

Kalamazoo

Meeting

Taken on: May 19, 2015

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ALLIED PAPER/PORTAGE CREEK/KALAMAZOO RIVER  
SUPERFUND SITE - PROPOSED CLEANUP PLAN

PRESENTATION

Held at the Kalamazoo Nature Center  
7000 N. Westnedge Avenue, Kalamazoo, Michigan  
Tuesday, May 19, 2015, at 6:00 p.m.

Presenter: James Saric, U.S. EPA Remedial Project  
Manager

Coordinator: Diane Russell, U.S. EPA Community  
Involvement Coordinator

1 MS. RUSSELL: It is 6:01. We are going to go  
2 ahead and get started with tonight's meeting, and  
3 now is a good time for you guys to also silence  
4 your cell phones and other media device. That  
5 would be helpful for tonight's meeting.

6 So, as everyone is taking their seats here,  
7 just, again, the purpose of tonight's meeting is to  
8 provide all of you some information on EPA's  
9 proposed cleanup plan for an area of the Kalamazoo  
10 River that we have designated as Area 1. And if  
11 you picked up a fax sheet from tonight, it is the  
12 area that is shown on the front page of our fax  
13 sheet. There's a little map for your reference.

14 And we're also -- the purpose of tonight's  
15 meeting is to allow folks a chance to provide us  
16 with public comment on the proposed plan. Jim's  
17 going to give us some more information tonight on  
18 the proposed plan; but before we get started, I  
19 just wanted to walk you a little bit through  
20 tonight's agenda so you have an orientation of what  
21 to expect this evening. I picked it up at the  
22 front table.

23 So, what we have structured for this evening,  
24 I am going to start off with some introductions for

1 tonight's meeting, and then I will pass it off to  
2 Jim Saric, EPA Project Manager; and from there,  
3 after his presentation, we'll have an opportunity  
4 for questions and answers for the audience. Then  
5 once we finish up a short question-and-answer  
6 period, we are going to take a short break before  
7 we start the formal public comment.

8 Now, a couple ground rules before to think  
9 about for that public comment, we do have a court  
10 reporter with us tonight. So, as we go around and  
11 you ask questions for the public comment portion,  
12 we're going to ask you to state your name and  
13 please spell it for the court reporter. And,  
14 again, even if I visited you once, every time you  
15 kind of get the microphone you'll need to restate  
16 that because she didn't want to memorize names  
17 tonight. So, for the public comment, we'll have a  
18 court reporter here.

19 If you would like to make a formal public  
20 comment, we have cards in the back. Just fill out  
21 the card; and at that five-minute break tonight,  
22 you can turn those in to me; and once we get that  
23 formal public comment period started, I will take  
24 your card and read the name off of the card, and I

1 will come to you with the microphone to submit that  
2 to public comment.

3 One thing I also wanted to mention is, if you  
4 didn't feel like getting up in front of people and  
5 making a verbal comment tonight, you can always  
6 submit that in writing to me tonight or you could  
7 even -- there's a form in the fax sheet that you  
8 could send your comment directly to me in my  
9 office. As long as that's postmarked by June 3rd,  
10 those will be accepted.

11 Okay. So, to stay on track with tonight's  
12 agenda, I'm going to go ahead and get started with  
13 introductions.

14 First, I will start with myself. My name is  
15 Diane Russell, and I am the Community Involvement  
16 Coordinator for the site, and I work out of the EPA  
17 office in Saginaw, so, relatively local. Also  
18 tonight, presiding here to give a presentation, is  
19 Jim Saric, EPA's project manager, and he will be  
20 available for -- to answer questions tonight.

21 Other observers/participants from EPA -- we  
22 have some folks from EPA here as well, and we also  
23 have the project manager from the Michigan  
24 Department of Environmental Quality. His name is

1 Paul Bucholtz. He's also here this evening. And  
2 without further ado, I am going to go ahead and  
3 turn it over to Jim to start the presentation.  
4 Jim.

