '89, they may not be. They may persist for some years.

A concern – and there's been a lot of controversy on the Lake Odessa situation. I can see if you're able to draw down Pool 18 to lower levels, then Lake Odessa can certainly be dropped to a lower level to a current level of 532.5. And this summer they reached about 532.9. Has there been coordination with you folks and Lake Odessa management as far as that aspect?

Response: (K) These are 2 very different projects.

I can see that. In my mind that happened where Lake Odessa would be allowed to drop even further, which is a concern of mine anyway. Just some suggestions here. This may need further study on your part as far as dredged material - two options. These are off the wall ideas here. Put the dredged material on Bass Island as the ferry boat project would proceed. That would raise that island up. Another idea is dredge out the Ferry Landing in Louisa County for access if you do drop that pool down. And I realize it will probably fill in again if you dredge it out. Something that some of the other folks ahead of me mentioned that I tend to agree with is you still are going to have a backwaters no matter what level the river is. Leaving it where it is, at my cabin up on the river, it fluctuates 2 feet during the summer, up and down, or more. You'll still have those backwaters. Sometimes the best management is less management. That is my ending thought.

Administrator for Levee and Drainage Districts for Des Moines & Louisa County. Steve and Kevin, my questions are three different questions. 1) I'd like to have someone for the audience, clarify NESP for them and where it came from. 2) In regards to the dredging. There's channel maintenance and then there's advance dredging. What is the fine line between channel maintenance and advance dredging? Can you explain the two? 3) And who is actually paying for this? If it, indeed, is authorized and appropriated.

Response: (K) (3) As far as who's paying for it, the project discussion as proposed by the Corps in their Report to Congress, it would be 100% Federal. Since Congress hasn't acted on that proposal, what's in the final authorizing language is still somewhat uncertain. But if they authorize it as recommended by the Corps, funding would be 100% Federal.

(1) I used the acronym NESP. Most of you are familiar with the Navigation Study. It's been going on for a long time. As I mentioned, we sent a report to Congress at the end of last year that contained the Corps' recommendation for both ecosystem restoration and navigation efficiency improvements. We're calling the implementation phase of that recommendation "NESP," which is the "Navigation and Ecosystem Sustainability Program." At the current time it is not authorized for construction. But Congress did appropriate money this year to begin the planning and design process for potential future authorization.

And it's just part of the way the Government works, and the way they authorize and fund projects. But it's really the outgrowth and the implementation of the Navigation Study.

(2) Advance dredging versus channel maintenance dredging. The advance dredging I am talking about is above and beyond what Steve and Mike and others need to maintain the 9-foot channel in order to accommodate the 2-foot drawdown. In other words, the change in the water level beyond anything we currently do. The change in the water level is beyond anything that we currently do. The channel maintenance that Steve is talking about, while he considers mine, I think is largely focused on the stuff we've been doing for 70 years and will continue to do for the next 40 under his plan.

(S) Now just for example in the lower Pool 18 basically from Oquawka downstream – we're talking several hundred thousand yards of dredging we project we are going to have to do no matter what NESP does. In order to maintain the 9-foot navigation channel in that reach of the river, there will have to be considerable dredging. We have in place some dredged material placement sites. We have some other plans that have been completed for additional dredged material placement sites on the land side of the levee, on both sides of the river actually. Those have not been implemented. We have not acquired those properties yet, but we are in the process of continuing to do that. Those plans probably looked at a 20-25-year plan. Our pool plan is trying to "extend the sunset" – look at a 40-year plan. How much additional placement? Because the longer we wait to build these placement sites or make plans for dredged material placement, the harder it will be to find places to put the materials. So we are trying to plan ahead. Trying to do it also with the use in mind so that beneficial use can occur. There may be some opportunity for ecosystem restoration; all the better. The less material we have to put in a sand pile some place the better off we think we are. There may be some benefits – somebody mentioned something about recreational opportunities – that's different than a sand pile; that's still a beneficial use to me. That could be a good thing in the right place.

What's the difference between your advance dredging that you're doing for this and normal dredging? Who pays for each one? Where's the fine line?

Response: (S) Under the existing Operation & Maintenance authority, the Corps of Engineers, Federal Government, we all – you and me – "Joe Taxpayer" are paying for operation and maintenance of the 9-foot navigation channel for commercial navigation. That includes dredging, wingdam maintenance, includes planning, includes writing environmental impact statements, it includes coordination with other agencies and the public involvement process which is what we're going through. The increment for advance dredging, if it were to be passed, if they were going to implement water level drawdown, then there would be some additional dredging needed. I think we looked mostly at about five dredge cuts within Pool 18 with an additional 1 foot to 2 feet depending on where in the pool those cuts are would have to be dredged out to the width of the channel in order to maintain that 9-foot navigation channel.

(K) It would be funded through appropriations for the NESP program. Not for operations and maintenance. Depending on how Congress mixes or blends those. So until Congress acts, we can't say 100% for sure.

(S) And that could, should, would probably include some portions of the placement for that material as well. If you pick it up, you've got to put it down some place.

Residential owner and recreation user from Oquawka. I appreciate you coming to the meeting. I've learned a lot of things. I'm starting to see the difference between your position and this gentleman here. The speech you gave (person who gave the statement) I think was wonderful. I have talked to no one and this has been battered around for 30 days by everybody I know and I can see nothing that is going to be economically good about the water drawdown. I've heard different sources, who's actually suggesting this? And I think whoever started this — I've heard everything from Ducks Unlimited, DNR, everybody — and they're not up here to speak for themselves. I would like to see more proof and more comments. I

don't even know if these two things should even be related. I think we've had the barge traffic for years and we know we have recreational problems. And in this pool alone I've heard from several people we have lost all of our sandbars. We know where to put the sand. We need it everywhere. And why they pile it up there along the hard road by Keithsburg I never will understand. Economically we need this support for these two States here, I know. We need more recreation, we need more fishing. I'm a member of Ducks Unlimited and the only thing we spent money for years and years is to build more water for ducks to breed and hatch and now it sounds like we're going to be draining them down. I don't think we need more food for the ducks. I just don't understand yet what this vegetation is, besides blocking silt and filling in all these waterways. I was born and raised here many years ago and I'm just seeing all these islands disappear. We take our mother fishing; she's 87 years old. We took her twice last week and we are going again tomorrow. She says, "What's happened to all of our waterways?" We can't get back in where we have been fishing even 5 years ago. And everybody is panicked about this water level drawdown. I mean, for different reasons, but I can see nothing positive out of this. And all I've heard is the darn cost of vegetation, but we don't need vegetation. We need running water and we need more recreational things.

Response: (S) Let me take a stab at it with the support from other biologists. We use the term "vegetation restoration" as biologists sometimes. It covers a lot of weeds, and a lot of trees, and a lot of aquatic plants as well, seaweed, algae is growing. A lot of spawning fish rely on the micro-organisms that grow in and amongst those aquatic plants. A lot of ducks and waterfowl rely on the zoo plankton and aquatic plankton that grow in the backwaters in amongst those aquatic plants. I think we all think of something different when we think of aquatic or wetland plants. Some of us think of the aquatic plants in the water; some of us think of emergent vegetation whether it's arrowhead, cattails, or what have you. Those various plants, cattails are not the most environmentally friendly and they get pretty thick, nothing can get to those, they aren't very helpful to the ducks. Chuck, if you can add anything here in terms of the beneficial species, in terms of their response, when they have a couple weeks to a couple months to grow in the summer, some of these annual plants can provide significant improvements in duck and fishery habitat. Those of us who are duck hunters or fishermen or just value the diversity of those resources in the Upper Mississippi River – it takes all of those resources to maintain it. We all say we want more ducks, we want more fish, but when they first inundated the Mississippi River Valley with the locks and dams back in the '30s, from what my Dad tells me (we're talking upper Clinton really), but in those cases there were a lot of backwaters flooded at that time. There was a lot of vegetation, a lot of stump fields around. We're not creating stump fields anymore. Now we're creating areas that are silting in and there needs to be some way from a biological standpoint to improve the food base, not just the water, but also the quality of that habitat by providing support for those organisms. Am I close to the mark, or off the mark?

Everyone I talk to says you need to get the flow of the water. You don't need to slow the flow of the water. And what we've been taught, you have to get the water moving. I've just moved back here 2 years ago. I've lived on the West Coast and have been involved with all the fishing things out there. I am absolutely shocked at what I see. We have a farm on Denton Island and you can't get into Denton Island now. We used to run boats up and down there. Last Saturday and Sunday the only sand that I know we had and that was on the outside – there were 35 to 37 boats. There isn't one place with sand to go. There's no place for people. Oquawka has three marinas and they are all worried. We don't have any place to build; it's almost impossible to build marinas to get through the red tape. And this is scaring people because we can't get any more marinas; we can't get any more boats on the water. We have no place to put them. People want to fish. I want to know if you people have ever been out in a boat and gone in our backwaters. I'm not asking you personally, but I mean the people that make the rules and regulations. I think if they would come, we are going fishing in the next 2 days trying to find a place to take Mom and I welcome you to come along and let us show you what's happened in our area on this river and this pool. And I will spend the time to take you if you will go.

Response: (S) This year especially?

You bet. I'm shocked about it. I am just a newcomer coming back to where I was born and raised and when I see something like this. I mean I heard at a dinner meeting a month ago. I can't believe it. I still don't understand why it's starting and what is the advantage of drawing down for 2 months? After listening to the meeting, I don't understand what is the advantage of it.

Response: (C) The folks we work with work all throughout the river system from Wisconsin down to Missouri. The river is very different in those regions. If anybody has been up north of Clinton up into Pool 13, they know that Pool 13 is a completely different world. It's a river, it's got channels and islands. But it also has clear water, submersed aquatic plants, pelicans and gulls, and northern pike and large mouth bass, and blue gills that are 8" long. We don't get 8" blue gills around here because we don't have the resources that it takes to grow an 8" blue gill because that requires the energy that aquatic plants create for river systems. I'll go to Biology 101 here and hope that I can make some linkages. Plants are primary producers. They collect energy from the sun, they convert it into plant food that is then eaten by bugs, and then bugs are eaten by fish. The more energy we can capture from the sun and get into the aquatic system is going to be more energy to be turned into fish. Right now we have so much dirt in the water that the light doesn't penetrate and the plants don't grow. OK? So we've lost that primary production base. So we don't have energy coming into the system to grow the critters that we think are beneficial. What we hope this drawdown is going to do, well we know what it will do. It will pull the water down, it will expose these silty sediments, it will dry them up, it will allow these moist soil plants, the emergent wetland plants, millet, arrowheads, and some of these other wetland plants; smartweeds – you know, the ones with a lot for seed heads on them. Those are the good duck foods. When that water comes back up, hopefully the plants will be nice and tall, and they're going to come up to about the knees of the plants so you are going to have the seed heads sticking above the water and you're going to have the stems below the water. Stems and leaves are going to create surface for bacteria and algae to grow on. The bugs eat the bacteria and algae, the fish are going to come along and eat the bugs. So what we've done there, we've turned the place to land, we've gotten plants to grow out of it, we've fed the duck the seed heads. Now were putting the water back on and we're going to let the algae and the plankton feed the bugs and fish below the water when we put it back on. So what we like to call this is a temporary interruption in our recreational activities so that we have a bigger return or bigger pay back in the long run. So if we can do this in one year and get a response and it persists the next year then we've got the cycle going. And hopefully we can cross the threshold where we don't need our intervention so that the ecosystem will maintain these new habitats on their own. There's something we call "ecological threshold". The Illinois River crossed that threshold a long time ago in the '50s and it's never come back. The Illinois River has no plants and only marshes that occur in intensely managed areas, and all the critters concentrate on them. The ducks get in there and they get botulism and cholera and they just disease themselves because we have too many animals in one small quality habitat. The same thing was happening with habitat in Keokuk down in Montrose Flats, down in those areas. When '93 came along, it wiped out all those plant beds and they were gone, and the ducks were gone, and the fish were gone. Now those are coming back. The ducks are coming back. That area crossed the threshold, but crossed back, and Pool 19 has done that a couple of times. Oquawka, Pool 18, and Keithsburg have crossed that threshold and are not coming back on its own. It's requiring some kind of management intervention for us to kick it back to a state where hopefully it will maintain itself in the long run. I know that this is complicated and long winded, but the gist of it is we need to give the river a little bit of help to get back to what it could be. Because it's been under the management control for navigation, not the management control of ecosystems. What we hope to do with this new program is balance operations for navigation and ecosystem quality.

As a recreational person I see it – the river has turned – it's hauling cargo up and down. When I was a boy and raised here it was recreational. We're catching more fish today. I watch pelicans every day. We didn't have pelicans when I left here 20 years ago. We didn't have eagles, we didn't have deer, we didn't have the turkeys. We don't have a lack of those things. Only thing I see coming back we have a lack of two things, economically. I had dinner with three people who went all the way up the river in

their boats and came back and said “get out of this pool and you have nice marinas, you have restaurants.” We don’t have those things in this pool. And the people trying to build them and trying to get them started are scared to death. This could wipe them out – this water level drawdown. We don’t have a nice marina in this pool that I know of on our side over here. Fishing seems great; we don’t have a lack of fish here, we don’t have a lack of ducks here. I may be wrong. I don’t know.

General manager for Burlington Waterworks. We’re one of five intakes in Pool 19 and we do have a water quality concern. What may happen during the drawdown. You’re certainly channelizing the river. Spills, for instance; we’re losing some of the dilution factor. We also have a concern when you bring it back up. We relate that as to what we see in the spring when we get a heavy spring rain and a lot of those tributaries that have either sat empty or sat still. That brings a fairly heavy organic loading, bacterial loading, and those kinds of things down to us. Concerned about additional algae growth. Do you have any studies or these other pool drawdowns that were done – what affect is has on the downstream side?

Response: (K) There is very little effect on the downstream side. We are not changing the flow. In terms of dilution, you have the same flow going past Burlington and Keokuk as you did before. What we’re doing is just changing the elevation that we are maintaining water, backing water up in Pool 18. So the flows are not changing downstream other than very slightly when we go up and down. But, on average, you’re talking 55,000 CFS; we’re talking about 800 CFS. It’s two orders of magnitude difference.

That’s a pretty large difference.

Response: (K) Instead of 55,000 for a couple of days it would be 54,200. From a dilution standpoint for 10 days, it is a pretty small difference.

Do you have anything that we could look at hard data wise as opposed to what effect it does have on the downstream quality?

Response: (K) To be honest, I think there hasn’t been concern because there are so little changes downstream that I don’t think anybody’s monitoring it. If you were downstream, you would have a hard time knowing anybody’s doing it. It will look the same in Pool 19.

We are going to see some reduction, but you are telling me it will be extremely small? We should not expect any water quality concerns?

Response: (K) I personally would not think you are going to be able to notice.

(S) In the interest of recognizing your interest and concern, would you be willing to work together to develop some sort of monitoring plan and we could price it out and see what we could possibly do as far as the project?

(K) Certainly if you can identify the interest and point of contact we can talk to, we will try to make sure you are satisfied with our concerns. We looked at water supply, we mainly went into Pool 18 because there are a number of communities that draw from deep wells. We talked to Galesburg that has a well field near Oquawka and we talked to Keithsburg and both of them have expressed they don’t see any potential problems because of the depth of their wells. We’re still trying to talk to Oquawka, but we haven’t been able to get anyone there yet.

I know we would be willing to do normal water sampling and testing. It’s hard to believe that this isn’t going to have some sort of affect on our water quality.

Response: (S) Please don't misunderstand me. I wasn't meaning that you or the city would have to bear that.

Sure, I understand that.

Response: (K) And just from the standpoint of preparing for the spring rise, orders of magnitude differences here. One is, we are not increasing inflows from the tributaries that bring those nutrients and sediment and that with it.

But you'll be re-flooding them after they've been sitting basically empty or somewhat stagnant. You'll be re-flooding them and then they'll be coming back into the flow within the pool area.

Response: We're not bringing spring inputs into the water...

I understand that. You have to understand, that's what we related to and ought to be a very similar happening, so that is a concern.

(New speaker.) *Thanks for putting on this public forum. I knew there would be a lot of concerns about it. You want to do a drawdown because you can't do a draw up. That's what I've heard all my life – you cannot raise the river.*

Response: (K) We can't raise the river without a tremendous real estate effort. The first thing is, we don't own the rights to any of it. And the second thing is, the dam has an overflow section. If we tried to raise it, the water would flow over the top of it and stop us. There's an uncontrolled overflow section of the dam; if it tried to go up, it would just spill over.

I'm the Director for the Des Moines County Conservation Department and represent a lot of interests, including my own personal interest. We have river accesses up in the pool and those are the only two that we have, the people of Des Moines County have access to the river. Otherwise, they're going to have to go around to Oquawka or Keithsburg, to the main channel area. They have to get to the river from these backwater areas. So we're going to have a concern there. We have two or three of them. We're looking at maybe putting in another one. We're not going to spend the time or money to put in another one if people can't access it. I understand thoroughly the vegetation concept. In my management areas we do that. We do it a lot. Right now down in this pool and in that pool up there, there is not 1 inch of water in the majority of the backwater and meandering slough areas of the Mississippi River. Vegetation is coming up beautifully. The problem that we have is now getting the water back up so the aquatics can be used. Not only in the fall, but also during the more important times and that's going to be your spring staging as your migratories head up north in the springtime. We just don't see that. We cannot see that with that water level. Basically, I look at it down here and in that pool up there, we have a drawdown right now. We're working with that drawdown right now, but we sure would like to have that water come up a little bit so we can manage for those drawdown areas. So if you could incorporate that into your plan a little bit, maybe that would benefit everybody. Again, I'm talking balance – we have recreational people here, boaters; I'm a boater. I'll be on the river Friday night and I won't get off of it until Sunday. I'll be up in that pool, I'll be down in that pool. I'm a property owner. I own property along the Mississippi River. I represent the public here that has the recreation and hunting interest at the same time. So there is that real delicate balance that we all have to work together on. If we can get that water level up a little bit, especially after a year like last year and this year, I think it's probably about as low as I've seen it in a lot of years – since '88 or '89 right now this year as last Sunday. Thanks for allowing me to make these comments. Again, a delicate balance where everybody has to try to work together on.

Response: To get the water level up, is there a particular season that would be better?

When we try to manage for that vegetation, as biologists say, too, there's a time when that seed is ready to fall down, the seed's ready to use. And you're talking mid-September, end of September. That's when we like to see that water level come back up. It's going to be different in different stages, and, of course, when you're able to get those aquatics started it depends on when the drawdown and lower stages are there. So, it's going to be different everywhere. Right now in some of the stages we're looking at, especially this year because we started out early, and we didn't have the floods like we did last July when we had to wait and wait, the drawdown is going to be a little bit different. It just depends on the timing.

Response: (K) A couple of thoughts in terms of our ability to control water levels in Pool 18. I'm not sure if you're familiar with how we operate Dam 18. We maintain elevation 528 at the dam. From a practical standpoint, you've got to operate it within a band. Nobody's perfect – you can't keep it right at the point. We operate in a half-foot band; that is our entire flexibility in terms of water level of the dam for it to occur like this. So our ability to raise and affect anything in the pool is very limited. That's our total band. You may see wide variations, especially around New Boston, in terms of elevation. But that's because of changes in natural river flow which comes from rainfall in Minnesota, Wisconsin, and everywhere else. But that's not a function of how we're operating the dam. Our dam control is this much (indicating). Now we're seeking authority for this to extend it, but right now it's half a foot.

Aren't you talking about river depth rather than river levels?

Response: We operate for the river level of the dam. That is what we are congressionally authorized to maintain.

That should give you a certain depth.

Response: And if we don't have that depth by maintaining a 528-foot...

You won't have a 9-foot channel.

Response: We turn to the dredge

That's what happened south of Keithsburg.