5 MR. SARIC: Can everyone hear me okay? Can  
6 you hear me okay? Well, thank you for coming  
7 out. Tonight we're going to talk about the  
8 proposed plan for the first section or Area 1 of  
9 the Kalamazoo River. And as Diane mentioned, you  
10 know, what we're going to do today is I'm going  
11 to go over a couple things. Number one, we're  
12 going to talk about the proposed plan, what is in  
13 the proposed plan and what it is. And then we're  
14 going to have an informal comment period, and  
15 just to remind you to make sure if you have got  
16 general comments about the documents or the  
17 presentation, that's fine, but those informal  
18 comments won't go on the record. If you want to  
19 have a formal comment on the record, it will be  
20 after we take the break that you can go on and do  
21 it from there.

22 Now, here we are in the process, so, we're  
23 in the middle of this public comment period and  
24 it's going to go on for 30 days; and when that

1 ends on June 3rd and after that, then we're going  
2 to -- EPA is going to -- you know, we may change  
3 the record of decision or not, but we're going to  
4 take the comments and we're going to formulate a  
5 responsive summary. So, EPA will formally  
6 respond to all the comments that are there, and  
7 then we are going to finalize it in a record of  
8 decision and, hopefully, sometime in the fall.

9 That's generally the process that's going to  
10 go on for Area 1. And this same process was gone  
11 through with the remedial investigation,  
12 feasibility study, proposed plan and ROD. It's  
13 going to happen six more times because there is  
14 several areas of the river. So, this is just the  
15 first one. So, we'll have many more of these  
16 meetings in the future to do.

17 Now, just to show you the river, just to get  
18 oriented, for those of you who aren't super  
19 familiar with it, so, in the EPA we've broken up  
20 this project, this Allied Paper/Kalamazoo River  
21 project into different areas or different  
22 operable units, and the river is Operable Unit 5.  
23 So, whenever you hear OU5 or Operating 5, we're  
24 talking about the river, and this is the whole

1 area, the river from the Morrow Dam all the way  
2 down to Lake Michigan, some 80 miles of the  
3 Kalamazoo River. And today, you know, we're just  
4 talking about Area 1, this most upstream portion  
5 because we generally work upstream or downstream  
6 and that's what we're talking about today is Area  
7 1.

8 And, specifically, to kind of get a better  
9 idea, here is Area 1. Here is Morrow Lake.  
10 There is the dam there. It goes all the way down  
11 22 miles to what we call -- there's the former  
12 Plainwell Dam like right there. So, this stretch  
13 of the Kalamazoo River, and then this 3-mile  
14 stretch of Portage Creek because that's part of  
15 it too, that all makes up Area 1 of Operable Unit  
16 5, and that's what we're talking about today and  
17 that's what the proposed plan is all about, that  
18 area.

19 Now, we have done several projects in the  
20 river, and we have had meetings about some of  
21 those projects throughout the time, and these are  
22 what we call time critical removal actions, and  
23 some of these areas they really address some of  
24 the most significant contamination in this first

1 reach or Area 1 of the river. And I am just  
2 going to touch briefly on all those because  
3 they're important to the remedy and what went on  
4 in telling, obviously, the story of what happened  
5 here.

6 So, the first removal was back in 1988 -- I  
7 mean '98/'99, and that was the Bryant Mill Pond  
8 time critical removal, and this was an area near  
9 the Allied landfill, right across from the Allied  
10 landfill, immediately downstream of the Allied  
11 landfill, in Portage Creek, where they actually  
12 rerouted the creek, removed 150,000 cubic yards  
13 of contaminated material. This was one of the  
14 most significant sources of PCB contamination to  
15 the river historically, and they addressed that  
16 back then.

17 Now, years later, all the way downstream,  
18 the boundary of Area 1 where the Plainwell Dam  
19 is, between 2007 and 2009 we did another removal  
20 here, and this addressed a 2-mile stretch,  
21 essentially, from around where the Highway 131  
22 bridge crosses the Kalamazoo River down to the  
23 former Plainwell Dam; and during the time, that  
24 2-year period, we removed 128,000 cubic yards of

1 PCBs. And we also, along the sediment and bank,  
2 we also -- the river, you know, formerly went  
3 through here in this direction and we rerouted  
4 the river and put it back to its natural channel,  
5 and right now it runs right through here. This  
6 structure is all gone. But right now -- that's  
7 why we removed the dam and did that all back in  
8 2007 to 2009.