Response: Some people said, "Well, why don't you just raise the river level of the dam and get that depth temporarily to pass the boats?" We don't have the authority to be affecting lands we don't own. We don't do it – we close – so we send out our dredge.

This leads to a very basic point. Do you think that sedimentation outside the channel affects sedimentation in the channel?

Response: It's all there. It's one dynamic system. Absolutely. It's all interconnected.

So the lack of dredging outside the channel can give you a bigger problem inside the channel?

Response: It's a very complicated question, and the answer probably changes by where you are, by where you're standing. If I'm standing in one part of Pool 18, I may have one answer; and if I'm further upstream, it makes a difference. It's a challenging question. There's a reason why we only dredge in the main channel. We don't own the bottom of the river. We dredge based upon navigational servitude. It's what Congress calls for in the constitution. We don't have the right to go outside those buoys except other authorities like Small Boat Harbors. We don't have the authorization. Congress hasn't given it to us.

I raise the question because in 84 years I've seen very little dredging outside the channel in this pool of water except to raise the levees higher because of the increasing level created in part by the dam. It don't allow the water to flow.

Response: (K) The dam doesn't raise the flood profile. The dam is not in operation during a flood. We take the dam out of operation when it is no longer needed to maintain the 9-foot channel. In other words, when the river is capable of maintaining elevation 528 upstream of the dam, we pull the gates. When it's falling below and the river can no longer naturally maintain at 528, we start bringing the gates back to the water.

The only time it's at free flow is when it's over the spillway at flood level, right?

Response: Sometimes there may be a period when it's not over the spillway, but we're out of operation when the river can naturally maintain our pool level, when the dam's simply not needed. At Lock and Dam 18, that's roughly 12% of the time. One day out of eight.

I think it's pretty basic. We're all talking about water. We need water for the sewer system to work, we need water for cabins; water is a basic need. So then you come to the question, sedimentation is taking up the place of the water, which is more important – getting rid of the sediment to get more water or just having the water?

Response: (K) We've got lots of challenges. We're looking at locations where we think we need to do some off-channel dredging to provide deep water habitat for fish. We're just not focusing on that one resource problem. This is looking to address a different issue than this problem. And this is an issue that many people identify and we're considering through another process.

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I am a member of a yacht club, and I would like to ask if the outcome of the drawdown plan under implementation revolves around our approval?

Response: At this time we don't have the authority to implement the Pool 18 drawdown. Congress has to tell us that it's what they want us to pursue. Once we have that, we would come back with another round of public meetings with a recommended plan the following winter, assuming we decide that we want to implement something like this. We would come back with another round of public meetings to solicit input again. Does it require 100% acceptance for everyone? I don't know how we would ever get that for any project.

In other words, the comment or suggestion we have on the channel maintenance or drawdown – is it really going to make a difference?

Response: (S) I hope that it honestly does. We're trying to solicit impacts to make sure we understand how this will affect different uses of the river and how we can try to minimize those effects in terms of timing, duration, magnitude. Anything you can do that helps us better design how you think about this type of measure is very welcome.

(S) For example, to clarify, on the farthest map in the back they have identified those boat ramps and those grain terminals that they assume could be affected. They've gone out and measured the boat ramps – how far under the water they are, how long they extend into the water, those certain things. If there are other boat ramps out there that aren't on the map, then the only way for us to know about them is from input like this; likewise, if there are marinas that would be affected and how they would be affected. It's easy to drive up and down the streets and look at an aerial photograph and say, "Oh yeah, there's a marina there." But we haven't gone out and surveyed the marinas to see how much water they've got, have we?

(We've begun that process and are continuing it.)

So, what's the season that's of importance to the marina? Some of these things may seem natural or obvious to you or whoever is affected by these, but they may not be obvious to us, so I'd encourage anyone to make those kinds of comments.

Sounds like you gentlemen need to gather more information.

Response: Absolutely.

I don't know where to begin. It looks like you're making Pool 18 a catch basin. You let the vegetation grow, the following spring when the water comes back up the sediment is going to collect in that vegetation, as you all know, and it's going to raise the bottom. Come another '93, the levees won't be high enough. Put the rocks in the glass of water. If the bottom comes up, the water's coming up when the river raises. And you guys know that. So, you don't want to put sand on the levees. You're talking about putting it out on islands. It's fine if you pile it real high, but the stuff you're only putting 6 foot, when the water comes back up to 20 foot that's underwater, too, which is displaced from the bottom. And that's a major concern. I'm a landowner straight across from Oquawka on the Iowa side. As a landowner there with farm ground, you're taking 2 foot off the water table, as he explained not quite that, but where I'm at it's real close. In July-August, the corn roots go down considerably. You're taking that away from my crop. There's another one. I'm a duck hunter and I'm sure the duck hunters out there think this is a good idea, but you're really not going to benefit a lot when you've got duck blinds every 200 yards. Those ducks aren't going to sit around and eat a lot when they're getting shot at. That's from that side of it. You talked about June 1st drawdown. Your catfish aren't down spawning by then. You're talking about the ecosystem. You're going to start messing with it from other sides when you do that. So, that's a

pretty popular fish around here. There are just a lot of negatives to what you're saying. The only plus I can see is the vegetation for the ducks in the fall, but, like I said, with a duck blind every 200 yards that's going to be hard to justify. Someone told me to ask if the Corps is going to dredge the harbors for marinas, are they going to in some way compensate the landowner whose corn maybe dries up because it doesn't have the water table any more than it has in my whole lifetime because of the dams? I know that covers a lot of different fields that you touched on, but you asked for comments. I don't really see a lot of answers coming because I pretty well know the facts I've stated here are facts, so that's comments. A lot of these guys here are from the pool down here and they have a right to be worried because when you do Pool 18, my pool, you'll probably end up doing Pool 19, too. There are a lot of cabin owners here that have a right to be worried about it. It just won't be Pool 18, it'll be others which you suggested. That's basically comments.

(S) Kevin, I think it would merit addressing to what extent the drawdown here – what the relationship is to 19. I had a lot of people talk to me before the meeting had interest in Pool 19. I think you did address that at the earlier meetings.

Response: (K) The drawdown in Pool 18 would affect the level we're maintaining above the dam. In terms of the amount of flow coming through the dam, it will be minor – almost negligible. If you're in Pool 19 when 18 occurs, you'd have a hard time knowing it was happening if nobody told you – in fact, it would look exactly the same. As far as the potential to take this type of initiative and go to other pools, that is certainly being discussed, and 19 has been discussed. But there's one major difference about Dam 19. The Corps of Engineers does not own Dam 19. Dam 19 is owned by the Power Company, so nothing in Pool 19 will happen without the Power Company's blessing. Their hydropower production is related to the head across the dam.

It's actually the first time, though, that the concern has been expressed regarding agriculture. I love your comments and make sure you record those because that's something we haven't been hearing.

I'm a cabin owner in Pool 18 and recreational user and have been all my life. And I've seen some very negative impact from what the Corps has done throughout my lifetime. And I have to be quite honest, as a recreational user of the river, the Corps has not been a friend. I've seen countless acres of water in Huron Island dry up in the 40 years I've been on the river. And most recently some major chutes that are closed up and are going to be growing up in vegetation and, unless something is done, there will no longer be acres of waterway to be used for recreational use whether it be boaters, skiers, fishermen, or hunters. One major chute on my mind right now is Blackhawk Chute across the river from Keithsburg has become a virtual sandbar and at a 2-foot drawdown unless someone goes in there and dredges that, the same thing's going to happen to it that happened to chutes just north of Burlington. They have filled in. There's no longer any current. There's nothing to wash it away and once the vegetation gets started, then it is no longer a waterway. And that's one thing that really disturbed me about this plan, is it makes me believe that (and you said not) that the channel management is going to become more important than anything else and then we're not going to have a waterway somewhere south of St. Louis and more of a canal rather than a recreational process and I think that's probably a lot of our concerns of everybody that's here. And I do like the input that's coming forth that you have plans other than just channel management. This is our concern as users of the river.

Response: Thank you.

I'm with Pool 19 down here. Have there been any studies in the other pools that you've been doing this for any period of time when you've drawn it down as to siltation levels caused by the vegetation? Has it silted in quicker rather than less, or has it made any difference whatsoever? I understand that plant vegetation slows down the water and it's going to make it silt up quicker. A lot of the areas that are available for hunting and fishing recreation are getting so shallow that there really isn't going to be much there. Is it just going to keep silting in quicker?

Response: (K) There have been monitoring efforts put forth in Pools 5 and 8, and down in Pools 24, 25, and 26 to look at a wide range of things: what is the vegetation response? In areas where we've done advance dredging, do we have to go back and clean it out more frequently because we overdredged? There's a lot of different efforts. I'm not aware that anybody up north has expressed the concern that you're expressing that the plants are going to cause, suddenly, a dramatic shift in the sedimentation rate. Obviously, sediment's a major problem in the river and as I mentioned, there's 13.5 million tons of sediment moving down every year. Through the dredging program, we're playing with maybe 1% of that – a very small percent of what's coming down the river. Personally, I don't believe this project we're talking about will change this. We're talking about a 60-day period during a part of the year where we traditionally have moderate to low flow periods – not the spring floods, the large flows where the sediment really gets up and moving. And that's really where the channels are formed and where the river shapes itself – is under these larger floods.

If you go down to Hamilton, Illinois, right now and you look out there, there are all kinds of lotus and lily pads growing – I've never seen there in my 60 years that far down – and it's silting in so bad down there. I would imagine three-fourths of that you could probably walk across – if you could stay out of the mud – and not get your knees wet.

Response: (K) Absolutely. That's where sedimentation is occurring now. Plants will respond. Once sediment grows to a height, plants will start to establish themselves and will do it – will take that opportunity. We're seeing that all through the islands in the lower portion of Pool 18. Those islands are building – started off as sandbars and then you see a progression of vegetation form on them. It's sort of a chicken and egg question here. But I really feel it's being sediment driven and not plant driven. Sediment is coming in first and deposit is building up and is allowing the sediment to produce the response we're seeing.

(C) One thing that I think we have going for us in this river environment – you think about a fishbowl as landlocked wetlands where you've got a lot of cattails and plants that produce a lot of biomass. When they die, they fall on top of each other and you get year after year of layer upon layer of building terrestrial habitat. Same thing's going to happen in the river, but we've got flushing flows that come through every spring. I think your concerns are valid and it is something we'll have to keep an eye on if we implement this. I think that the flushing flows in the spring are something that we've really got going for us that are maintaining the habitats. Take the big huge plant beds down in the lower end of Pool 19 – I think it's about Nauvoo all the way down to Canton. Those came up in, I guess, the '70s. And they haven't changed a lot since then. They've gotten bigger and smaller and bigger and smaller, but that whole area hasn't gone terrestrial. It went from 30 feet deep 60-70 years ago when that dam first went in to 3 feet deep, and now you've got those lotus plants and they tend to stay there in that equilibrium. Maybe that's what will happen here. Those are the kinds of things to keep an eye on. But again, it's that flushing flow that will wipe out a lot of that plant biomass.

How much was proposed to spend on increasing the length of the locks? Was it \$4 billion or something like that at one time? How much are we spending on ecosystem? Are we going to have \$4 billion to spend on ecosystems, too, from the Government?

Response: (C) Our 50-year plan came out to seven lock extensions at Locks 20-25 on the Mississippi and Peoria and LaGrange (Locks) on the Illinois River. That was a total of about \$2 billion. On the ecosystem side, our 50-year plan came up to be about \$5 billion. We're asking Congress for a 15-year implementation which will be about \$1.5 billion for each component.

(S) One of the other comments we've heard regarding the monitoring of what would be proposed as part of this project – they're hoping that as part of the Pool 18 Water Level Drawdown to do a better job of

monitoring what the effects are of vegetation and what the rate of sedimentation is and if, in fact, it's proven not to be effective, it can quickly be stopped.

I feel you have underestimated how much you're going to have to dredge and the costs are going to be more than you expect. I'm concerned about putting the material back in the river. To me it makes more sense to get it out of the river so that you don't have to dredge it more than once. Another concern is the material that you've dredged out that we have dredge sites on the back side of the levee; it doesn't grow anything anyway and you're talking about pumping it on an island to try to stimulate forest growth. It doesn't even grow weeds outside the levee, so I'm concerned that that's not a waste of money. It'll grow willows, obviously, when you see the island between Oquawka and landing on the Iowa side it'll grow willows. I can't imagine you'll ever establish an oak forest in the sand that's coming out of the river and I seriously doubt that if – I understand that you said you were going to pump it back into the water and it's going to float away downstream. We all know it's going to settle somewhere downstream. It's not going to keep merrily going down to the Gulf of Mexico so we're going to end up dredging it again. If we're going to go to the trouble to dredge, let's get it out of the river so we don't have to do it more than once.

Response: (S) One comment just to build on the placement on the islands. It doesn't necessarily always have to be placed just with sand. It can be top-dressed with finer grain materials on some of the backwaters or slough areas, too. There are opportunities for additional materials; it's more soil-like in its texture and silt.

I am the Administrator for the levee and drainage districts in Des Moines and Louisa Counties. Before I ask my question or make my comments, I'd like to correct the gentleman who was up here earlier that stated that the sand goes on top of the levees. The sand does not go on top of the levees, the sand goes behind the levees to widen them. Next, I think there needs to be a clarification, whether it comes from Steve or Kevin, on the environmental project that is being attempted here – the drawdown. It's my understanding that this is from the environmental portion of the Navigation Study and I believe your acronym NESP also needs to be clarified and where that came from. Would you please clarify as to actually what entity would be paying for this drawdown and is there any environmental project that the Corps attempts – or maybe DNR or Fish and Wildlife – is an economic benefit cost-ratio taken into consideration like other construction projects are?

Response: (K) (Referred back to slide 9 of the presentation.) The text on slide 9 explained that NESP – Navigation Ecosystem Sustainability Program – is the next phase after the Corps of Engineers completed the Upper Mississippi River and Illinois Waterway System Navigation and the Report to Congress. There are two components of the NESP: Navigation Efficiency Improvements and Ecosystem Restoration. The Pool 18 Seasonal Drawdown is a project under the Ecosystem Restoration component.

As a reminder, what we're talking about is the implementation phase of the recommendations of the Navigation Study. As far as how are those ecosystem restoration projects paid for, that will be finalized when Congress makes the decision about that recommendation. They haven't passed into law anything that says "go ahead and do it." At this point they've given us money to begin the planning process. The way that the recommended by the Corps to Congress – whether they follow our recommendations or not is yet to be seen – is that the project would be funded 100% Federal. It would be at Federal cost which means the costs would be derived from general revenues from the Federal Government. Just like highway improvements, lock maintenance, everything else.

(S) The last question is economic costs and how that factored into environmental projects – whether it's by State or Federal Government, Fish and Wildlife Service, Corps of Engineers. I'm not sure I should address that from a State's perspective or from a Fish and Wildlife Service perspective; from a Corps perspective, environmental projects are justified on two bases primarily from a planning perspective: one, National Economic Development Plan – and that's where you use a benefit-cost analysis to make sure

that the benefits are at least as great as the costs; the alternative is the National Environmental Restoration costs and that's mostly making sure that there are positive net benefits to the environment from the project. The recommendations for the \$5 billion for ecosystem restoration projects under NESP were based on that type of analysis, too.

(S) Additionally, there is incremental analysis done to make sure that each successive increment – each improvement or additional step in a project – each additional cost in a step – is actually returning more benefit.

(K) So, if we apply that to a drawdown, we can say that if 1 foot gives us this much benefit for this much cost, would a 1-1/2-foot drawdown give that much more benefits for incrementally less costs? It's with that type of analysis to try to optimize from a benefit standpoint the costs.

(S) So, I think a simple answer is yes, there is an analysis done to demonstrate that the environmental benefits do increase for the costs that are extended. Whether it's likewise for a Civil Works project, then you would do it based on more of an economic development project.

(C) Just to complicate it a little bit, we are not allowed to claim recreation dollars spent as a net benefit in our environmental projects. So we can go out and say that we're going to do a project to improve duck habitat, which then in turn have an economic benefit for the community around the hunting area – we're not allowed to claim that as an economic benefit for our restoration project. We can only go solely on the ecosystem restoration and the increased number of ducks we see. So if Fish and Wildlife has an objective to increase the number of ducks using a habitat area, we can count the number of ducks that would come from 10 acres of vegetation or planting 100 acres of vegetation and if it costs less than 10 times as much to get 100 ducks that would be an incremental justification to put the extra effort into that undertaking. But we cannot claim the benefits of all the people stopping by in town for a beer on their way to and from the hunting area. I personally would love to justify the economic benefit of 11 million visitor use days on the Upper Mississippi River because that's a heck of an economic benefit. But we don't count them; we can't count them.

If you're going to lower this river to make more ground, how come you can't dump that sand which is taking over and ruining habitats other places? Why can't you put that on the beach along where they used to build beaches? And, also, if you drop the river in the summertime, it's already back to where you can't get up and down a lot of the chutes we used to get up and down. How come they can't dump that sand back on the beaches like they used to? What are you saving? What are you doing? You're still dredging. It's my money and I'd just as soon it be spent dredging. Make me a beach once in a while.

Response: (S) You heard the comment about recreational benefits. We can't make recreational beaches, but we can provide beach nourishment.

How do you get by with destroying habitat when you're dumping that stuff out on rabbits, squirrels, and pheasant, quail, etc. – you want to dump it over there and ruin their habitat. What's the difference?

Response: (S) One of the things that there are requirements for maintenance of the floodway for floodflows. There has been some impetus from the regulatory advisors – we have to get permits to do what we do, too. In order to place material, the floodplain change has to have no significant impacts on flooding levels or rises or any surfaces of the floodplain. Placing dredged material – if it would affect the floodway – we can't do it and, in fact, the gentleman's comment earlier about if we would build islands – if it would have an affect on a flood – we're not going to be able to do that. These are things that are under consideration. These are thoughts that we're evaluating and considering, and we're trying to get public input on whether or not these are good ideas or bad ideas, and we're definitely getting some comments in both directions and we appreciate that.

I've been up north and south both 1 million times. Riprap around the front of those islands. It seems to me that there should be a better way to go than this direction.

Response: It's important that we coordinate those placement sites with other stakeholders that have an interest in the river, and there are many reasons why we chose to use or not use a site. It has to be economically the best site for placement as well as environmentally acceptable. And so we require permits from the States to place that material. And so it isn't always in our discretion. Bankline placement is actually a fairly inexpensive form of placement if we can do it. The problem is finding locations where it's acceptable to do it.

Right now as low as the river is – from the gas pumps at the harbor of our yacht club going out to the river – we only have 2 feet. Would you explain that when you said you were going to talk to the marinas. If Federal money is not used to come in and dredge, and our owners choose not to dredge, then we cannot get out at all.

Response: (K) We will take a similar approach to what's been done upriver. We would look at the recreational access points and see what action would be needed to be taken to restore access with the reduced water level, and that would essentially be a project cost – a cost to implement the project. So it would need to be done. Now, does that mean if you do something everywhere – marinas are sort of specific because of their use. There are some areas where you may have to make decisions during drawdowns. If, for example, at Oquawka you've got three boat ramps. Do we maintain all three during a drawdown, or do we look to make sure that we've got good enough access to two? Some of those decisions might be made, but we are looking at what the costs would be to maintain access at those locations and that would be considered part of the cost of implementing – would be restoring those depths.

Some of the boats that are in our marina – that do not have dredges -- could not get out.

Response: Right. Marinas, as well as ramps – we're looking at both. We're actively going out right now surveying what elevation is the bottom of the ramp at. What's beyond the bottom of the ramp? Does it fall off? We don't want somebody backing the boat in a drawn down pool. We're also looking at the depths of the marinas.

(KB) I think it's important to point out what we're planning on doing is in Pool 18. We've already seen that it doesn't affect Burlington here. What people need to realize that what we're going to cover is what we're going to impact. One farmer has a permit to do maintenance dredging. Now, whether they're doing it or not, whether you're keeping their feet to the fire to make them dredge to keep your access to your marina or not, has nothing to do with what we're doing up at Pool 18.

Response: I apologize – I was thinking that you were talking about Pool 18. We would not be doing anything outside Pool 18. Only above the lock.

How does this compare to what they did to the Missouri River?

Response: I can't address that too much. I'm aware on the Missouri River there's a lot of discussion about whether flow should be preserved in the upper reservoirs for their original purposes or whether it should be let out for navigation or other uses downstream. We have run of the river structures; we don't change the flow. Whatever comes down the river, we pass. During a drawdown, the same thing – whatever's coming down the river, we'll pass. If it's a low flow year, it's going to be a low flow year with the drawdown. If it's a high flow year, it'll still be a high flow year with the drawdown. We wouldn't adjust those flows. With that respect, it's not like the Missouri River where they're talking about actively changing how the flow is on the river. They operate with flood control reservoirs, for the Missouri River actually has storage capacity for flood control.

You started out taking about the dam elevation at 528 feet. Is that what you're going to judge this all on?

Response: That is what we are authorized to maintain currently.

So you're saying a 2-foot would never go below 526?

Response: (K) I personally don't think that's a real viable option. What in the end is recommended will be something based on your input and the input of different resource agencies. But I think 526 is about as low as we can go at the dam and to be able to maintain the navigation channel.

(S): One point for clarification – on one graph, your elevation upstream from the dam was higher than that.

(K) Right –the only place we actively control the water level is at the dam.

What's the depth there now? What's the water elevation now?

Response: The depth available in the pool varies dramatically as you go through the pool. Right now we're doing emergency dredging to keep the tows moving past Keithsburg. There are other locations where we have 20-30 feet of water in some locations probably. There are some scour holes below a number of the dams that are 70 feet deep; not necessarily here, but in other portions of the river system. (Voice: There are some 45-50-foot-deep spots below Pool 18.)

18. Where did you get the 528?

Response: (K) That's the water elevation that we're authorized to maintain at the dam.

So what's the water elevation now?

Response: (K) The elevation today would be approximately 528.

(KB) We only have about a one-half foot window at the dam on the poolside that we can control. If we closed those gates off right now, the water would simply run over the spillway. There's no room to store water. It's not a storage facility. We can only hold water at 528 feet, plus or minus 6 inches. But we can lower it, and that's what we plan on doing.

So you're saying that it's 528 now for the dam.

Response: (K) Within a couple of inches.

So what we can believe is that it can be 2 feet lower than that yet – just as low as it is now.

Response: (K) Right. If you did a 2-foot drawdown at the dam.

With your vegetation growing for these 2 months, what happens when the water comes up the next 6 months for spring? It's not going to be there.

Response: (C) We hope we can get the plants up above the water line and these are the kinds of plants that once they get a start, they can keep growing partially inundated. So as long as they get above a foot or 3 feet tall they'll be fine.

You mean over winter?

Response: (TC) You have perennials and annuals. Perennials come back year after year. It's really going to depend on what we see over the first year of germination. It's really hard to predict. The earlier the drawdown, the better response we'll get.

(K) I hope that wasn't confusing. The Corps talks that we maintain a 9-foot navigation channel and most of you know it's not 9 feet everywhere. What we want is a minimum of 9 feet and if the pool elevation we maintain at the dam isn't accomplishing that, dredging kicks in and we re-acquire the depth from dredging.

At two chronic sites in Pool 18; if they're chronic, why can't you correct the chronic problems? All you're doing is dredging out the same deal. Something is causing that, about circulation in the water, something is changing. What's happened to cause that to accumulate in that particular spot every year?

Response: (K) In some degrees it's a river being a river. Some of our chronic dredging problems are at deltas or tributaries because that tributary is bringing a very heavy load of sediment down with it. (Voice: Like the Iowa River?) Right. Once it hits the pool; it probably has more energy coming down the tributary; it hits a lower energy river and it falls out. We have that problem on the Illinois in a number of locations. It also happens, I think, on the Turkey River. Part of the problem is, as I mentioned, there's 13.5 million tons of sediment moving through the pool. Over one-quarter of that is coming down the Iowa River. If you look at the proportion of flow, that's out of whack. So there's a lot of sediment coming down the Iowa River and that's part of our problem. When that sediment flowing through the river hits a low energy area, that's where it starts to drop off.

Are there any Federal programs for riparian zones along those rivers mandatorily that keeps the tributaries and so forth? Otherwise, they're farming right up to the edge of the water on the Iowa River or Skunk River.

Response: (S) If you're familiar with those programs for the NRCS and other agencies, you're probably aware that those are voluntary for the most part on the landowners' part. There is an increasing responsibility, as I understand it, under some of the ag funding programs to require mandatory land management plans which incorporate some of those activities, so I think we're headed in the right direction. But we're not there yet. There's a lot of sediment in the system that's going to keep coming. One of the other things I wanted to interject regards the regulating structure. We are continuing to look at placement of wingdams and this is one of those pools that looks at computer models, hydraulic models for a better wingdam design to increase flows to help minimize dredging so, in terms of those chronic locations, those places we're trying to do things like that at.

(KB) One thing I'd like to point out – the gentleman asked if we have chronic spots where we dredge at. Yes. The last thing we want to do with our CARS (Committee to Assess Regulating Structures) work and our wingdam work is change the river so that all of a sudden we have a chronic problem 5 miles downriver when we spent 20 years trying to get placement sites. Where we do have dredging sites now and dredging problems, we don't want just all of a sudden have a problem 5 miles downriver where we have to spend another 20 years coordinating placement sites. We want to work with the system as well. Like right now we have 300 miles of river. We could dredge probably 30; so we don't want to change those 30 miles to 5 miles downriver from one of those spots.

(S) You've got to know where the problem is and deal with it there a little bit with perception.

I represent the Des Moines County Board of Supervisors. I'm an elected official. But, also, I'm a cabin owner in Pool 18. What you're looking at there is Buffalo Slough where I hunt. I've hunted there, well I'm 50 years old, so I've hunted there for 20, 35, 40 years. Many have seen changes that have inhabited Pool 18 and we know your job is to maintain a 9-foot navigation channel, but we've seen a lot of changes

in the siltation. You talk about placing dredged material on the island, for instance, that might help forest trees to grow again, but you've got to work on doing some work on the inside of the islands. Not just this slough, but all the sloughs. I don't think that has been talked about, has it?

Response: (C) We're not actually here to talk about that tonight, but we have extensive plans to work in other areas.

Under the Environmental Management Program?

(C) No, under this Navigation and Environmental Sustainability Program funded at a total of \$5 billion for ecosystem projects. If funded; we've got over 300 areas and backwaters identified for dredging, so we are looking at those under other projects and we'll be coming back to this same area saying "OK, guys, we've got a plan to get in Huron Island and dredge this slough and this backwater, and this sort of thing." But, we're not there yet. We don't have authorization yet, but we've begun the preplanning for this action because we actually think that this is a – I don't really like the term – but it's a very robust action in that we can get a lot of ecosystem response. We should be able to get thousands of acres of plan response for a minimum of dollars. You know the EMP projects are running about \$5-10 million. If we pull this off, what are the dredging costs going to be, about \$500,000? (Response: about \$1 million.) So we can pull this off for \$1 million and get 1,000 acres response. If we do a \$10 million HREP project, we get 500-600 acres response and then we've got continual O&M. So we're looking at this as a very cost-effective first shot. But we will be coming back with the backwater dredging and traditional moist soil units and a whole school of other things.

That's what a majority of people really want and need. We've seen a lot of habitat loss and we all recreate on the river, whether it be commercial, recreational, waterskiing. If you lower down Huron Chute 2 feet, how am I going to get through the wingdam on the north end that when I run across there now I'm lucky to get 3 feet of water according to my depth finder. So if you lower it down, I've got to get over the wingdam to recreate, otherwise I've got to go all the way around and go up the channel.

Response: (C) Again, we're hoping the temporary inconvenience for a couple of months will result in long-term benefits at low cost, and that's really what we're looking for – trying to affect the ecosystem at the base. Like I mentioned, we're going to get in the primary producers and by working with the plant community, we think we can affect the ecosystem right up through the fishes and the ducks for a minimal cost and what we hope is minimal inconvenience to property owners and recreationalists. I'm not going to be able to get out there either, but I'm willing to forsake a couple of months of bad fishing for several years of good fishing down the road.

On the boat ramps, if you lower it 2 feet, we may be dropping off the end of some of those boat ramps so you're looking at spending some dollars to extend those boat ramps?

Response: (K) Right now we're in the process of surveying what those conditions are right now. Our first step is finding out what's out there today. From there, we have to take a look at each ramp and say, during a drawdown, we want to maintain a minimum length and depth at the downstream end.

Is there any other time of year that this drawdown can happen; like when nobody's on the river?

Response: (K) One of the primary benefits, of course, is to grow vegetation, so winter will not help us a lot.

(S) Would do it at night if we could but it doesn't work. One thing I was going to point out about your concern about Huron Island, just below Keithsburg, you're at the margin of where the drawdown is expected to have much effect at all on the existing river levels.

(K) It wouldn't affect the river level. It would take something that's fairly average and make it look similar to how it is this year. Typically, areas have better conditions than they had this year. So a 2-foot drawdown at the dam would make it look a little bit like it is now. Again, hopefully a temporary inconvenience while we hopefully produce a long-term benefit. That's why we want to recreate in these pool to begin with – because of the hunting and fishing and natural resources that are out there.

(S) My point is just to reemphasize that although that's a 2-foot drawdown at the dam, it's something less than 2 feet at this location. You're experiencing 3 feet right now, and so from your standpoint you've got 3 feet here, you might be looking at a foot and one-half or a little more (with a drawdown of 2 feet at the dam).

OK. I don't believe I have anything else, except that I appreciate your having these public meetings because the people here are the ones paying the bill and they need to be listened to. And I think you'll listen to them and do what's best for all of us. Not just maintaining the 9-foot navigation channel. We know that's important for commerce and we know the extension of the lock is important, but there are a lot of people that recreate on this Mighty Mississippi River and they want to continue to do that into the next generation. So, I think that's your job to help us do that.

Response: Not only local resources, but international resources.

How often are you going to do this drawdown?

Response: (K) We've got a little bit of a learning process ourselves to go through when we do it the first time. We need to watch the following years afterwards. Does that vegetation that we initiate and grow – does it appear next year? Do we keep that benefit accruing year after year, or does it disappear because flow comes through in the spring and wipes it all out? That's part of our learning process we would propose to go through early on in the first implementation and based upon the response we see, you would adapt to, say, this might need to be done every 3, every 5. I'm not sure what that answer is today.

August 31, 2005 - Keithsburg - 2-4 p.m.

I'm a property owner in Oquawka. Just a couple things. Was an economic impact study done with regards to the drawdown?

Response: (K) At this time we are just initiating the study. We are trying to identify those issues we should be looking at. So if there are any concerns you have, we're trying to find out today so that they can be evaluated as we move forward in the study.

Is this preliminary to an economic study?

Response: (K) We will consider economics as part of our evaluation.

So there would be an economic impact study of this plan along with the other studies you have already been very diligent about making. Would that be a yes?

Response: (K) I'm sorry. In what regards? An economic study in regards to what?

The impact on the communities and businesses along the river and the effect the drawdown would have on business.

Response: We would look at social impacts.

(The audience can't hear the question.) OK. *I will repeat the question. It seems like they made extensive studies in terms of the effect this is going to have on the environment and on navigation. And I asked if there was an economic impact study done with regards to the communities and businesses along the river and the effects that the drawdown would make during that high season.*

Response: (K) Part of our evaluation – and I will have others help me out with this question – part of our evaluation is the completion of an environmental assessment is a consideration of the social impacts which extend to the economic activities.

(S) One of the other aspects as part of the Navigation Study – there were economic studies done as part of the overall program as well. Each of those were predicated on the fact that there would be additional economic studies done for each phase of the project. So that's coming up yet.

So that's still something we could look forward to seeing. So they would take into account how this will affect those communities and businesses. How long has the drawdown been in progress? How long has that idea been in the works?

Response: The first drawdowns that I am aware of being conducted on the river – this has been a management tool that has been in use in isolated units for decades – but in terms of bringing this to the Mississippi River, this started about 10 years ago in the St. Louis District as far as the first drawdown. In Pool 13 it was 1998, and the upper part of the river system it was 2000 for the first drawdown.

Who would be driving the need for the drawdown? What agencies? It seems like there're a number of people involved here. Who really thought this is going to be the thing to do, or who really wants this to happen?

Response: Initially, these were proposals brought to the Corps of Engineers by agencies that have a resource management role on the river (whether it's Fish and Wildlife, State DNRs, interested public). This is being proposed as part of the Corps' recommendation to Congress that resulted from the

Navigation Study. This is the proposal by the Corps based on the successes that have been demonstrated through these pilot projects in other pools.

The others are considered pilots and now this is the main program?

Response: In the past what we have done is conduct them as temporary deviations. Try it once and “see what happens” kind of approach. Because of the successes that were demonstrated, we are looking to see if we can make this an integrated part of how we operate the rivers.

So it would be a regular basis type of a thing.

Response: Potentially.

For 40 years the river has been at this level since they put the lock in; is my understanding correct?

Response: The pool level has been that way since the start of the 1939 navigation season.

So what would happen if it stayed that way?

Response: We would continue to operate as we do now. We’d see the continued degradation that we’re seeing now. We wouldn’t obtain the benefits we’re hoping to obtain by establishing the vegetation which we believe will benefit in the long term the natural resources of the river. So no action would be to continue with the way things are now.

There is no crisis driving this? You are looking to enhance something. There’s no serious thing on the other side if we don’t do this?

Response: (S) Some people often ask, “If it’s not broken, why fix it?” And the question is, is it broken?

It doesn’t sound like it’s broken. It sounds like you are just trying to make an enhancement.

Response: (C) Kevin mentioned the DNRs that we work with; the Fish and Wildlife – they continually get comments from their constituents that fishing is bad, hunting is bad, they don’t like the scenery on the river, backwaters are filling in. All these problems people are telling us about, especially the backwaters filling in, has degraded the quality of the river. It’s not uncommon for people to talk about the way it used to be. And that infers that now is not as good. So that would be the problem. It’s not as good as it used to be. We think these measures can help reverse that and make it somewhat comparable to what it used to be, maybe better.

So wouldn’t the drawdown fill in the backwaters?

Response: (C) No the drawdown won’t fill in the backwaters. It may, in fact, adjust the channel geometry. Some areas would go down deeper. There is great concern stated over and over that if we let plants grow, they will trap sediments. That is a possibility. There’s the likelihood that areas of the river will change in response to our drawdown differently than if we do nothing. We think that overall the net benefit is going to be positive. I mentioned yesterday that river systems are different from lakes and traditional marshes. When you get plants coming up in a marsh that doesn’t receive a flushing flow you get layer, layer and layer of plants year after year that’s eventually going to turn a lake into a wetland into a terrestrial habitat, then go to a prairie and eventually into a forest. In the river, we get these seasonal flushing flows in the spring when a big flood event comes down. And it flushes out all those flows. Right now if you go to some of these Oquawka Islands we call them, they’ve got all these lotus beds in the interior backwaters. When you go out there in the spring – in June or July after the flood has gone away – you don’t see a lot of that stubble because the high water has come over the island and flushed all

that stuff downstream. Where, in fact, it gets worked into the food chain and becomes food for the bugs and fish living in Pool 19. So we accept the possibility of having more sedimentation induced by having more plants in certain locations, but we don't think that it's going to be a huge problem. We think this flushing action will counteract a lot of that. We will be monitoring to see how that action turns out. It has not been a problem in St. Louis and it has not been a problem in La Crosse and Winona where we've done it before.

Was there a public comment process in the other pools?

Response: (C) In St. Paul, there was an extensive public comment process. In St. Louis, it's part of their traditional operating procedures to have these drawdowns since the locks and dams went in. They call it environmental pool management. What they did was work with the DNRs so that their drawdowns were held longer because we can get more of these plant/wildlife benefits by holding drawdowns longer. So down there they ask for this type of management to be extended.

How about up in St Paul?

Response: St. Paul has been pleased with it. Their initial planning was to do a 3-foot drawdown, but that was not possible with the recreational community at all. So when they went through their public comment process like this, and they backed off for a 1½-foot drawdown. They made boat ramps and marinas accessible by doing the required dredging to make those areas accessible during drawdown. Those are the same things we are talking about doing here.

So there would be a chance for modification of the plan?

Response: Absolutely. We are here for the initial impacts and comments. When we complete our plans, we will come back and say, "We got your ideas and this is how we incorporated them in the study, this is what it looks like." And then you will have one more chance for feedback and we can weigh those comments again.

As a property owner, I'm concerned about access to the river and my property values at the north end of Oquawka, right off the Delabar Ramp. Is access going to be provided to Delabar Ramp? Will Delabar Ramp be dredged, or will it be high and dry? If you want to get down to basics, that's what concerns me most at the moment.

Response: Is that what you want to see done?

Yes.

Response: Thank you.

I'm a local property owner at Campbell's Chute, down from Putney's. At the present time Big River has two ramps that are closed and you can't put a boat in. Putney Landing – you can put a boat in there, but there's only probably a foot and a half or two foot of water at the present time getting out to the channel. Delabar Park has a ramp with a sign that says, "Go to Oquawka." If we can't get out now and you drop the water 1½ or 2 foot – I don't see what benefit – you said you were going to let recreational people use the river. At the present time we cannot use the river now. What would happen to Campbell's Chute, for instance?

Response: (K) We are looking specifically at the condition of the boat ramps now. And then depending on the alternatives we are looking at, what would it take to make those sites accessible with the drawdown? I can't tell you for a specific ramp what that action is until I know how we plan to implement it. Depending on what you do at the dam – 2-foot drawdown, 1-foot drawdown – I don't know if we'll

change the water surface. That is part of what we will be doing when we take your comments back. If our concern is being able to launch a boat back in Burnt Pocket in the slough, then what would we need to do to maintain access?

Who's in charge of the water getting back to the ramps at Big River? Is it the Corps of Engineers?

Response: The DNR.

Are they in charge of keeping it open?

Response: (S) I don't know who owns the ramp. Are you talking about the ramps or the slough backwater?

The State of Illinois is in charge of the ramps. I'm talking about after you put your boat in the water to get out to the main river. Who's in charge of that?

Response: (S) Let me introduce Kenny Brenner from our Operations Branch who's responsible for navigation channel dredging on the river.

(KB) The ramps you've referring to is the Big River Camping Ramp (RM 424.1L), Hancock County. The river has been for years closing that ramp off and basically has been unusable for a lot of years. Joe Dziuk and I have been surveying all the ramps in the pools using survey boats. Right now we're at Putney Landing surveying the slough so we need to know how much dropoff there is at the end of each ramp.

I'm talking about the shallowness. The ramp – we've got no problem using the ramp and worrying about the gravel at the end. Who's in charge of the water from the end of the ramp to the river – to get into the river? (At Big River there's two ramps.)

Response: (KB) At the boat ramp you are referring to, there's low water right now and that won't be during the drawdown either. For us to have access to the river from that boat ramp, we would have to dredge ¼ of a mile and that's not going to happen because it's not economically feasible right now because you cannot even get from that ramp out to the river. As the situation is now, we are probably not going to do that ramp for 60 days or whenever we have a drawdown. What we would do is put up a sign saying, "Drawdown is in effect. Use Keithsburg, Putney, or some other landing."

The opening of Putney is only at 1½ or 2 foot now.

Response: (KB) If we maintain that you can put your boat in at Putney, it doesn't allow us to dredge up through Campbell's Chute to allow you access to the river

The chute's OK. I'm trying to figure out from the opening out to the river at 423.3 – who's in charge of keeping that open?