9 After that, based on some data we had -- we  
10 collected information as part of our remedial  
11 investigation -- we moved upstream to what's  
12 called the Plainwell 2 Dam area. It's another  
13 section of the river where it got really, really  
14 wide, and it's called the Plainwell 2 Dam, and  
15 the purpose of that was to kind of hold water  
16 back so the Mill Race could come through the city  
17 of Plainwell. It's the island city and, so, it  
18 wants to be an island city, so, you needed to  
19 have that diversion structure there. And, so, we  
20 did a lot more bank removal along there, some of  
21 the in-stream portion, in 2009/2010, and we  
22 addressed contamination there.

23 And then the last project, the most recent  
24 project in Area 1 that we've done in time

1 critical was in Portage Creek, and that was  
2 between 2011 and 2013, running through downtown  
3 Kalamazoo here, and I'm sure many of you may have  
4 seen some of the work that went on, and that  
5 cleaned up that portion of Portage Creek from  
6 there. So, you know, I just -- you know, it's  
7 important to stress that we did a lot --we've  
8 done a lot of work already at this point within  
9 this 22-mile stretch.

10 Now, whenever you do these cleanups and  
11 you're looking at alternatives, one of the first  
12 things you have to do is you have to have some  
13 objectives. What are you trying to accomplish?  
14 And in all the Kalamazoo River, you know, the  
15 number one objective really is, you know,  
16 protecting people who consume Kalamazoo River  
17 fish. That's really what it comes down to.  
18 That's the most important objective, and we try  
19 to go from there.

20 And this is kind of our objective, what  
21 we're trying to do, is to try to, you know,  
22 reduce those levels in fish over time, and we're  
23 hopeful that kind of the targets that we set are  
24 to remove the -- to be able to go from, do not

1 eat any fish advisory that's on the river in this  
2 section to, hopefully, be able to get -- for the  
3 small-mouth bass, get down to have two meals per  
4 month; also, to be able to reduce the fish tissue  
5 concentration in small-mouth bass to a level that  
6 would be acceptable for a sport angler, and that  
7 sport angler is someone who would eat 125 meals a  
8 year of small-mouth bass from the area and from  
9 there. And that level -- and I will show you  
10 those numbers in a minute.

11 That's one of the goals is to try to get  
12 down to that level within a 30-year time frame,  
13 and the way we're going to get there, is there's  
14 this relationship between sediment and fish  
15 concentration. It's not directly proportionate,  
16 but there is a relation between the two, and we  
17 believe that we can get the sediment level in  
18 different sections of the river -- and you're  
19 going to see this term SWAC. That's the  
20 surface-weighted average concentration. The idea  
21 is if we can get the surface-weighted average  
22 concentration in each of these little areas of  
23 the river to 0.33 or less, if we get it there,  
24 the fish tissue will come down, and we're going

1 to achieve some of these goals for fish, and  
2 that's part of the objective, one of the first  
3 objectives we've set out.

4 The other ones we set up, remedial action 2,  
5 objective 2, this is really looking at mammals'  
6 or birds' meat, just like a mink, and we want to  
7 make sure it's safe for the mink to be able to  
8 consume the fish, as an example, you know, to be  
9 there.

10 Remedial action 3, remedial action objective  
11 No. 3 looks at birds and it looks at mammals,  
12 such as shrews, for an example, is a mammal that  
13 may be feeding up in the floodplain, birds that  
14 eat worms up in the floodplain in the soils,  
15 that's what that remedial action objective is  
16 there, to protect those, that population of those  
17 ecological receptors.

18 And in the last one, remedial action 4, it's  
19 going to be a general objection. We want to  
20 reduce the number of PCBs that are being  
21 transported downstream and ultimately into Lake  
22 Michigan.

23 So, you have to have that framework. And  
24 for the river, these really are our remedial

1 action objectives that we're trying to do; and  
2 from there, then we can move forward and start  
3 thinking about cleanup goals or cleanup levels,  
4 and what are our objectives? And that's kind of  
5 what we did.

6 And our remedial, preliminary remediation  
7 goals, they're based on -- we did these human  
8 health and ecological risk assessments. They  
9 were looked at by lots of different scientists  
10 that went through and reviewed all these things,  
11 and what we found is that the PCBS, they're  
12 really the primary driver. They drive the risk.  
13 They're the primary constituent.

14 Are there other constituents along the  
15 river? Yes. But the risks from PCBs are much,  
16 much higher than the risk from other  
17 constituents. And in many, many situations what  
18 you see is, where you see other constituents, you  
19 see PCBs, because the river doesn't -- you know,  
20 the river doesn't really discriminate from one  
21 constituent to another.

22 Wherever the river slows down and the softer  
23 sediment gets deposited, that's where you've got  
24 contamination, and that's pretty true across this

1 whole river, along the Kalamazoo River, you can  
2 see. And, again, as I said before, fish  
3 consumption, that's the primary risk.

4 So, these are our cleanup levels for our  
5 preliminary remediation goals; and for fish  
6 tissue, the number is 0.042, and that's kind of  
7 to give you an idea, and that's for that sport  
8 angler who consumes small-mouth bass, you know,  
9 and that number represents a 1-in-100,000th  
10 chance of an excess cancer risk from there. The  
11 fish tissue number of 0.6, this was for the mink,  
12 okay, and many of our fish are below that .6  
13 level right now.

14 For sediment, the number is -- you know,  
15 that sediment is 0.33; and to give you an idea,  
16 the background sediment concentrations upriver,  
17 around Mead, the average concentration is around  
18 .31, so, it's pretty much close to that. From  
19 there, in soils or floodplains, for the  
20 residential areas it's 2.5. For the other areas,  
21 such as the Plainwell impoundment, where the  
22 activities are mostly recreational, the cleanup  
23 level is 11. And the reason for that is for all  
24 of us who may be recreating in the floodplain,

1 the cleanup level for human health would be 23  
2 parts per million but -- so, there really isn't  
3 any risk from that type of scenario; but for the  
4 ecological receptors, the number is 11. So, we  
5 use the number 11 to kind of clean up, and that  
6 drives the cleanup for some of the floodplain  
7 areas we're talking about. So, you have to come  
8 up with these cleanup levels as part of  
9 everything before you move forward.

10 Now, what do we do in this whole approach?  
11 So, we did the removals; we came up with our  
12 objectives. We came up where our cleanup levels  
13 or our remediation goals, and then we took  
14 another look at the river and we broke the river  
15 up into the eight different sections, and I use  
16 that term surface-weighted average concentration  
17 again about the sediment. What's the sediment  
18 concentration? That 0.33 number.

19 And what we did, we looked at each one of  
20 these sections and we looked at that  
21 surface-weighted average concentration. The  
22 reason why you look at that surface-weighted  
23 average concentration is because the fish don't  
24 swim in just one spot, right? They move

1 throughout a larger area. So, we broke the river  
2 up, you know, into areas that were -- they made  
3 sense geomorphically. Sometimes they had a  
4 unique stretch based on their slope; sometimes  
5 there was a bridge between two areas.

6 So, we broke it up into smaller sections and  
7 we looked at those SWACs, if you will, and said,  
8 are any of them hot? Given all the work, what's  
9 high? What's there? And the area that jumps out  
10 is Section 3 right in here. Here's where Portage  
11 Creek comes in. It was this area right here that  
12 had a significantly higher SWAC than everything  
13 else. All the other sections were really pretty  
14 low. This is the one that we looked at, and plus  
15 we had additional data near there that helped  
16 confirm that.

17 So, when we looked at those, here is this  
18 area 3 -- here is where Portage Creek dumps in.  
19 Section 3 is right here. So, you can see some of  
20 these like hot spots, like right here, another  
21 area right there. So, we knew we needed to do  
22 some work remaining in this section. But, also,  
23 we collected tens of thousands of samples along  
24 this Area 1 stretch of the river, and we knew

1 about other deposits that existed.

2 So, we looked both upstream and we looked  
3 downstream to say, is there anything else nearby  
4 that we need to look at? Because you always have  
5 some -- you always want more data. You always  
6 want to look at stuff.