Response: (KB) Mother Nature. Water levels determine how much water you've got there...

Why do you we have Putney's Landing, which was put in for the fishermen, if you can't get into the river?

Response: (KB) During most parts of the year you can.

You won't at all with the drawdown.

Response: What we are considering is a temporary drawdown – only a 60-day duration.

So there's 60 days we won't be able to get to the river. We've got two State parks, Delabar and Big River. Those ramps are useless. They have signs to go to Oquawka. And then Putney's. If you have the drawdown, we can't get in. They've got a restroom that the State paid \$20,000 for – a restroom for the handicapped that's useless.

Response: (KB) In that instance, what we'd probably do is put signs up saying, "No river access from this point. Go to Keithsburg or Oquawka to gain access."

The one at Keithsburg is closed now. They have tapes across it.

Response: (KB) That's probably because it's sanded in and you would get stuck.

What I'm saying is, there's a reason that it's closed. I'm looking at it for a recreation purpose and there is no place to put your boat in to get to the river except Oquawka now.

Response: (KB) These are very valuable comments. Not only us, but the State DNRs are also responsible for making access available. We will be looking at your comments and adjusting.

I'm from the Mercer County Farm Bureau. In your notice of the public meeting, you have down that this will not occur until 2007 or 2008 if authorized by Congress. Is that still the case, if Congress does not authorize, is this not going to happen?

Response: (K) We cannot take any actions until Congress acts on the recommendation we provided. Whether Congress does it this year at this session or whether they wait to act forever, it is up to Congress. We cannot take any action without authorization.

Navigation channel will be maintained during the drawdown so that barge traffic will continue, grain will still float down the river, etc.?

Response: (K) Right.

I'm from the Illinois Farm Bureau, Bloomington. Has this pool always been dam point control or hinge point?

Response: (K) Since the start of the 1939 navigation season, it has been operated with dam point control. Very early on in the 1930s they had discussions about how best to do it. So there was a period there in '37-'38 when they might have been operating by the hinge. But since 1939 they have been operating by the water level at the dam.

Does the drawdown, from your perspective, pose any particular problems or opportunity for levee district and levee maintenance during that period?

Response: (K) Well, certainly from the standpoint of seepage, a reduction of water level in the pool would be of benefit for the amount of seepage coming into the drainage district. If they currently pump into Pool 18, it would potentially reduce the head which they pump against which again is a reduced cost. Generally, reduced operating costs might provide benefits. In addition, it might provide an opportunity if they needed to do any type of maintenance work along the bank.

Corps would provide notification to those levee districts and other entities along the river that would have a particular interest in the drawdown timing?

Response: (K) Certainly. At yesterday's meeting we had a number of representatives from drainage districts that are aware of this.

(S) Just to clarify, if there were particular interest groups that wanted to be aware of this, we would encourage them to contact us and get their name and address on the mailing list. We don't guarantee that our distribution list is adequate yet. That's one of the reasons for having meetings like this is to make sure that everyone becomes more aware that there is an activity going on and we want to get more people in the loop so that we can notify them when things like that happen. In fact, when we were developing the mailing list for our announcement, I specifically made sure that we put Henderson No. 3 and Des Moines No. 7, the bordering drainage districts, on our distribution list.

I am pleased to hear that the Corps' intent is to maintaining the 9-foot navigation channel throughout the drawdown period. Because that's one, of course, that our members would find of great importance that that be maintained, especially as we enter into the early stages of the harvest season.

(New speaker) *We were at a meeting when the Corps made an opening in Burnt Pocket from the river. Do you remember that? What was the purpose of that supposed to be?*

Response: (KB) That happened just in the early '80s and I wasn't where I am now, but I understand that a State agency asked us if we could increase the flow to the backwaters there. And it didn't really work. They wanted to get oxygen because water flows bring oxygen in the summertime, and they had fish kills during the summertime during low water periods like now, and they felt that if they introduced water, that they would introduce oxygen and that would save the fish. Well, with water comes sediment. It worked for a couple of years, then it filled in the backwaters.

I'm a property owner in Oquawka and I'm curious to know if you have gone back to the previous pools that you have tried this in. Are there small town ports... Have you gone back to look at the amount of business closures, property values diminishing?

Response: (C) I don't think we have gone back to specific businesses. Have not heard of any marinas closing, no businesses closing. Public and agency response to the drawdowns up north has been extremely positive. Down south in St. Louis area, there have been no problems with accessing duck blinds or any of the fall river activities; i.e., hunting, fishing. I don't believe there has been any negative economic impact.

Just none that you have heard of.

Response: Correct.

But you haven't gone back actively and taken a look at that?

Response: (C) No. In fact, now that you mentioned it, when we did our drawdown in Pool 13 we weren't entirely successful because of the way the river operated that year. There was some complaint from an Illinois bait dealer who has a boat ramp in the lower end of the pool who was very concerned that he was going to have a negative economic impact. I don't remember exactly what the experience was, but in fairness there was that concern from that individual.

(K) We have a campground at Pool 13 at Thompson and for the years that we did the drawdown, visitation was up 10% from the previous years. During the drawdown, recreational use along the river changed. Instead of doing shoreline fishing along that area, they had a lot of bikers, camping, other kind of activity. Still recreational use, but a different mix of activities.

What about the homeowners along the river itself? Obviously, they aren't going to be able to access the river from their dock unless they build a really, really long dock.

Response: (K) One thing to consider is that we're talking about something that's of fairly short duration occurring every so many years.

You said 10, then 5, then 3 then maybe every ...?

Response: (K) Well that's undetermined at this point. That's something we're talking about as far as how to implement it. If that a concern that we do it every year, then that's part of the feedback we are looking for. In the long run, we are hoping to benefit those resources and make the pool an attractive place for recreation.

24. I want to see you maintain the wildlife, but I want to see the humans stick around too.

Response: (C) In fisheries, we talk about year classes. That's basically how many baby fish you grow each year, how well do they survive, how well do they grow. Some years you get a really good year class and you can follow that blip – fish as they grow. So for fish like walleye, you might be able to track that for 7 or 8 years. I'm likening this occurring to the same thing. It may be a bad year class. When we do these drawdowns, recreationists are going to be impacted for 60 days. Basically, that's what we're shooting for, 60 days. That negative impact hopefully will be confined to that period, and will have long-lasting benefits that will enhance your recreational opportunities for 5 or 8 or however many years. That's a question that we'll find out if we do this for the first time, track it carefully, and find out whether it's a good or bad thing.

(S) I don't want this comment that I'm about to make to sound negative because I mean it in the most positive sense possible. To reflect on your comment, for example, it would help us if comments like this could be made in the context of how many days might be acceptable. Or, from your perspective, would 60 days be too long, is 90 days too long, could you live with 60? That's about the minimum to get the vegetation to grow. If we can't get 60, we probably can't do the project. "What would work?" is what we are here to find out today. In terms of the recreational boaters, home owners, cabin owners, navigation interests – we heard from navigation interests they need a 9-foot navigation channel. That's one thing people need to consider. One other thing. Someone commented about going to another boat ramp – such and such a boat ramp is too far away. Okay, how far is too far? What might be acceptable, what would make it more palatable in order to achieve the public benefits of improved wildlife and fishery management? I don't want to put words in your mouth, and I'm not trying to be negative about the comments. We very much appreciate your comments. I'm just trying to encourage you to make them a little more useful to us. Thank you.

How much advance notice for the drawdown do you give people? Like 60 days head's up that we are doing this?

Response: (K) Typically what's been done, before this occurs there's a public notice that goes out to the press. Much like you heard about this meeting. Information will be sent to the press to try to get that to you. From a navigation standpoint, a navigation notice goes out in advance. Exactly how many days those are sent in advance, I'm not positive.

Sometimes we will get a navigation notice that a lock is going down two days after it goes down.

(New speaker) You talked about public marinas, public boat landings. What about for the private businesses? We load at a slip right now, we're nearly rubbing bottom at these water levels. Is there any help economically for us?

Response: (K) We are also looking at what the existing conditions are at those facilities, just like we're looking at the boat ramps. Not just looking at one or the other. Looking at what's required to maintain access. Until we look at what the existing condition is, we don't know whether any action is needed or not.

From our standpoint, when Mother Nature takes a river down, it's one thing; but when it's manmade, it's a little different thing to swallow as far as financial impacts.

(New speaker) *I'm from New Boston, Illinois. I have a question about the dredging part of Sturgeon Bay. We have been told a year or so ago that we were on a list from the DNR because of natural habitat for the Blue Heron. I was wondering if anyone had any input on that. If this has anything to do with any of this? Also in that same vein, we have a large island, I believe they call it Bay Island, that gets pumped into the Sturgeon Bay area – I do not know, I've been told by sources, but I have no reasoning beyond just what I've heard – that is filling in our back water area. At this moment you could walk across the bay chest level in mud. There is not enough water there to float a regular boat. They take some air boats up in there. Are there any answers to any of that?*

Response: (C) I don't know of any active projects going on in the area that the Corps is working on. We have objectives that will address it in the future as this program gets authorized to look at increasing backwater depth up in that area. It would be a similar sort of thing increasing deepwater habitat, hopefully improve the water quality, overwintering fish habitat, and then with those measures we hope to stimulate aquatic plant growth throughout the edges in the shallow portion of the backwaters

At the boat ramps you can put in a flat boat, but anything beyond 20 feet, you can't get anything in the water at this time. I was wondering, since we are farther north, and they don't think it is going to impact us as much as the people in Oquawka, are the ramps also being looked at in that area?

Response: (C) They'll all be looked at.

(KB) We have already surveyed the end of the concrete at whatever ramps we could find. Some of them we have not been able to find the exact end of concrete. Joe Dziuk and I have been running around Pool 18. What we do is find the end of the concrete, and we get an elevation. Then when we know how much of a drawdown it will be, we'll know how much of an impact it will have. When we survey those boat ramps today, some of those boat ramps the concrete drops right off at the end. We don't have that problem in Oquawka. The problem is you have sand at the end of your dock.

We had nothing but mud on the end of our trailer and it's real hard to float the boat.

Response: (KB) One of your ramps has a nice big hole in it, too. What would probably happen if the drawdown would occur, the riverward-most downstream ramp near the elevator right there – what we would do is put up a sign at the other boat ramp that says, "Use that ramp."

Also you talked about the elevation being 528 feet above sea level. What is that in layman's terms? I know flood level is like 16 foot. Where is that as far as...?

Response: (KB) The gauge at New Boston. Flat pool at Keithsburg right here is 4.8; today it's about 5.5.

So it would be drawdown from that level?

Response: (KB) 4.8 on the gauge would mean that that river out there is 528, the same as it is at the dam. It's pretty flat all the way up to Keithsburg right now. It goes from there up as you get close to the tail at 17.

(K) The blue line on my chart is not that far from where we are today. So that gives you some feel for where the elevation is in New Boston versus a flat pool.

I guess my question is, the year you decide to do this drawdown, what would the river level be at that time, and what good would it do if the river's at 12 feet?

Response: (K) We are going to look at, in terms of assessing potential impacts, what happens under low flow conditions because we need to accommodate all flow conditions. When we're assessing benefits, we talk about what's more typical. We want to make sure we can maintain a 9-foot channel. We have to make sure we can maintain if we have a low-flow year.

Chuck talked about when the water level is up and after these drawdowns and the aquatic plants come back and the river washes through and takes a lot of this away. Sturgeon Bay does not have an inlet from the Mississippi, it comes up from the mouth. And so I can see happening is more plants, more sediment getting caught from the pumping station and filling up higher. Is there any way I'm wrong, thinking that way?

Response: (C) I think you're pretty close to accurate on that. Every site is going to respond a little bit differently. You're way up there. I think the drawdown effects will be pretty minimal. You're only going to get 6 inches to maybe a foot of drawdown. You are going to have relatively less plant growth in response to the drawdown that you would further south. But further south is where they get that flushing flow. Other NESP programs are looking at backwater restoration.

How do we find out the process on that and how it's going?

Response: We are going to be meeting next week again with the State agencies to refine our objectives for all the areas. We have about 18 spots in Pool 18 where we're looking at potential projects in addition to this one. We think maybe by the end of this fiscal year, the end of September, we will have an idea of what we want to do and in what order we want to do it. When we get that done and written up next year, that will become a public document to get out to you folks. If you are on the mailing list, we can get it out that way. Whenever we do a separate project, we will have another public meeting like this. You can look at the overall plan and the individual projects as we step through them.

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I have a question about a slide you showed on Lock and Dam 8 and how much it grew and how much it stayed there. The only thing I don't understand is what you're trying to do in the Pool 18 area. I know you just tried to explain it to us, but I'm scared to death that you're going to try to change the whole Pool 18 area to be like the Pool 8 area – you showed a before and after picture of that (voice interjects “Pool 25?”). Are you going to change the whole structure of this? Are you going to change the channel? Are you going to add a lot more land? I know you control the water a lot. What's your goal? I know you want to grow more leaves and do whatever, but it floods in the spring and stays good maybe 2 months. So do you just care about those 2 months to do that? Are you going to actually change our land? Change the whole way this pool's going to be?

Response: (K) We're talking about a short-term reduction in the water levels to try to get aquatic growth; plant growth to feed birds, ducks, fish; to increase their abundance; increase the diversity of the species; basically increase their numbers in the pool. It isn't going to grow plants everywhere. Obviously, it has to be an area that could be dewatered by what we are talking about. It's going to primarily be in the lower end of the pool because it's closer to the dam, under more influence of the dam, and is going to be concentrated in some of these channel pockets. This is a pocket (indicating) right below Henderson No. 3 Drainage and Levee District.

I own a marina in Oquawka and it's only about 4 miles from Oquawka to the dam. Are you going to change all that? What you showed in Pool 25 doesn't make sense. It looks like it's going to be like that forever.

Response: (K) Typically, that vegetation will persist through the fall season and once we bring the water level back up, that vegetation is still there. During the winter, of course, it's going to die back – and I'll let the biologists correct me where I'm wrong. And then in the spring when we go through the high flow period, those plants disappear during that time. The question we're trying to answer is, “Will they come back again next summer without drawing it down?” We'll help to establish a seed bank there. Hopefully, we have improved water clarity by solidifying the bottom of it with compaction. The big question is “Do they come back?” And it's going to be in isolated areas. In terms of access to these marinas, we're going to look at what it would take during the 60-day period to maintain access.

You're going to have an extra \$175,000 to make access to all marinas, ramps. Is that every year?

Response: (K) That's an initial estimate based on what they did in Pool 8. They cleaned out eight different boat ramps in that pool and it cost about \$200,000 to do it. So, we're talking about \$25,000 for what they cleaned out. And so in our very early planning phases while we were developing a Recommendation to Congress, we had to come up with an estimated cost. So we estimated that there might be seven different boat ramps, marinas we need to take action at here using a safe cost of \$25,000 to get \$175,000. That number now doesn't necessarily matter. What we're going to look at, what does it take specifically to address what's there at these locations? We will come up with a different number of what's needed based on that.

So like in New Boston, Keithsburg, and Oquawka, and all the docks that all three towns have, you're saying every time you do this – every year – you're going to keep all of our areas all cleaned out?

Response: (K) What we're doing right now is just trying to figure out what the condition is today. That's the first step. We've got to understand what the level of access is today. For a given drawdown, what action would be required to restore access. Some locations may not require any access (work) depending upon the implementation plan. Others are going to require extensive work. I don't have the answer for a specific boat ramp – whatever might be required at this point. That's partly why I'm coming to you, and why we're out there right now surveying for what the conditions are in the pool.

The water is low right now. How much lower is the water going to be at this point under the drawdown?

Response: (K) Depending on how you implement it (looking at blue line on map).

What water level?

Response: (K) The blue line is not that far from where we are today.

So that's where we are right now?

Response: (K) We're basically sitting at this solid line. Potentially, if you did a 2-foot (drawdown) – and that's not the final implementation – we're looking for you to help us decide that – you would find yourself down at the dashed blue line.

So that would be bad?

Response: (K) Are you in Oquawka?

Yeah.

Response: (K) This is the most aggressive implementation, and we're presenting it because we want to understand what the potential impacts could be and to make sure we capture all the information on potential impacts of what would be the maximum drawdown. What that final implementation looks like hasn't been determined.

(S) What would be the case for you not to have a problem?

Right now I'm really low.

Response: (S) We understand. What would it take for you not to have a problem? What we're looking from you today is to say, "These are my draft conditions at the marina right now, this is what I'd have to have under a drawdown in order to get to the marina and to the river."

I want to see you leave it the way it is, but I know you're not going to do that.

Response: I heard you say earlier that you don't like the way you've got it now because you hardly have any water.

No, I've got a harbor behind my marina right now that I know I've got to dredge. I'm not worried about that. I know that I'm going to have to be responsible for that. I'm not worried about that. What I'm really worried about is the access to my harbor. When you lower the water, who's going to be responsible from that point to the channel? And I'm worried about the boats in Oquawka and New Boston and all those places. Right now in New Boston, they have had to throw their docks way up in order to have access to it now. If you're going to lower it to that level, that's a bad deal.

Response: (S) So what will it take to provide access to the navigation channel to your marina, is that the question?

To all the accesses –not just my marina, but to everywhere. What really worries me, is that the water goes up a lot in the spring. I didn't go to plant school or anything. When the water goes up and you're going to do all this work in the spring and then have to start all over again and we're going to spend all these thousands of dollars just to keep doing this every spring, every June, July and August. Is this going

to be occurring every year? Because we know that Lock and Dam 19's a power plant and they control the water and they flood us all the time and they lower all the time. And it happens all the time. It doesn't make sense, what you're doing. We're so close to the power plant. There's not a power plant at all these other places, but we just happen to have one there. We go up and down like a yoyo. We really do. All that you guys want to do is fine, I guess, but in the 18 area it just doesn't make sense. I don't think it's going to work. I think it's going to be a big waste of time. I think you're going to spend a lot more money than it's even worth. I've seen it go up and down, and if you're going to do what Lock and Dam 25 – and that's something that's like that every year, the way you guys made that. But I don't know how you're going to do that. I think it's going to be a waste of time.

(New speaker) *I'm a boater out of Oquawka, IL. Is there an environmental group behind this?*

Response: (K) This project is resulting from the recommendations that the Corps has provided to Congress as part of the Navigation Study. So this is a recommendation from the Corps to Congress and this, of course, was coordinated with the State and Federal resource agencies. They were our partners in helping to develop the plan. But it is a recommendation from the Corps. The original drawdowns on the river that were conducted were at the request of different fish and wildlife groups who came to us and said, "Would you consider trying something like this?" It was tried in various different locations and, because of the success that occurred there, there is interest in moving it around to other parts of the system and seeing if we can all derive these benefits. The objectives we have identified for the Navigation Study came from a long process. We brought the public in when we identified what we wanted to do. We worked with our state and Federal partners to identify the types of projects we are interested in. And then, eventually, resulting in a Report to Congress with our final recommendation. It was a long process that included everybody in that process.

Between Keithsburg and Oquawka there is a lot of this that you are talking about building already there – vegetation, lily pad. It's just covered with it. I can't see where you are going to gain anything.

Response: (K) I think part of it is much more to increase the variety of the types of plants we're seeing, as well as the abundance.

I realize what you are saying about abundance. Have you been out there?

Response: (C) We have been out there recently and, if you look at the lotus bed, the flowers that are blooming right now, that is really actually not very good habitat. Because under the water all you have is a single stem on a big flat leaf that's either laying on top of the water or rising above the water and then you get those sea heads on the big floating flowers. That's not good fish habitat because – you know coon tail, a sample of a plant that grows out of the water. They have a lot of leaves and stems that grow in thick beds that bring a lot of aquatic insects and plankton that small fish eat and give the fish a place to hide so they don't get eaten by bigger fish. At the same time it allows the bigger fish to hide around the edges while feeding.

We're all aware of how the fish work in the Mississippi River. Don't get me wrong

Response: (C) But you see, the only plants we have out there right now in any abundance is lotus. There's no submersed aquatics under those lily pads. And what we hope to do is bring in something that will get the submersed aquatics that's going to benefit the fish and bugs in the water and then get some of these emergent aquatic plants, like smart weed, the tooth plug. Those are the ones that produce the abundant seeds so they (ducks) can swim around and pluck the seeds off or pluck them off the bottom when they fall in. So this is a whole ecosystem approach. We manipulate a couple of physical factors in the environment, we get the biological start at the base of the food chain over a wide area of the pool, and benefit all these other critters higher up in the food chain.

Well, I've been watching the Lake Odessa deal and it sounds like the Corps of Engineers has pretty well screwed it up. Now if that's what you are going to do with the Mississippi River, I would suggest that you just let nature do its thing.

Response: (C) We were just at Keithsburg between the first meeting and this meeting. Is anybody familiar with how much different it looks inside the Keithsburg Unit than outside the Keithsburg Unit? We are trying to get more of this part of the river to look more like inside Keithsburg.

Well, OK, but I think you are just blowing smoke, just wasting everybody's time because the river will take care of itself.

Response: (C) The river has been operating this way for 60 years. And when the locks and dams first went in there was plants and stuff all over the place. Something has happened that changed that and we believe it's the loss of the low flow stage in the middle of the summer. Because that's a critical part of how river systems operate. They have high flows when certain things happen, and low flows when certain things happen, and we aren't letting those low flow things happen any more.

Well I truly believe the Corps ought to do what it knows how to do and let nature do what it knows how to do.

Keithsburg resident. I guess what I've got to ask, if we're going to do this. I've farmed Mark Twain Game Refuge for a long time. You've got a pumping system out there that's been down for – how long, Don? They don't take care of the pumping system to maintain the refuge. Now when they drop the water this time, you like your duck moss and your other vegetation. When they drop the water, refuge is full and vegetation comes down the river. I just wonder, is there any way you can maintain that?

Response: (TC) The pumps went out with the '93 flood. Repeat the question please.

You are planning on doing all this and you are needing vegetation, I just want to know why the refuge out here can't be maintained. They lost all kinds of vegetation when they dropped the water this year.

Response (TC): Actually, we are trying to gain vegetation. If you look at the Keithsburg Division right now – the forest behind here – because there is a big hole in the levee, we can't manage the water just the way we want to. It was a result of the high water on the Iowa River most of this year, and high water events last year, and the year before, and ever since 2001, that forests have been dying out there. Just north of town, and look out across it – you'll see all the fresh trees that are dying. Those aren't '93 dead trees, these are trees that have been dying over the past couple years. So when we lower the water levels trying to help that forest, plus the button bush – that's the wooded vegetation most folks call buck brush right now. It's good vegetation, waterfowl cover, and an excellent spawning habitat for the fish. We already manage the best we can with what we have with the levee system the way it is. We don't own the railroad levee, and we can't repair it. That's the bottom line. Right now. The pump itself went out in '93. In 1993, that electric line came down along the railroad levee. This was all in '94-'95.

The gates – they used to be manual too?

Response: Right. The reason was, when those gates broke in 2004, we decided then that with a big hole in the levee at the south end was those gates were no longer functional. We got new gates to put on and as soon as we get the levee fixed we will put new gates on there. They do us no good to put them in now without having the levee fixed. Right. We use the wall to manage water levels. So if the river comes up, we can still pass through stretch.

I have a question for the Corps of Engineers. They seem to be really thinking about habitat. Back in 2003, the Department of Natural Resources made a recommendation to the Corps of Engineers about

dredging New Boston Bay – and, also, which is the problem with New Boston Bay, is the farmers pumping all that sump into the bay instead of out into the river. They say they pump clean water in there. Well, if you sit at my house, you can see that dirty water come right out there every time they pump. They are pumping more mud in there every year, the mud bar gets further and further, and we get less and less water and more mud. It says right on here when this letter was sent to the Corps of Engineers that the DNR went to advise the Corps of Engineers that they are willing to act as the local sponsor at the proposed project at Boston Bay. It's the only place in the Mississippi River where the water is pumped into a bay rather than out into the river where it can be dissipated by the current. There is no current in the bay whatsoever.

Response: (C) We've got a more comprehensive planning process that goes actually up and down the whole river. But for all of Pool 18, we've worked with the DNR guys over in Illinois and in Iowa, and Boston Bay is an area that's been identified as having resource problems. In particular, the resource managers want us to address the shallow water by dredging it deeper to create over-wintering fish habitat. We believe by doing that we can also improve the water quality.

How can you improve it as long as all those pesticides are being pumped in there by the farmers?

Response: (C) Right. We can address some of these water quality issues that are coming off the flood plains, but a lot of that is also up in the uplands. And we don't have any authority up there. Unfortunately, we are down in the valley. We respond to what comes downstream to us.

The place they are pumping from is the valley. It used to be the river. The only reason they have pumps out there is because if they didn't, they would be flooded back again.

Response: (C) I understand that. One of the big restoration measures we call generically "flood plain restoration" would be get in and put buffer strips along the waterways in the agricultural areas that would filter those nutrients and sediments before they get into the drainage ditches to be pumped into the river. We've got all the measures that we hope to address this if our program gets authorized and we are allowed to work in the future. This project, the drawdown, has been identified as an early project, one of the ones we want to do first, because we think we can get a big payback in terms of ecological response for a small dollar investment. When we talk about dredging Boston Bay, we are talking about millions of dollars. It will be expensive and, hopefully, it will last a long time. When we talk about this (water level drawdown) approach, we are talking about a relatively small investment with a shorter duration response so we can come back and do it again because it's relatively inexpensive to do.

The bay wouldn't need to be dredged nearly as bad if the water wasn't coming in there instead of going out to the river. And if it's dredged and it still comes there, in a few years it will be bad again.

Response: (C) Yes, I understand the dilemma there, but there is nothing we can do as the Corps of Engineers to affect flood plain plumbing systems that have been there for longer than the navigation system.

No, they used to pump it into the river. It was changed and pumped into the bay.

Response: That's actually normal. It's a zoning issue, I believe, and there isn't anything we can do.

The Corps of Engineers is in charge of it.

I'm a commercial fisherman from down in Pool 19, the next pool down. My big concern is, your drawdown from the 1st of June through September is right during the spawning season of not only the game fish but the commercial fish, too. You usually get a little bump on the river during that time; the fish go back in the backwaters. You drop the river 2 foot and they are caught back in there because the

face of the lakes has less water there than there is back in it. They are trapped. They're going to die. What's going to be the outcome of that? You keep doing that year after year after year, and there ain't going to be no fish.

Response: (C) We understand that as a concern, and the date that Kevin put up was what we call the "worst case scenario." We think practically that the duration of the drawdown will start after the 4th of July and extend into early September. So we hope to let the fish spawn and then start the drawdown. As a commercial fisherman you understand the concept of good year class and a poor year class. We acknowledge the fact that we might have impact on a year class of fish. We hope that that temporary impact of a 1-year drawdown reduced reproduction will be made up for by many years of improved habitat conditions for enhanced growth in those outyears. So if we can accept 11 year bad class out of 10, that could have beneficial effects in those other 9 years.

The only way you are going to get better habitat out there is not dropping the pool level, but raising the pool level and utilizing the habitat that's already been created from years of siltation.

Response: We understand that, but we don't have the capacity of being able to raise the water level.

Then why mess with what you've got?

Response: (C) One of the big problems with working in a regulated river system is there are multiple demands on the system. We've got requirements for barges, we've got requirements to assimilate waste, we've got requirements for recreation, we've got requirements for fish and wildlife. We need to figure out ways to make all those things work together. That's what this plan is doing. We need to look at this drawdown as the best of both worlds. It's going to be a temporary impact on many of those users. But navigation has been a long-term impact on a lot of those other users. So there is give and take in all of this, and that is kind of what we are asking for. To let us try and see what the response is; see if we can get environmental benefits out of this. Let us evaluate it, let us measure it, let us report back to you that this is the response we got. Do you like it? And if you don't like it, then we might not do it again. And if you do like it, then it's something we can do over and over and over and it's incredibly less expensive than it is to manage these highly managed moist soil units. It costs millions of dollars to build a Keithsburg refuge these days. We think we can do this and cover a lot more area and get a lot bigger benefit for a lot less money.

Ok, you explained your opinion on that. As far as channelization is concerned, I've been a commercial fisherman for 35 years. I've seen the Corps of Engineers work from Caruthersville, Missouri, to Fulton, Illinois. I've seen what their channelization project has amounted to below St. Louis, Missouri, with their dikes. In 1970s the old pile dikes were replaced by rock dikes. The bay where the end of the dike started at the bank out in the river, a lot of places there's hundreds and hundreds of feet of siltation clean out to the end of the rock dike. They've got nothing more than a towboat channel below St. Louis. All the chutes are filled in, they have been diked off on the lower end. All that's left below St. Louis is a towboat channel. Then they pump their spoil out of the river that they've been dredging in back of the dikes to dispose of that. What's that of the environment of fish and wildlife? Out here, I don't know if people realize it – 100,000 cubic feet is a lot of sand. It would build a room 9 feet wide, 1 foot thick for 56.8 miles. That's a lot of sand to be pumping on an island. As far as the sand creates an environment for the trees to grow, right south of town is a good example of how much vegetation grows on the dredge piles. Thank you. (Applause)

(Next speaker) *I was just wondering about the timing of all this. Most of it would be a negative impact on the small businesses in towns around the river in this pool because they depend on a lot of the people coming in from out of town during the season, and they spend a lot of money in these small communities. I'm just wondering if you are locked into that same timeframe for doing that drawdown during the boating season, the recreational season?*

Response: (K) One of the obvious things we need to be able to do is grow plants. The spring season, as I showed in the hydrograph, is typically in flood-like conditions. The river naturally doesn't want to be down. Once you get past mid-June into July, then you can now start to follow what nature would have done otherwise, which is fall off. It's during that time that we have the opportunity to draw down. If we get too late in the season, we run the risk that we can't grow anything. So it's really the timeframe June, July, August, September – that's the only window that's available to us to grow the plants. And in the long run, this is really about a short-term impact with a long-term gain. It's really what we're trying to achieve here. We recognize that in the short term there's conflicts. There's always conflicts between river users. We're trying to see what we can do to better the environment and try to produce long-term gains for the existing resources in the pool. Admittedly, there will be short-term impacts to other uses.

(Couldn't hear question)

Response: Right. And part of that concern is why we're talking about marinas, boat ramps, and docks, we're looking at what's there and what would be required to maintain access during a drawdown; what could reasonably be done to accommodate both uses on the river.

I'd like to speak on a commercial aspect. There are four barge loading facilities in this pool. If each one of those consumed 10 million bushel per year and they were unable to load their barges 1 foot less with the drawdown, that would be approximately 4 million bushels that wouldn't get loaded into those barges and that's going to go back to the farmer at 50 cents a bushel barge freight today.

Response: (K) That's why we're looking at those facilities to see what we would need to do to make sure they can use them during a drawdown.

Some in this pool cannot – they've got rock bottoms and they can't be dredged.

Response: (K) If you can identify those terminals, that's some of the information we're looking for here.

Alderman and marine business owner. In Keithsburg, one of our ramps at this time is basically unusable due to low water situations. Our other ramp still works. We're operating at a low water situation right now. You've answered a few questions like the dredge cuts to the businesses. People want to know whether they're still going to be able to get their boat to the water and get it into the water and still be able to go places like the marina and restaurants that we do have. We do have very few of them, and we wouldn't like to see them go away. Keithsburg has very few upsides to it at this point. A lot of business has been lost. We'd like to try to pull more business to this town, and the river's the only thing we have at this point. I think people want to be assured that this isn't going to go away for a project, even though there are good intentions, and may work. Like you said, if it doesn't, you won't do it again. But, you don't want to lose your businesses and your people in the meantime of this project.

Response: (K) To address a couple of points. One is, we're not talking about a permanent change. It's a temporary change in a specific year. We are looking at what the current conditions around your marinas are. Some of the ramps have very limited access now. Exactly how we make decisions depends how we talk about implementing this. Maybe you do take maintain one ramp during the drawdown, especially if one of them was already inaccessible in existing conditions. But that's the reason we're going out there right now. We have the boat out there surveying those boat ramps to find out what's there. And to look at what we would have to do to make sure that the boats still can get out on the river for recreation during a drawdown. We don't want to stop recreation use. We're not anti-recreation. We're trying to find ways for ecosystem restoration and recreation to live together, as well as commercial navigation. Which is not always an easy thing to do. We can't simply consider the resource benefits. We might want to simply consider that alone. It's because we're considering other uses that we're putting limitations on what we can do for ecosystem restoration, and so we are looking at what the impacts are and trying to balance the

needs of the different river users. Undeniably, there is a 60-day period there will be some degree of recreational impacts. What we're trying to do in the long term is benefit the resources – fish, ducks, and scenery – that make it a place where you want to go out in your boat and recreate. And that enhances the value of your experience and possibly even for the people who are looking at the river in the long term. There's a short term impact for what we hope is a long-term gain.

20. (35:45) *Some of the guys are from _____ just below Putney's Landing. It all seems to be Putney talk. But a smaller slough off about 75 yards or so, it's a cement boat ramp. There's quite a few members of that boat club, and that 75 yards or so of that offset slough will be affected by that also. It's not been very good down there all this year; the last couple of years, really. It's leased property from the Corps. It's a concrete slab. You've got a lot of people are private owners with cement boat ramps. How will they be affected, back in the offchutes?*

Response: Some of the areas around there are quite shallow and hard to access depending on the river conditions. Different ways to implement a drawdown affect it differently and at this point I can't tell you how the final recommendation will affect it. What I can say is that we're going to look at what the impacts will be and look at whether or not it's cost-effective, possible to provide access, possible to implement. If we're talking about 2 miles from the river, a shallow, barely passable area, it could be difficult to maintain during a drawdown.

(C) Let me try something hypothetical. There's three boat ramps in Oquawka. If we can provide access through this drawdown experiment for that whole community, one ramp and then still have access to the marina, provided that that's something that we'll do. But, in order to decide which of those three ramps we'd use, we look and say, "OK, for this ramp, we need to put some rockfill at the bottom of the ramp so the trailers won't fall off when you back down." That would be the first step. Then we'd look at the characteristics of the three ramps and their distance away from deeper water where you can navigate through safely. And if one is 100 yards, one is 200 yards, and one is one-quarter mile, we're going to give you access to the 100 yards. We're going to pick the one that's cheapest to maintain access to. But, I can't guarantee anything today. We're pretty much assured that the people in Oquawka are going to be able to put their boats in the water. Now, if you're up in Huron Island side and there's two boat ramps across from Oquawka that aren't accessible now, and another one off Huron Island that is accessible, we're not necessarily going to make the two downstream accessible, but we would try to make the one up by Huron Island still accessible. We've got to kind of do this balancing across the opportunity, provide an opportunity, but not every opportunity. This is something we call incremental analysis in our planning jargon. It's required by the Government that we do this kind of thing, we look at several options, and we pick the one with the most benefit for the least cost. We cannot construct the recreation opportunities throughout Pool 18. We don't have any intention of doing that, but we can provide access at every location where you may be able to now. And that's part of what we keep saying. It's a temporary inconvenience for a long-term benefit.

I've already got over \$300,000 in my marina right now. What you're saying just now is that you may or may not provide access to my marina because there might be a public marina/public ramp, which there is just 2 blocks down the street from me, so you may just have access to that. They may not have access to my marina. Is that what you're saying?

Response: (C) I can't guarantee anything, but we're looking at all of those areas in Oquawka. One of the things that we're going to look at is social impacts in terms of the economics in the community. We looked, and I'm going out on a limb and I'll probably get in trouble. We could do a public marina here or do a private marina there. I can't tell you what difference it would make. But I can tell you for sure, it's a consideration in our answers.

(S) I think we're in danger of trying to provide a final answer to implementation that we don't have yet.

It's kind of serious to me. I know what you're saying...

Response. (S) That's the reason we're here today. Because this is a major impact, this is how it impacts, and this is the level of impact to help us determine the best time we can take action and where we need to take action, and that's the sort of the input we're hoping to get today. To make an assurance about this implementation plan we don't have is difficult. Understand our process. As we do our environmental assessments, one of the steps in the socioeconomic analysis is to look at the economic impacts and another one of those is to look at impacts to people's property. Individual businesses also factor into that. It becomes very difficult – I'm too new to the Corps to know whether it's possible – but it's very difficult for the Corps of Engineers to do anything that's going to adversely affect relocation of a business or of a landowner. In this case, where your business depends on that, if you make us fully aware of what those implications are for you, your business, and your property, I don't think you're going to have a problem. But none of us can have that clear crystal ball for the future. I can't stand here and say “absolutely no problem” for recovery. That kind of assurance just doesn't exist out there. On the other side, I can say that from a socioeconomic standpoint it is very, very difficult situation for the Corps of Engineers to come in there and do something to you that would put you out of business. The Federal Government isn't in the business of putting people out of business on an individual basis.

22. I understand that. I'm not saying that. I know two things. I'm the only marina that has gas on the whole pool. Also, in the Village of Oquawka we have that public marina and my marina and between those two marinas we are totally packed and that totally helps the whole Village of Oquawka. I know one year when the Boat House Restaurant was closed, it really made a big impact on that town and everyone around there. That was a big deal. I'm going to be losing sleep over this.

Response: (S) We're going to maintain continuous and frequent contact with you about those impacts – and likewise, you with us. Sharryn Jackson is here today. One of the things that she would like to do as part of this process would be to come to each of the communities at some point as we get farther down the line and know what we're going to be doing and be able to say that we're going to be here and set up an office for a day, set up appointments for people to come in and talk about what the nature of their business is, what they think their affects will be. That would be factored into the analysis.

(C) In a year or so from now when we have a final plan, we're going to bring that plan out to you guys one more time and the stakeholders' accessibility is a big factor in whether we actually pull the project off. So when we come back and say, “This marina is not going to be dredged,” and if you think that's unacceptable, we might not be able to do it. If we come back and say, “Access to this marina is going to be made available,” the residents of Oquawka might say, “OK, this isn't as bad as we thought it might be.” Try not to lose sleep until we come with final plans and then we'll have a better determination.

You say that you want to lower the pool for vegetation? You want to cause all this havoc just for vegetation? And that vegetation that you want doesn't grow in this area – are you going to sow seeds?

Response: (C) Actually, the vegetation does grow in this area. It grows quite well under the right condition, but not under the conditions that we maintain in your pool right now because we maintain artificial controls. We don't want the ecosystem doing what it does naturally that creates the habitat conditions in the refuges which they maintain through a lot of maintenance. But seeds that grow all those plants are still in the mud in the river, and if we can expose those sediments, when dried out, these seeds grow out of the river.

Don't they grow on the island? You guys don't like them other islands. From Keithsburg by the bridge is gone. It was there for years and years and years.

Response: (C) There are a number of islands growing in the downstream reach and once something becomes an island when an elevation is out of the water, it goes to trees very quickly. And we've got a

lot of trees, but we don't have a lot of wetland plants and submersed aquatic plants. We think this is the action that's required to get back the submersed aquatic and wetland plants to feed a great variety of fish and wildlife. We're operating on the base of the food chain to benefit all the critters higher up in the food chain.

We have a lot of critters and I think they're doing fine. I don't think we need this drawdown.

I live here in town. I want to make a living off the river, one of the reasons I live here and I don't understand everything you're talking about, but what's the difference from right now to whenever you decide to do your project on water levels? How much difference is that going to make? Is that in the water or on the banks? If you do that on the banks, either one of these boat ramps, you've got one down here right now they didn't pour enough concrete for so we back off of it. And the other one, if you go back that far in the water, you're going to have more than dredging to do because you have to dredge out Bass Island to get a boat in the water.

Response: Well, that's what we're looking at right now, is what would it take to provide access. And it may not be just to clean up. I'm not ruling out that we can't consider extending a boat ramp or something like that. That's part of why we're looking at it to see if we take an action that produces that effect, what would we have to do? Until we put a cost on it, until we understand what that impact would be, it doesn't help to make a decision on whether or not we can implement it in this particular way.

I hear "short-term" and "not very long." What does that mean?

Response: We're talking about 60 days, and possibly longer, depending on how the vegetation is progressing and growing. But does it grow to a height that when we bring the water levels back up 2 feet, does the aquatic vegetation sustain itself and survive?

How many rivers dump into this pool?

Response: Well, the two major ones are the Iowa River and the Edwards and a couple of small creeks.

And to get the channel dredged out to the proper depth – where's all this sand and sediment coming from?

Response: Drawing the pool down would concentrate more on the flows in the main channel.

Where's it all coming from, from when I was this big until now? The bank hasn't changed much.

Response: The sand is coming from the watersheds primarily. Passing through Lock and Dam 18. Right now are 13.5 million tons of sediment per year (through Pool 18).

How much is coming through the other rivers?

Response: The Iowa River alone is providing 27% of that. Way more than is proportional for its flow. The Iowa River is a major source of sediment in the pool.

And it's not that old (can't understand last word – could be full instead of old). Wouldn't it be easier to contain it there instead of let it run down here and do all this?

Response: Some of these issues are issues not only for Pool 18, but for the entire Upper Mississippi River. For decades there have been efforts ongoing in the watershed to try to keep sediments in the field. _____ work that the NRCS and the Soil Conservation Service does. As far as the Corps' authority going into the watershed for some of those types of projects, we don't have any.

It doesn't sound like here in the river.

Response: We have to deal with it. We don't necessarily have the authority to try to go out to reverse the problem at this time.

What other pools have you done?

Response: Right now we're doing Pool 5; we've done Pool 8, 13, and then Pools 24, 25, and 26.

How does that compare to our community?

Response: The upper pools are a little bit different from what we have here. The floodplain in the upper pools is never isolated. So the backwaters are created by the dams. The dam backs water up and created a much different picture and landscape in terms of backwater habitat and backwater lakes than we have down here.

Resources for pleasure craft in the pools that you've done?

Response: (Cannot hear response – many persons talking at once.)

Do they have sand beaches, not mud?

Response: (C) In a lot of those places they do. In St. Paul District, they have sand beaches. Up in Wisconsin and Minnesota, they've got beautiful clear water and sandy beaches and some deeper water and some shallow water. They've got a diversity of habitat. And I think that if you look at Clinton, up in Pool 13, that's a really beautiful part of the river, and you go north of there and it's just gets prettier and cleaner and more abundant fish and wildlife. What we really hope to do with this management action is make Pool 18 look a lot more like Pool 13.

How long has this been in the works? Is this just something that popped up?

Response: (C) Actually, water level drawdowns have been a management tool for wildlife managers for 50 or 60 years. They do it in small units like the Keithsburg Refuge in Oquawka and Lake Odessa. This large-scale effort that we're talking about has been in operation in the St. Louis District since the locks and dams went in, but in the mid '90s the resource managers asked them to modify or extend the way that they do it. To hold out a little bit longer so they can get their plants to respond. So really it started in about 1995 in St. Louis District where they asked them to hold water levels down longer than they would normally.

What are you going to do next year when it floods? You're going to lose all that vegetation. It's going to be down clear past Burlington.

Response: (C) Actually, there's two types of outcomes. The woman asks what's going to happen when the next flood comes along and will it wash away the plants that we just grew? There are two kinds of plant responses that we can expect. The first is an annual plant – a collage of millets and grasses that grow from seed and fall onto the wet mud. We don't plant it. It comes from other areas. Sometimes different seed banks – the seeds will persist year after year after year as well. Those are the annual plants that you wouldn't necessarily expect to come back the next year. There's another type of plant, perennial plants, just like the example of the lily pads that are out there now. They're perennial plants. They come back year after year after year. So the plants that you see down lower in the bay in the Henderson Creek area – that plant lived through the flood of 1993, lived through the flood of 2001, and it's still there. So we hope that we can encourage more of these perennial plants. That's what we really want. They'll

come back year after year without us doing this drawdown. We think what they need is a kick start to get their roots going so that they can have one good season of growth where they grow strong. They store up energy in their roots and tubers so that they overwinter, survive the next flood season, and come back after that flood subsides. That's a natural cycle that's been going on for a long, long time.

What if it doesn't take the first year? Are you going to do it every year?

Response: (C) No we're not. That's what our monitoring plan is. What we want to do is one time, assess the response, ...

But it's called a 40-year plan?

Response: (C) The 40-year plan is the Channel Maintenance Plan.

Is the main priority behind this to grow vegetation or dredge the channel? We're talking about the river, which is the same thing to me. What's the priority?

Response: (C) We're talking about two separate actions here. The point that we would like to get across is that we're combining our management activities. We've got a mission to maintain navigation...

So the priority is to drain the channel and in order to do that you've got to drop the water. And if you're going to drop the water, are we going to drop the water to grow vegetation?

Response: (K) We've been operating the navigation channel by doing maintenance dredging and we'll continue do that regardless of whether or not any authority is given to us to try to do a drawdown. Channel maintenance will continue irregardless. This project will try to bring in additional ecological resource concerns as the way we manage the river. It won't stop us from dredging, it's not going to change the fact that we will continue to dredge.

You don't normally drop the water 2 feet from where it is right now when you dredge.

Response: We would have to do some additional dredging if we were to implement a drawdown. We'd have to dredge more than we would have otherwise.

Do you know how much dredging kills fish? How many fish do you lose a year by dredging?

Response: (C) How much environmental impact does dredging have and, specifically, how many fish does it kill? Iowa tried to sue us several years ago about our dredging practices so rather than go through with the lawsuit, we came to the consensus that we'd do some studies on the environmental impacts of dredging, and we found them to be quite minimal, actually. There are short-term, site-specific impacts from stirring up sediments and moving sediments, but we found that fish move away from that big machine churning around in the water and we found that the heavy sand dropped out of suspension quite rapidly downstream from where the dredging activity occurred. We looked at aquatic invertebrates – they don't seem to be bothered because we're working in a sandy environment and usually placing material on other sandy environments, so those critters move fine. We looked at plant growth on dredged deposited areas, on terrestrial areas, and yes, there are some that remain pretty buried in sand piles. There are other ones where either a flood deposited a layer of fine soil on top or something happened to give a firmer, better flat soil that vegetation grows quite readily on. There are many dredged soil areas where we can't identify natural floodplain vegetation from that which grew out of the dredged material. And, furthermore, we looked at opportunities to use this dredged material coupled with fine sediments taken out of backwater to make them deeper to enhance floodplain restoration by planting tree species that currently aren't growing well in the environment we created. So we're really combining the operations of our missions – our navigation mission, our environmental restoration mission. We do it together so we

can do everything cheaper and better and faster. Before we changed in the '70s, it was dredged disposal alone. The natural resource agencies were upset with the Corps of Engineers. That was really the beginning of when we started our environmental mission. We worked with resource agencies to find less damaging ways to handle dredging and that worked real well. Then we had a mission to do environmental restoration in the '80s through a program called the Environmental Management Program, and we found out that we can be real effective at doing environmental restoration. But we did those things as separate jobs. Now what we're proposing with this program is to combine those jobs, given the dual purpose for this river of environmental restoration and navigation, so we can create win-win situations for all the users. And, yes, there's going to be impacts on environmental restoration and navigation; there's going to be impacts on navigation and restoration. We think that by working together in this type of fashion – this we think is a prime example of a “win-win” – because we're able to do the environmental restoration at low costs over a wide area without impacting navigation.

Are you going to spray for mosquitoes? You're going to lower the water level and then the mosquitoes are going to habitate on there.

Response: (S) There actually have been some studies done, not in regards to water level drawdown, but in terms of the Environmental Management Program where they've looked at, do Environmental Management Program projects like this one, where you're trying to put in moist soil unit projects, increase the mosquito population? Actually, those studies were done by State health departments that were concerned about some of the mosquito-borne diseases, disease vectors. Back in history in the Mississippi River Valley, that was a significant factor in actually initiating some of the drainage in some of the farmland. Nonetheless, the studies that were done recently have identified that the benefits of moist soil units do enhance insect populations, but they also enhance natural mosquito control agents – the frogs, the toads, the other insect larvae-consuming amphibians, fish, what have you. And they saw no change in the mosquito populations in the communities. We can get you some reference to that, if you'd like to put that question on your comment sheet and your name and address. I can get you a copy of a study.

From the floods, all that water that's left behind Keithsburg Levee, you can't pump that out.

Response: (S) And when it's a short-time, one-time thing like that, it doesn't give opportunities for natural populations of amphibians and small fish to develop. When you're developing a long-term environmental management project that's out there year in and year out, you get that natural control to develop, too.

Is the vegetation management, or water level drawdown, a 1-year plan and the channel maintenance pool plan a 40-year project?

Response: (S) That's essentially correct, except the water level management drawdown is actually a seasonal thing, not a year long, but 60-90 days.

I don't understand why we have to do it for 40 years.

Response (S): Let me try to address that from a channel maintenance pool plan standpoint. We have a variety of projects up and down the river that I've talked about as far as the various dredge cuts, dredge placement sites. We've been doing those on kind of a case-by-case piecemeal basis based on where were the chronic dredge cuts and we'd say, “Here's a chronic one. Let's fill the dredge site and place all the material there.” Our pool plan is trying to roll that up by pools, at least so we look on a pool-wide basis – where are we needing to dredge and where are we needing to place material? And also, eventually, we're trying to be in even a better place to handle more of these environmental management programs that we see coming down the pike. Now with the water level drawdown and some of the back channel dredging

we expect to be able to work with those in order to place some material from that back channel, finer material that would be used as capping material for some of our dredged material placement sites.

(K) On the water level management side of it, in terms of duration, we're talking about a potentially recurring product. While it happens in a given year, the potential of doing it again depending on if we see good results in future years on a recurring basis. The confusion, I think, is we're going to dredge the next 40 years regardless of whether we ever do a drawdown. And we need to think about where we would put that material. And that's a large part of what Steve's doing. He's also considering that if we do do a drawdown, there's additional material that we're going to have to give, so he's including that consideration. But he's planning in case we go forward, irregardless of if we ever do a drawdown, because we're going to be doing maintenance dredging for the next 50, 100, or for how many years we operate the 9-foot channel.

(Couldn't understand comment – woman was encouraged to put her comment on the comment sheet.)

Response: (S) One of the examples of that is Keg Island downstream from Lock 17. It's an island – bankline placement is what that's termed – on the project site. There's another one (Benton Island) upstream from Oquawka. There is a bankline there that is an active dredged material placement site. We can't put material there every year from an environmental acceptability standpoint. We talked about environmental damage. If we were to put dredged material there every year, there could be environmental damage that would occur as the material flows back off into the river. We have to clear those bankline placement sites for mussel habitat. A good example is Keithsburg. The Keithsburg community is asking for more sand on the bankline and we looked at that. Unfortunately, or fortunately as the case may be, there are several stages of species in that area. It's deep enough water – so that the boats – have a very diverse mussel habitat and the recreational boats aren't adversely affecting that. But if you were to place sand on that particular beach, with that slope, it's likely it would adversely affect those species. At least how we place material on that bankline has to be done very carefully. We could maybe place it only on the very upper portion, or if the landowner wanted to use it for beneficial use, there might be some opportunities there, but our flexibility is limited.

What about Blackhawk Island?

Response: (S) There was a question, "What about Blackhawk Island?" From a beach standpoint?

From a beach standpoint, a dock about 100 yards south of the bridge....

Response: (S) Can you put this on the record? Would you mind if _____?

Well, just across from the boat ramp, the south boat ramp down there, just across from the end of the sand beach _____.

Response: (S) The gentleman is reporting that just south end of Blackhawk – just across the river from the boat ramp – was an extensive beach years ago which was probably placed there as a historic dredged placement site that the Corps probably did at one time in the '60s. And historic dredged placement sites aren't always acceptable by the natural resource agencies for bankline placement of sand. We also have some very valuable natural resources in terms of mussel diversity in our river; there's freshwater mussel habitat, in terms of the species that consume those mussels and the fish habitat that they provide.

It's been reported here just in the last few days that they are seeing Asian Carp in this pool. Do you know anything about this?

Response: (C) I know that we have Big Head Carp north of Pool 19. To my knowledge – and we have not seen large numbers of Asian Carp....

The last time we saw an Asian Carp – this gentleman was just telling me – he said it was in Pool 11____.

Yeah, there's this Big Head Carp. I'm looking around for Jon Duyvejonck. Is he gone? OK. Fish and Wildlife was out looking for Silver Carp in Onalaska, so there's these Asian Carp – a Big Head Carp which has been around for a long time. We know that it's all the way up in Minnesota already. There's Asian Carp which were introduced in the South; and they're swimming up the Mississippi River and we know that they're in huge numbers right below Lock and Dam 19. 19 serves as a pretty good barrier to anything moving upstream because they never open their gates. Fish can't swim under the gates during open river like they do in the rest of our dams. But, the fish can come through the locks. They're permeable; not 100% effective barriers so I'm not going to tell you that we don't have Silver Carp, but we hope that they don't get here. Once they do get here, all it takes is a couple and they're going to be all over the place just like they are in the river south of Keokuk.

Responses from Comment Sheets

Section II contains responses by the meeting attendees to questions asked on the comment sheets.

For Seasonal Water Level Drawdown:

1. *Please describe your use of the Mississippi River, specifically Pool 18 (e.g., boating, fishing, hunting, commercial transportation, adjacent land owner, etc.).*

- We farm next to the river, our grain is transported on the river. I also love taking the grandkids and walking next to the river in the sand.
- Boating, hunting, and fishing.
- Adjacent land owner.
- Fishing and recreation.
- Fishing.
- Boating, fishing and hunting.
- Boating.
- Besides the above mentioned, our fire department gets water from the Mississippi. Without dredging we would not be able to get to the water.
- Boating, fishing and hunting.
- Cabin owner, marine share holder, and boater in Pool 19.
- What I want is for the river to be managed for the benefit of wildlife. I listened to a number of comments and all claimed great concern for the river. But if you listen closely the speakers were mostly interested in economics - concern for the value of their property, marinas, even restaurants. One man recently back from California lamented the lack of more marinas and restaurants around Oquawka. My dream river would have very few of these distractions. I want you to stand up to these greedy short sighted people and put wildlife first and foremost. Most Americans cannot stand a little inconvenience but I will tolerate anything if it helps wildlife.
- Adjacent land owner and farmer.
- I'm on 19.
- Boating, fishing and adjacent land owner.
- I hunt, fish and boat in Pool 18, specifically around Huron Island.
- We use Pool 18 for boating, fishing, hunting and commercial transportation. We have a cabin on Huron Chute.
- Boating and hunting.
- Boating and fishing.
- Boating - land owner.
- Duck hunting and fishing.
- Boating recreational.
- Boating.
- Boater. Live on riverbank.
- Recreational boating and fishing.
- Boating.
- Boating - adjacent landowner (family for 77 years) mile 416.65. I'm only 74.
- I've used Pool 18 for boating, fishing and hunting for 60 years.
- I am a farmer who relies on barge traffic along with boating with my family during the summer months mainly from May through Labor Day weekend.
- Boating, landowners; both at Williboc and a personal cabin past Delabar State Park.
- Our family enjoys boating and fishing. We have a boat harbor adjacent to our home in this pool 18 on the river's edge. We also have a boat building company that depends on the river for testing our units; i.e., steer test, engine, etc.
- We are 73- and 76-year-old boaters, love to fish together and in our waning years decided to build a house in Oquawka to enjoy the river. We are members of a boat club, having first a 25' boat (cruiser) that we spent our time on and now we have a 24' pontoon boat.
- I and my family use the river for boating, hunting, fishing, water recreation in general.

2. *How would a recurring, seasonal drawdown of Pool 18 affect your use of the river?*

- If it affects barge traffic, that would be bad for us.
- Would be great, should have started 50 years ago before all of the silt has occurred.
- None that I know of now.
- If there is still access from Dalsteen's Landing to the water - no problem.
- Improve aquatic plants/growth providing for better fish habitat.
- It would create fewer hunting spots due to siltation.
- Not able to use boat launch. Not able to use New Boston Bay. Concerned that Lake Odessa will be dropped even lower. Won't be able to use Lake Odessa.
- On the Iowa side we would not be able to get to the river. Right now our landings are almost too shallow for us.
- I would take boat elsewhere to use it including the money I would have spent here.
- It would affect the Iowa River level at Wapello, IA
- It would kill grain prices.
- I am afraid a drawdown would force me to look at other water areas (out of state, reservoirs, etc).
- We use the river from May through September so the drawdown would greatly affect our use of the river. There are already places we cannot drive our boat that we used to, the drawdown would make it worse. We cannot get to where our duck blind is. Recreational boating would be affected also.
- Very little (beneficial).
- It makes fishing almost impossible when your boat and dock are sitting on the mud. Motors hit sandbars and mud bottom rocks in props and lower units on motors.
- Not sure yet - I am concerned with Pool 19 - Silting in and low water levels.
- Would make some backwaters that I use inaccessible.
- We would not be able to use our boat without all the worry of tearing lower units off. Because we only get to use them the months you want to do the drawdown.
- No water to ski in without being on channel.
- Boat dock.
- We would not be able to use the river at all. Our home is in Oquawka on the waterfront and 2' drawdown would make it impossible to use our dock, because we have 2-2 1/2' water depth at normal pool.
- I would not be able to go boating.
- We would like a more constant level. Previously only high water a problem; now it would be twice in a season, 1 high and 1 low.
- After a few years of drawdown the river would not be good for anything but barges. We could call it the Mississippi Canal.
- If I couldn't put my boat in at Keithsburg and get to some decent safe beaches I would sell my boat.
- We use the backwaters a lot for personal boating. I would be concerned if we lost access to the river if the backwaters are gone! Our value of our cabin would decrease if we lost river access.
- We believe that it would not only limit our access to the river, but limit others' access, too. It would have a huge economic impact on our river town. The boaters, hunters, and fishermen are the people who use the restaurants, bars, grocery store, fuel stations, boat shops, etc.
- While in our boat club, we would not be able to boat or fish at all. Right at this time we have exactly 2 feet. We would lose the entire boating season. They say that they would dredge out our area, but I doubt very much if they would have our boat club in mind.
- We would not be able to access our backwater fishing areas and I run an 18'6" boat and would be concerned about obstructions under water that normally we would not see or hit with our motors.

3. Describe what impacts a water level drawdown might have on boat ramps, commercial docks or other infrastructure in Pool 18.

- There are 3 places to put your boat in close to use, and I think a drawdown would make it impossible to use them, unless they are dredged.
- Not as long as they dredge the commercial docks as they have indicated.
- Will cause a lot of problems - money last.
- Maybe too shallow to launch. Public ramp access.
- a. Planning for dredging to accommodate boat/barge access. b. Providing maintenance for boat ramps, boat docks, and barge tie-ups.
- On the Iowa side you would have about 2 landings.
- If the level is 2' below normal late summer pool, they would be unusable.
- The City of Wapello boat ramps would be high and dry.
- They could not get to the river.
- I'm afraid some boat ramps would become inaccessible.
- It's hard to get your boat in and out of water at boat ramps if the water is low.
- You'll primarily determine. (Trust those of significant use will have little or no negative effect.)
- They are sitting on the mud.
- Little.
- The drawdown would probably not greatly affect the boat ramps that I use. They would still be accessible.
- We already have ramps now that we are unable to use because of the water being so low.
- At Keithsburg - north ramp is unusable now. South ramp is OK for now.
- Could put Oquawka out of business.
- All ramps and docks below Putney's Landing would be unusable.
- Would not be able to get out to the river.
- Almost like having a tide. Lots of extra expense to accommodate both levels.
- After a few years we won't need any of the above.
- I think most ramps would be useless and the slip at the elevation would need to be dredged pretty deep to allow access.
- You would lose access to most all boat ramps as most are on backwaters. Putney's – opening to river – not good. Delabar – silted in – Big River – unusable. Oquawka – ramps good – silted in by seawall – 2-3 feet.
- We believe that the boat ramps, commercial docks, individuals' boat lifts and ramps will not be accessible with the water level drawdown. Instead of having water in these areas, it will be mud, which will not allow us access to the river.
- The boat ramps and commercial docks would be mired in mud. Right at this time, Big River State Park is needing a way to put fishing boats in the water because of the dredging in the channel. Campers now have to go to Keithsburg, IL, for camping and fishing.
- As a Des Moines County Supervisor, I feel our boat ramps would be a problem. A private access we maintain will be impacted.

4. Is there a way in which a seasonal drawdown could be implemented that would help to minimize the impact of the drawdown to your use of the river (e.g., changes to the magnitude, timing, or duration of the drawdown)?

- No.
- Before the duck season so we could brush blinds and make repairs early enough before the season. Would like to see a 10 foot stage through the season so the wild fowl would benefit from the growth.
- ? It may bother the barges at our elevator - Meeker's Landing - I own land south of elevator and the channel and levee worries me, as it keeps getting deeper and closer to me all the time.
- Shortest duration possible.
- After identification of individual area needs, ensure funding continues by area congressional legislators/staff visit/monitor progress. Timing to be late summer/fall because of barge slow down.
- No seasonal drawdown is necessary. All that is needed is a raise in the river state. No dredging would be needed.

- No.
- Make landing accessible. Being with the Oakville Fire Department, we draft water from any landing accessible. On the Iowa side the New Boston Ferry Landing is already inaccessible. Wykerts Landing on the back side of the lower Blackhawk is silted in. Without dredging there would be no water to get at. We also do rescue. We just had a drowning and we had to go to the Toolsboro Landing to get in the river.
- Don't do it.
- There is no way let nature take its course.
- Yes, do it from May 1st to June 1st!!
- I am not in favor of a seasonal drawdown.
- Summer when the river gets the most use, so if you do this in the summer that is really going to limit the use of the river.
- Not aware.
- Why does there have to be a drawdown?
- N/A.
- The drawdown would work well as long as normal river levels were restored by October 1.
- To do it later in the year, not in our busiest season; this is the only time our town makes money; they have to make it in the summer to get them through the winter months.
- Do drawdown in winter. Put float seeds on islands.
- Start with lower drawdown. Less impact on Oquawka area.
- Many years ago (1960's) the Corps used a winter drawdown December-February. This was beneficial to reduce flooding in the spring as well as the ecological benefit. Consider an April-May drawdown rather than June-July.
- During winter flood island - let them grow seeds.
- It would appear that a lot of the drawdown could be achieved by dredging and planting on the islands instead of growth below normal water levels.
- No, this is just another ploy of the Corps to get rid of some silt before it gets to the channel.
- If it was after Labor Day and did not affect any barge traffic at all. And I mean does not affect price of freight if they load less or have delays. It all effects basis which cost myself money and possibly timing on farm operations.
- August-November – Most boating would be close to being done. Fish (spawning) would be done also.
- A drawdown is a drawdown, no matter when you do it. The river is accessed by my individuals from March to December, so that only leaves January and February for your dredging project.
- Forget spending the money at this time. Use the money for the southern coastal regions such as New Orleans. Keep channel open for barge traffic. Only dredging where river becomes real shallow. We have lots of islands in the river which would be perfect for wildlife, without making it a giant mud hole.
- I am not sure. I hunt ducks in Buffalo Slough and right now a drawdown would impact us severely.

5. How do you feel about seasonal water level drawdowns in Pool 18?

- I believe it would cost lots of money that could be better used to repair or build new locks and dams instead.
- Good idea as long as the plants don't cause increased siltation by slowing down the water flow.
- OK with me.
- Good and necessary idea.
- It's a plan for disaster.
- Not necessary. At whatever level the river is you'll have low water in different back water areas.
- If the drawdowns are in mid-late summer you would ruin the boating and fishing. The river would not be accessible.
- That it is an effort to make the river more like a canal for navigation and commerce. The Corps is trying to sell it as habitat and ecology resource.
- It is all wrong and costly to the tax payers of the community.
- It is a waste of government money.

- Are you going to pay the farm for lost crop because of the lower water table in July and August when it needs it the most?
- I am not in favor of it.
- I am not very happy. We have owned our cabin for over 40 years. What good would it be if we have to sit on the shore?
- App_____ - appreciate environmental enhancement.
- I do not feel it is necessary in any way. Where is the money coming from to dredge the channel?
- Good if it works.
- I feel that if it would restore some of the river ecosystem, I am all for it.
- Hurt business.
- Don't like it.
- Not in favor - river is very low now and another drawdown would change use and places to boat.
- Winter would be fine and could reduce spring flooding. There has already been a significant increase in new plant grow in Pool 18 at Oquawka due to disposal practices (in channel) of dredge materials.
- Our vacation is going to the river. I disagree!
- It appears to be a lot of inconvenience to people using the river. It normally would be removed and cost of finding the changes would be great.
- When you draw down the water to get plants to grow, then when the river comes up and runs dirty, these plants filter out the dirt and there goes the back waters.
- I do not believe there would be that much of a benefit for the inconvenience.
- I feel we go through a natural drawdown every year!! You said we did not have good plant life now – how would that change?
- We disagree for a seasonal drawdown in the height of the boating season. If you could do it in the winter, would suit many people in our pool, but we believe the drawdowns in Pool 18 are not a feasible thing to do. Not only will our backwaters dry up or fill up with sand, etc., but our towns will dry up from lack of income.
- Why not lower pools in September and October after boating season? Our city depends on tourist income. Restaurants, bars, grocery stores would suffer, as well as our one boat industry in our town.
- I am not sure. I want to see some infrastructural improvement; dredging of the inland waterway of all the islands to create our forest management plans.

6. Are there any specific issues you feel need to be examined when considering a water level drawdown?

- What it will do to barge traffic and how it will affect the economy of the surrounding towns that are already hurting.
- Good idea as long as the plants don't cause increased siltation by slowing down the water flow.
- Since farmers are subsidized on their grain, fuel costs are up for farmers and drainage districts, and the swamp land was cheap until the forties. Buy drainage districts and blow the levees. Free the river from the dikes. Increasing hunting, fishing, recreation, and tourism. Ivory bill woodpeckers come back?
- Flood prevention.
- Shoreline erosion.
- Recreation impact. Emergency launch facilities.
- Water quality for the surface water treatment plants downstream (drinking water).
- I am against water level drawdown.
- How it would hurt barge traffic.
- The impact on fish production, with less backwater less places for fry to hide.
- Huron Island is filling in to the point where what does it matter if more plants are growing?
- What affect will this drawdown have on the water table for the farm ground in this area? The sand dredged from bottom of river doesn't grow much of anything - how is it going to grow new trees?
- Trust in Corps?
- The cost, now and in the future.
- ?

- The river sedimentation in the backwaters would need to be closely monitored. The islands are filling in with silt and if the drawdown would help to curb some of the siltation, then it would be very effective.
- Will you be causing more damage to water habitat, than what you think you will gain? Because it is all a gamble.
- Business and river users. The river is Keithsburg's only draw for business.
- How (will it) affect Boat House - formerly the Pier in Oquawka and Oquawka Boat Club - foot of Schuyler Street?
- The economic impact of this plan for the entire pool. Keep Delabar Park Ramps open to launch boats. Keep Putney Landing Ramp open.
- Boat landings - getting to channel.
- We have friends on Lake Barkley who have drawdown annually and suffer a lot of inconveniences.
- The amount of silt this will leave in the backwaters.
- Financial impact on the people using and making money from the river. The recreational use will change which will affect my family time that is because we live so close to the river - allows us to go on short notice.
- I don't feel that a drawdown would change anything for the better. What would grow then that isn't growing now with the water so low?
- We believe that the economic issues should be examined in our pool. We believe it would affect all of the businesses in Oquawka and Keithsburg, both of which are river towns and depend on the income generated; also, the people whose homes are on the river's edge or the backwaters who will no longer have the access or view. We believe that our properties will decrease in value by your plan.
- There are many cabins in the backwaters of the river. These people will be unable to use their boats to get across to river towns. There would be no backwaters in the river unless it floods. Now there are so many wing dams now that it's hard enough for boaters to navigate.
- Impacts on the local economy. Better access to backwater areas.

7. *What, if any, additional information do you need about water level drawdowns in Pool 18?*

- None.
- What about chemical concentration caused by lower levels?
- When?
- Adequate now.
- What gauge levels at Lake Odessa outlet control structure?
- Water quality data after the pool is restored; algae blooms, bacteria counts, etc.
- None.
- How it will work.
- I think it is about right, I would like to have info on the effects on river after draw down.
- By dropping the water 2 feet, how is that going to affect the water table for my corn? By letting weeds grow they will catch sediment when the water comes back up. Raising the bottom of the river, so our levees won't be able to hold the next "1993." If you think this will hold duck not with blinds - 200 yards apart. What dates? June 1st-September 30th. You're making 18 a catch basin. June 1st catfish have (not spawned) yet. Mile 414-415.
- Has this worked in other pools? How has this affected farmers, boaters, hunters in these pools? I would like comments from these people.
- Unaware of any at current time.
- Who, when and how do you have any company give you the cost of \$250,000 a year, and how many years will this company dredge at this price? Where will the money come from?
- How it will affect pool 19 during different water levels?
- I think that the information presented at the meeting answered many of my questions; however, I wonder if the drawdown would still be implemented in the event of a low flow year such as 2005?
- Dropping the water showing it on a graph does not tell us anything. You need to put it on what islands will be out if water,
- I think something else is going on.

- Your 60 day plan is during the heart of the recreational boating season. We do not want this drawdown to be an annual occurrence.
- I would like to see the 2005 picture of the 2001 drawdown that you had on the slides.
- If they are going to happen, when, how long, and how often?
- I feel that we are VERY LOW NOW!! A lot of areas are already silted in the backwaters. This would only get worse. Is this the purpose of a drawdown? To close up the backwaters?
- None. We do not believe the drawdown in Pool 18 is a good idea. We believe it will ruin the river as we know it and we enjoy it the way it is. It will decrease property values, limit fishermen's and boaters' access to the river. Our communities and surrounding communities depend on the income from the fishermen, boaters, and campers, etc.
- Keep the public informed of your intentions and why?

For Channel Maintenance Pool Planning:

1. How do you feel about a channel maintenance pool plan for Pool 18?

- The Corps is mandated to maintain a 9 foot channel.
- I believe the whole purpose of the COE is to maintain a navigation channel and nothing else.
- Needed.
- I feel that the channel maintenance pool plan is vital to navigation in Pool 18.
- The channel needs to be maintained.
- Have to maintain a channel but also need to remove silt from waters in island for better plant production.
- Essential for future needs/plans.
- OK.
- Not needed.
- If it helps promote or encourage recreation it is OK.
- It will not work.
- Rather ambivalent but resigned to its necessity.
- None.
- Appreciate all info, slides, etc.
- I feel that the channel maintenance pool plan is vital to navigation in Pool 18.
- I feel maintaining depth in the pool is necessary but I'm not sure on the extreme way you are wanting to do it.
- Think needs to be a regular dredge schedule. Like to see sand back on sandbars - too few spaces to stop in Pool 18.
- Dredge, but don't place dredge material in open water. In the past 10 years Mill Slough and Benton Island have grown 500 feet on the south end due to dredge material placed in open water at the southern end of Jacoby Island.
- Just make beaches.
- The idea of dredging sand south of Oquawka hauling three miles north and dumping in the river didn't seem too smart.
- You should have to dredge the same amount of material out of the backwaters as you dredge for channel maintenance.
- Our Pool flows better when the waters are at least 2-4 feet higher. It was my understanding that with a slow drop, the channel gets more silted in - so why not keep it up and flowing?
- We believe channel maintenance is a necessity for our pool and others. The barge traffic and other boaters need to be able to navigate without too much difficulty. We believe that the maintenance can be done without a drawdown of the magnitude that you're suggesting.
- I believe we need to maintain not only the channel but all backwaters of the islands involved.

2. What, if any, additional information do you need about a channel maintenance pool plan for Pool 18?

- Is it going to be wide enough for barges to meet in the channel?
- What if water gets too low and cannot be raised - then what?
- Adequate now - data gathering should be in place.
- None.
- Get the dredged material completely out of the river.
- Blackhawk Bottoms south of ISU.
- I felt that there was adequate information presented at the meeting.
- I would like to see our sandbars to stay intact. Not like through past years. They have put in wing dams and moved the flow of water and closed islands up. Or hurt business like they did at Big River State Forest. They have lost 90% of their business because of the Corps' ideas.
- Stop disposal of dredge materials in open water sites!

- Why not produce more shoreline areas in slack area and deposit dredge spoils to grow vegetation. Nine is not enough.
- None
- We would like to have any information on how the channel maintenance will affect the river's edge, if any, because we are a homeowner and have a small harbor where we keep our boat. We believe our property values on the river's edge will decrease in value.
- Keep me, as a public official, notified of meetings or and other information.

3. *Can you identify sites within Pool 18 where dredged material placement could be beneficially used?*

- There are places along the levee that could be beneficial. But my understanding is you cannot put it there.
 - Lower end of pool could use more islands and back waters, but can't just pile up sand and expect hardwoods to grow on them.
 - Beaches and levee build up.
 - Fill in area between Bass Island and mainland so future ferry boat project use Bass Island for deep water site.
 - Yes, on top of the levees.
 - No.
 - You have taken out most of the sand bars in Pool 18. You are still having to dredge at the same places you have had to for the past 30 years, so apparently the problem is not the sand bars.
 - None.
 - Anywhere but back into the river. If you dredge material and place it on islands what makes you think that it won't re-collect somewhere else after the next spring flood? Why not put dredged material on top of the levees so that they may withstand a 500 year flood?
 - We need beaches.
 - North of Oquawka.
 - On the existing sandbars.
 - We need more beaches.
 - Yes – Many.
 - The material dredged should be placed outside the flood plain but not to raise the levees.
 - I think some of the existing beaches along with some on the islands are still good places for some of the material. Also on levees.
 - We would like to see more sand put on the beaches at Blond in New Boston, Mapes and Blackhawk Island near Keithsburg, Benton and Hess Islands near Oquawka.
- Our sand bars now need a lot of sand. One sand bar on the Iowa side has completely disappeared.
- Backside of our levee system. Placed on islands with the intent of dredging backwater slack areas.

4. *Can you identify areas that could be improved with regulating structures (like wing dams)?*

- No.
- More wing dams.
- No.
- Mark wing dams better so boaters can use them.
- None.
- It seems to me that the Keithsburg stretch of the channel always needs dredged; mainly, I'm told, because of the Iowa River. Could there be something done to divert the silt from the Iowa River away from the Channel?
- Take out some of the DAMS.
- The roads to the arsenal after all the engineers left.
- No. Take them all out!!! Because of some of these wing dams, you can't even get into some of the backwaters any longer by New Boston. Not only do the wing dams direct water flow, but direct sand and

fill. Just like at Big River used to have a boat ramp that is now covered with sand, mud, fill, etc., because of the wing dams.

- In our opinion, right now the wing dams have been placed in the backwaters that keep waters in a flood stage, out of the backwaters and by doing so we have floods like the one in 1993.
- Not sure, but it all needs to be carefully studied.

5. Are there any specific issues you feel need to be considered when developing a channel maintenance pool plan?

- Make it wide enough for barges and boats to meet.
- Stop siltation from Iowa and Edwards Rivers by requiring riparian zones along banks and stream to cut down siltation in Mississippi.
- Don't start unless/until funding is secured.
- ****Keep access to Ferry Landing in Louisa County. Would require dredging.****
- Consideration for not only barge traffic but also recreational boaters, fishermen, and cabin owners. Currently there is very little consideration for these groups, only commercial and environmental groups!!
- Commercial use for fishing - elevator access.
- We have traveled the river north and south. Pool 18 is one of the poorest as far as boat ramps, sand bars, gasoline for recreation boaters. Because there are no marinas and only one place to get fuel, you have chosen Pool 18 to do this. You say this drawdown is temporary but summer is when people use the river the most so this "temporary" "inconvenience" is at the time when people are using the river. This is more than a little inconvenience!
- Very much appreciate any joint efforts with FWS and DNR.
- What are the environmental impacts of dredged material placed on islands - specifically upper Blackhawk Island near Keithsburg? Has the dredged material impacted the back sloughs in Blackhawk Island enough to cause excessive filling in of those sloughs? (There used to be 2 nice sloughs above the railroad grade that are now filled in and only have watering during a flood.)
- Water depth in summer months.
- Place the dredge material where they will facilitate recreational boating.
- Boat landings getting to the channel.
- Don't destroy any more habitat.
- We would want to know the possible affects it would have on commercial fishermen, marinas, municipal harbors, future plans for marinas, and fuel pumps, campground ramps, and personal property along the river edge.
- We want to maintain commerce on the river. As an avid user of the river all aspects of environmental issues need to be addressed.

6. Do you have other questions or comments about either Pool 18 water level drawdowns or channel maintenance pool planning?

- No.
- If you please one, it goes against another. I am not smart enough to figure which is best; you have a big job. Wish I had some ideas - sorry.
- Not at this time.
- The drawdown would allow Lake Odessa to be drawn down to 532.5 or lower. I am part of a movement to have Lake Odessa kept at a minimum of 534. Have there been discussions about this new ability to draw down Lake Odessa further?
- Consideration for not only barge traffic, but also recreational boaters, fishermen, and cabin owners. Currently there is very little consideration for these groups, only commercial and environmental groups!! Please provide hard copies of anything in the works that will affect Pool 19 owners and boaters of river levels that will change.
- No drawdown.
- No.

- I believe the backwater sloughs should be dredged out.
- I really hope that the drawdown will have the effects that biologist think it will have, and the channel maintenance program could be beneficial if implemented properly.
- What kind of impact will this have on the Keithsburg economy?
- Make human interests and use of the river a higher priority than fish and birds.
- What is the drawdown going to do to the small town economics?
- Like I stated, I've used Pool 18 for 60 years. I've never seen when plants started growing the water disappeared. Where I shot my first duck is dry, where my kids shot their first duck is also dry with grass growing in it. Where we hunt now is about 1/4 of the size it was 10 years ago.
- We believe that the water drawdowns are definitely not a good idea. It will limit river access and have a huge economic impact on the small river towns such as New Boston, Keithsburg, and Oquawka. We believe that it will destroy the river as we know it.
- Not at this time.

Section III is a summary of responses to the comment sheet questions regarding the meeting format: Not all totals equal 100% since each attendee did not respond to each statement. Likewise, because of rounding, some totals exceed 100%.

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Not Applicable
Overall, I was very satisfied with this meeting.	7%	48%	36%	7%	3%	0%
Meeting provided opportunity to gain information & better understanding of the projects.	16%	66%	9%	6%	3%	0%
Meeting provided opportunity for everyone to offer comments about the projects.	13%	75%	9%	0%	3%	0%
I had a chance to talk to a study team member.	19%	67%	11%	0%	0%	4%
Overall, attending this meeting was worth my time.	32%	52%	10%	7%	0%	0%

Responses to Questions Submitted on Comment Sheets

Section IV contains questions submitted on the comment sheets by meeting attendees, with appropriate responses:

1. Our pool flows better when the waters are at least 2-4 feet higher. It was my understanding that with a slow drop, the channel gets more silted in - so why not keep it up and flowing?

Response: The pool elevation maintained at Dam 18 was established in 1939 and has remained the same ever since. Since the Federal Government acquired real estate interests in lands consistent with this operating level, it would not be possible to raise the pool level “2-4 feet higher”. Historically, shoaling problems have occurred during a rapidly falling flood hydrograph, not during a controlled drawdown such as proposed here.

2. What if water gets too low and cannot be raised - then what?

Response: There is relatively little volume (compared to the flow rate) in Pool 18. Even at the lowest flows ever recorded through L&D 18, Pool 18 could be refilled at the desired rate (~0.2 ft/day) without any problems.

3. Is it going to be wide enough for barges to meet in the channel?

Response: Rock Island District works with the towing industry to identify channel problems as well as areas for meeting and passing safely. These areas would be maintained to dimensions suitable for commercial navigation.

4. It seems to me that the Keithsburg stretch of the channel always needs to be dredged; mainly, I'm told, because of the Iowa River. Could there be something done to divert the silt from the Iowa River away from the channel?

Response: It's difficult, costly and generally ineffective to divert silt from tributary streams. Rock Island District has some watershed management programs authorized by Congress to encourage aquatic restoration which may include measures such as riparian strips, native plantings, and other measures to minimize entrance of silt and sediments into tributary streams. Additionally, the Natural Resources Conservation Service (NRCS) works with landowners to develop and implement soil conservation practices.

5. Anywhere but back into the river. If you dredge material and place it on islands, what makes you think that it won't re-collect somewhere else after the next spring flood?

Response: Various studies indicate that dredged material placed on islands can remain on islands for long periods. Some studies of aerial photographs compared the area and shape of islands before and after placement events. Other studies examined dyed sands, and how they behaved following placement along island banklines. Of course the dynamic nature of the river is continually changing some islands, which tend to migrate downstream over time, eroding at the head end, and accreting at the toe.

6. Why not put dredged material on top of the levees so that they may withstand a 500 year flood?

Response: Placing dredged material atop levees on one side of the river, or along certain reaches, could affect flood flows in adjacent areas, and as such would require regulatory permits and potential mitigation to adjacent landowners for any induced rise in the flood profile. Additionally, for the Corps to participate in such a levee raise would require new authorization and funding from Congress. Dredged material, however, can be placed along the back side of the levees if it is the least costly, environmentally acceptable alternative. Use of such a placement site would require the Government to obtain necessary real estate interests from the landowners.

7. *What are the environmental impacts of dredged material placed on islands - specifically upper Blackhawk Island near Keithsburg? Has the dredged material impacted the back sloughs in Blackhawk Island enough to cause excessive filling in of those sloughs? (There used to be two nice sloughs above the railroad grade that are now filled in and only have watering during a flood.)*

Response: Based on experience on Johnson Island in Pool 18, the environmental effects of dredged material placed on islands can range from no significant effects, to a loss of wetland habitat, to developing more desirable habitat diversity. Similar hardwood and mast tree species would be expected on upper Blackhawk Island. Based upon available records (our records go back to 1940), no dredged material has been placed on the upper end of Blackhawk Island (placement has, however, occurred downstream of the railroad grade). Therefore, dredged material placement has not contributed to any filling of the former sloughs to which you are referring.

8. *Why not produce more shoreline areas in slack area and deposit dredge spoils to grow vegetation. Nine is not enough.*

Response: Rock Island District continues to look for opportunities for dredged material placement, especially in the lower reaches of Pool 18.

9. *We would like to have any information on how the channel maintenance will affect the river's edge, if any, because we are homeowners and have a small harbor where we keep our boat. We believe our property values on the river's edge will decrease in value.*

Response: Channel maintenance will not affect the river's edge in most of Pool 18. There are a few key points, notably, for example, the head of Mapes Island, where channel stabilization might prevent migration of the channel into or through islands or banklines.

10. *What are the possible affects channel maintenance would have on commercial fishermen, marinas, municipal harbors, future plans for marinas, and fuel pumps, campground ramps, and personal property along the river edge.*

Response: Channel maintenance would maintain the 9-foot navigation channel through Pool 18 for all river users. Advanced dredging before seasonal water level drawdown would maintain the 9-foot navigation channel. In addition, advanced dredging, boat ramp extensions, or other measures could minimize the possible effects on public river users in some off channel and backwater areas. The Rock Island District remains willing to work with various river users or groups in an effort to avoid or minimize expected effects.

11. *The drawdown would allow Lake Odessa to be drawn down to 532.5 or lower. I am part of a movement to have Lake Odessa kept at a minimum of 534. Have there been discussions about this new ability to draw down Lake Odessa further?*

Response: The Pool 18 seasonal water level drawdown is independent from any drawdown that the Iowa Department of Natural Resources might consider or implement in Lake Odessa. The Lake Odessa Wildlife Management Area depends on the river water intake for water level restoration, which depends on water levels in Pool 17, upstream of Lock and Dam 17 near New Boston, IL. The Pool 18 seasonal water level drawdown would be accomplished through regulation of Lock and Dam 18 near Gladstone, IL, upstream from Burlington, IA. Water level restoration would be accomplished using the flow of the Mississippi River through Lock and Dam 18.

12. *What kind of impact will this have on the Keithsburg economy?*

Response: The Keithsburg economy is not expected to be significantly affected by either the ChaMPP or the seasonal water level drawdown. The ChaMPP would offer more cost effective, environmentally acceptable plans to maintain the 9-foot navigation channel. Through efficient dredging, and using wing dams and closing structures and other channel maintenance measures effectively, the District and its partners intend to maintain the 9-foot channel with such dredging as necessary, and still increase habitat diversity for wildlife, fish and other environmental resources in Pool 18. Diversifying and expanding the woody tree species in the Pool 18 forested areas should substantially enhance wildlife diversity for migrating birds, and substantially increase forest values for hardwoods trees formerly found on presettlement Pool 18 islands and banklines. Were it not for advanced dredging or other preventative measures, the seasonal water level drawdown might be expected to affect some river interests and users. Advanced dredging, extended boat ramps, or various other measures would avoid and minimize these adverse effects during relatively brief drawdown periods (which would affect some portions of the pool less than others), and offer significant and substantial environmental benefits from increased habitat diversity for wildlife and fish resources in Pool 18. Following water level restoration, these habitats would include months or years of additional food for migrating waterfowl and increased habitat for forage and sport fish. These increased waterfowl and fish resources are expected to maintain and attract existing and new river users for residences, recreation, or sport. Hence, overall, these projects should help maintain, sustain, and enhance the Keithsburg economy over the life of the project.

13. *What is the drawdown going to do to the small town economics?*

Response: As noted in the above response, the drawdown could improve the environmental resources of Pool 18 and, hence, help retain the interest(s) of various river users for residences, recreation, or sport, which could offer some support for local area businesses in small towns like New Boston, Keithsburg, and Oquawka, in IL, and Oakville, Kingston and Wapello in IA.

14. *Why does there have to be a drawdown?*

Response: The purpose of the drawdown is to increase the abundance and diversity of emergent and submersed aquatic vegetation (those plants rooted below the water surface) which currently exist in very small quantities within Pool 18. These types of plants are important sources of food and cover that improve conditions for ducks, migratory birds, fish, and furbearers.

15. *I feel that we are VERY LOW NOW!! A lot of areas are already silted in the backwaters. This would only get worse. Is this the purpose of a drawdown -- to close up the backwaters?*

Response: As stated above, the purpose of the drawdown is to increase the abundance and diversity of emergent and submersed aquatic vegetation. Areas that are currently very shallow may temporarily dry up during the drawdown, but would be re-wetted when the pool is brought back up to the normal elevation. The temporary drawdown is not anticipated to significantly affect (either positively or negatively) any erosion and sedimentation processes currently occurring in the pool. Other projects recommended in the Upper Mississippi River – Illinois Waterway System Navigation Feasibility Study Report (September 2004) are specifically looking at the need for deep, overwintering areas for fish in backwater areas.

16. *How will the drawdown work?*

Response: Prior to conducting the drawdown, advanced dredging would be required to provide additional depth in chronic dredging areas to allow for continued maintenance of the 9-foot navigation

channel, to provide recreational access points, and to provide access to existing commercial facilities along the river. Advanced notice of the start date of the drawdown would be issued to inform the public and the towing industry. The drawdown would be conducted by lowering the pool elevation by approximately 0.2 foot per day until the target drawdown elevation is reached. The water level would then be held at this elevation until the end of the drawdown period (which could be a fixed duration, say 60 days, or keyed to the plant response) at which point the pool would be raised at approximately 0.2 foot per day until the normal pool elevation is re-established.

17. I feel we go through a natural drawdown every year! You said we did not have good plant life now – how would that change?

Response: The pool level maintained at Dam 18 has remained unchanged since placed into operation in 1939. A reduction in the water level at the dam would expose hundreds of acres of lands that have been permanently inundated for decades. While good terrestrial vegetation does exist in Pool 18, exposure of these areas would allow for the creation of large, aquatic plant beds that currently do not exist in large quantities within Pool 18. These types of plants are important sources of food and cover that improve conditions for ducks, migratory birds, fish, and furbearers.

18. What affect will this drawdown have on the water table for the farm ground in this area?

Response: Most of the agricultural lands in the Pool 18 floodplain are located within drainage and levee districts which actively control water levels within their districts through the use of drainage systems consisting of pumps, ditches, and tiling.

19. The sand dredged from the bottom of the river doesn't grow much of anything - how is it going to grow new trees?

Response: Historic placement sites become vegetated over time. Rock Island District's vegetation studies are investigating the relationships among periodic flooding, material particle size, elevation above soil moisture, capping with finer silts and clays in order to help expedite re-vegetation, or development of more desirable plant diversity in the river system. Results indicate that most sites eventually grow into mixed silver maple forests which are indistinguishable from other floodplain forests. Disposal sites develop a succession of grasses, and shrubs before achieving the silver maple stage. Some sites go quickly to willow and/or cottonwood which may persist for many years.

20. Will you be causing more damage to water habitat than what you think you will gain? Because it is all a gamble.

Response: Previous drawdowns in other navigation pools on the Upper Mississippi River have resulted in significant benefits to the plant communities within those pools. It is because of these demonstrated benefits that the Corps is recommending bringing this management tool to other parts of the river.

21. What about chemical concentration caused by lower levels?

Response: It is not anticipated that this will be a problem in the main channel or side channels during a drawdown, as the amount of flow in Pool 18 would not change. It is anticipated that the water quality (temperature, dissolved oxygen levels) could change in shallow backwater areas due to the reduced depths. If you have concerns about a specific location or outfall, we would appreciate specific comments about that location.

22. I would like to have info on the effects on the river after draw down.

Response: Following the drawdown and re-establishment of the pool, the newly established vegetation will continue to grow and provide food and habitat for a variety of bird and fish species. The persistence of these plant beds will be monitored during the following years to determine the ability of these plant beds to re-establish themselves after the initial drawdown. This monitoring is critical to determine whether we are successful in achieving the desired benefits and to help determine the need for future, re-occurring drawdowns. By registering at the one of the Pool 18 open houses, your name was added to the mailing list for future newsletters or other information about both the Pool 18 Channel Maintenance Pool Plan and the Pool 18 Seasonal Water Level Drawdown. Please keep the District informed if you change your mailing address.

23. *Has this worked in other pools? How has this affected farmers, boaters, hunters in these pools?*

Response: Pool drawdowns have previously occurred, or are occurring this year, in Pools 5, 8, 13, 24, 25, and 26; and are scheduled to occur in Pool 9 next year. It is because of the demonstrated success in these pools that the Corps is recommending that they be conducted in other pools on the system. Based upon the comments received at the public meetings, we are going to be actively seeking to contact groups within these areas to solicit their feedback regarding past drawdowns. We encourage you to also solicit direct feedback from these groups if you have established relationships with them (e.g., hunting and fishing groups).

24. *If they are going to happen, when, how long, and how often?*

Response: We intend to look at a number of potential alternatives for how a drawdown could be implemented. As we examine alternative drawdown concepts (potential durations, magnitudes, and timings for a drawdown) we will look at the relative costs and benefits of those alternatives to arrive at a recommended alternative. The recommended alternative will seek to identify the plan that (1) achieves the overall objective, (2) provides the best efficiency (i.e., lowest cost per acre benefited), and (3) is acceptable.

25. *Why not lower pools in September and October after boating season? Our city depends on tourist income. Restaurants, bars, grocery stores would suffer, as well as our one boat industry in our town.*

Response: The primary purpose of the drawdown is to promote the growth of moist soil and aquatic vegetation. The uncertain growing conditions in late September and October make this an undesirable time period in which to conduct a drawdown. Advanced dredging, extended boat ramps, or various other measures would seek to avoid and minimize any adverse effects to recreational access during the relatively brief drawdown period (which would affect some portions of the pool less than others), and offer significant and substantial environmental benefits from increased habitat diversity for wildlife and fish resources in Pool 18. These increased waterfowl and fish resources are expected to maintain and attract existing and new river users for recreation and other uses.

26. *Where is the money coming from to dredge the channel?*

Response: Dredging is conducted using federal funding appropriated by Congress. The Federal Government obtains its revenues from taxes.

27. *Who, when and how do you have any company give you the cost of \$250,000 a year, and how many years will this company dredge at this price? Where will the money come from?*

Response: Projected dredging costs are based upon historical costs for the Corps' past dredging activities in Pool 18. While some of this work has been done by Rock Island District's strike crew, stationed in Le Claire, IA, most of this dredging has been accomplished by the *Dredge Thompson*. This year it was replaced by the new *Dredge Goetz* based in Fountain City, WI. Successful contract bidders also perform

substantial dredging in Pool 18 and elsewhere in the District. Advanced dredging to support a drawdown would require approximately 134,000 cubic yards (CY) per event, at \$7-10 per cubic yard, which is about \$1.34 million per event. Over five years that averages to about 26,800 CY per year. By comparison, over the 60 years from 1940 to 2000, the Corps dredged about 7,042,619 CY from Pool 18, an average of about 117,000 CY per year. Dredging is conducted using Federal funding appropriated by Congress. The Federal Government obtains its revenues from taxes.

28. Since farmers are subsidized on their grain, fuel costs are up for farmers and drainage districts, and the swamp land was cheap until the forties. Buy drainage districts and blow the levees. Free the river from the dikes, increasing hunting, fishing, recreation, and tourism. Would that make Ivory bill woodpeckers come back?

Response: The lands you are referring to are in private ownership. We are aware that some of these lands are considering, through private initiative, entering into Federal conservation programs and developing recreation areas. Other projects contained in the recommendation from the Navigation Study are specifically looking at future opportunities for the Corps to restore floodplain areas obtained from willing sellers throughout the Upper Mississippi River System. The Ivory Bill Woodpecker was found in the southern bottomland hardwood forests of the Mississippi Delta, Pool 18 is outside of this historical range.

29. Huron Island is filling in to the point where what does it matter if more plants are growing?

Response: The primary areas that would benefit from a drawdown are in the lower portions of Pool 18, such as in the Oquawka Island, Furnald Island, and Big Dasher Island areas. The river processes affecting backwater depths within Huron Island would not be significantly altered by this project. Other projects contained in the recommendation from the Navigation Study are specifically looking at the need for deep, overwintering areas for fish in backwaters; including those in Huron Island.

30. How (will it) affect the Boat House - formerly the Pier in Oquawka and Oquawka Boat Club – at the foot of Schuyler Street?

Response: It is anticipated that under almost any drawdown scenario, advanced clean-out (dredging) of one or more of the marina and ramp locations in Oquawka would be required to maintain recreational access during the drawdown.

31. What gauge levels at Lake Odessa outlet control structure?

Response: The Pool 18 drawdown project is separate from, and would not impact the operating plan for, Lake Odessa.

32. How it will affect pool 19 during different water levels?

Response: The effects of a drawdown in Pool 18 would have minimal to no effects in Pool 19.

33. Would the drawdown still be implemented in the event of a low flow year such as 2005?

Response: Potentially. As we examine alternative drawdown concepts (potential durations, magnitudes, and timings for a drawdown) we will look at the relative costs of maintaining a drawdown under low-flow conditions (increased costs of dredging to maintain the channel and river access) versus the benefits of doing so (more land will be exposed during a low-flow year resulting in greater plant production). The recommended alternative will seek to identify the plan that (1) achieves the overall objective, (2) provides the best efficiency (i.e., lowest cost per acre benefited), (3) and is acceptable.

34. We notice, from the report in the paper, that \$175,000 would be required to allow for continued access to ramps, marinas, etc. Can harbors be dug enough to provide for 2 feet less water without impacting the piling and shoring in the marina? What would have to be done to allow continued access for boaters? Could this be done and maintained for this amount of money?

Response: The \$175,000 cost is an initial estimate based upon the experienced costs incurred to maintain access during a similar drawdown conducted in Pool 8, near La Crosse, WI. We are currently in the process of evaluating the boat ramps, marinas, commercial docks, and other infrastructure in Pool 18 to develop cost estimates specific to the conditions that exist at those facilities. To date, we have conducted surveys to evaluate existing depths in and around marinas, docks, and ramps; as well as depths between these facilities and the main channel. In the coming year, we will be developing site-specific cost estimates for remedial work that would be required to restore access during a drawdown.

Comments Received Via Letters

Section V presents the comments received in letters through the mail.

- Our family operated a marina on the banks of the Mississippi River in Oquawka, Illinois from 1959 until 1985. Because the river was our source of income for three generations, we feel that we must express our opposition to the proposed drawdown plan for Pool 18. This plan would be extremely detrimental to all communities and individuals who live, work, hunt, or spend leisure time in the Pool 18 area. The river is vital to the agricultural and recreation industries as well as the overall economies in this area. The only industries in most of the affected area are agriculture and recreation and the economic impact of this plan would damage the already fragile and lagging economy of Henderson and Mercer Counties, Illinois.
- The proposed plan is based upon being able to maintain a navigable channel during this extended drawdown period. But, in reality the Lock and Dam system has been in place since the 1920's for this very purpose and emergency dredging activities must be conducted almost annually in order to allow the passage of barge traffic in Pool 18.
- Even if a navigable channel were able to be maintained during the drawdown period the grain elevators would most likely be unable to ship any grain because the low water levels would not permit the loading and moving of barges along the shoreline. The recreation industry would come to a complete halt during the drawdown period because the water levels at the boat ramps and harbors would be too low to permit boats to launch. Over the past 10 years the management policies for Pool 18 have resulted in massive silting on our backwaters so they are no longer usable to the hunters and recreational boaters, but have resulted in a significant increase of vegetation in Pool 18.
- We urge the Corps to reconsider and abandon this proposed drawdown for Pool 18 because the negative impact to human beings and local economies far outweighs any benefits this plan would provide for fish, migratory birds, and furbearers.
- Homeowners who live along the river and use the river for recreation would have their house impacted negatively. In our area, it would mean we would have practically no water, and boat and dock use would be impossible.
- Wetlands have been taken over by building levees. It would seem that some of that land would be less costly way to expand the wetlands than taking the river away from where it is has been since the building of the dams.
- In a time of energy shortage, it seems unwise to decrease the shipping that the river can provide.
- It has been very hard lately to maintain the channel depth recently. We see weeks of digging and dumping back into the river a mile or so up river. Lowering the river seems to be an expensive and counter productive method of achieving the wetlands.
- It seems the boating industry would be seriously affected. Some marinas could be put out of business. We notice, from the report in the paper, that \$175,000 would be required to allow for continued assess to ramps marinas, etc. Can harbors be dug enough to provide for 2 foot less water without impacting the piling and shoring in the marina? What would have to be done to allow continued access for boaters? Could this be done and maintained for this amount of money? It's just not seem fair or practical.