7 So, here is that -- here is where Portage  
8 Creek dumps in. We looked upstream. We knew  
9 here and here we had two what we call hot spots,  
10 and these are larger deposits, about a quarter  
11 acre in size that, you know, they're significant  
12 in size. Their concentration is greater than 50  
13 part per million. We knew a couple of those  
14 existed upstream, and then we also looked  
15 downstream of this Section 3, and we had the same  
16 thing. We knew we had a couple of them that were  
17 downstream as well.

18 Now, I want to talk about one other thing.  
19 See this right here? This is what we call the  
20 Crown Vantage landfill, and right next to it,  
21 which here's the edge of the Crown Vantage. This  
22 is a little blowup of it. There's a little side  
23 channel right here, and this side channel had  
24 some high levels of PCB contamination.

1           Now, we sampled lots of other side channels  
2 throughout the river, but this is the only one  
3 that had any really significant contamination in  
4 it from there. And that's part of our -- that  
5 will be part of the remedies that we talk about.  
6 So, I'm going to talk about this -- I'm going to  
7 mention this remediation area, and we'll say and  
8 also the Crown Vantage side channel, and I just  
9 want you to get a reference where that's located.

10           So, what we did is we looked at the SWACs  
11 for Section 3, and then we looked at hot spots or  
12 deposits upstream and downstream, and we combined  
13 all that into one area that's approximately three  
14 miles long, and this area is what we call the  
15 remedial reach. And this is how -- this is how  
16 we determine or we came up with -- you know, we  
17 used to come up with our sediment alternatives  
18 for what to do for sediment in the river. This  
19 is the remedial area that needed additional work  
20 and that's -- and from there, we then started  
21 coming up alternatives.

22           And we've developed seven different sediment  
23 alternatives, and I'll talk about them in a  
24 minute, but we came up with seven sediment

1 alternatives and five floodplain alternatives,  
2 and that's a separate issue, and I'll touch that.  
3 We developed our alternatives based on kind of  
4 going through that logic train, that process,  
5 basically, thinking through where we were.

6 And we took the alternatives, and all the  
7 alternatives have to go and be evaluated against  
8 these nine Superfund evaluation criteria, and  
9 there's these threshold criteria. It has to  
10 protective of human health and the environment,  
11 right? It's got to meet those legal objectives.  
12 It has to be compliant with applicable laws,  
13 right? That's very important. All the remedies  
14 have to pass those first.

15 And then we have this balancing criteria:  
16 Implementability, long-term and short-term  
17 effectiveness, cost-effectiveness, and then the  
18 last criteria are the state and community  
19 acceptance, and that's why we're here today, to  
20 talk about that. So, that's -- these criteria we  
21 looked at for everything that was involved, and  
22 we looked at the various remedies.

23 MEMBER OF AUDIENCE: Turn it off.

24 MR. SARIC: Thank you. So, we have this --

1 this is the remediation area we talked about, and  
2 this is where we developed our sediment  
3 alternatives. So, let's talk about the sediment  
4 alternatives we looked at and then, ultimately,  
5 the one we're proposing from here to go forward.

6 So, these are the sediment alternatives.  
7 The first we had to look at is the no further  
8 action alternative. And this is kind of a  
9 statutory obligation. We have to look at, what  
10 if you did nothing? So, we looked at that.

11 The second alternative we looked at is, what  
12 if we didn't physically go in and do any work, we  
13 just monitored it? And if you just monitored it,  
14 you might reach those cleanup goals in 87 years  
15 at a cost of \$2.7 million dollars from there, so,  
16 those are two remedies that are there.

17 Remedy S3A -- that's sediment 3A. That's why  
18 we have the S designation, and the S3A remedy,  
19 this was one where we knew -- you go in and you  
20 excavate those five, you know, hot spots we  
21 talked about, as well as some additional  
22 sampling, some 19,500 cubic yards of material.  
23 It takes a couple years to implement. It takes  
24 32 years to reach those fish tissue goals, and

1 the cost is some 13 to 16 million.

2       Remedy S3B is very similar to S3A, where  
3 you're going to remove those hot spots within  
4 that remedial reach we talked about, but the  
5 difference is -- you know, we talked about in S3A  
6 you're going to remove that Crown Vantage side  
7 channel; but in S3B, you're going to cap that  
8 Crown Vantage side channel. We looked at that,  
9 so, it's removal versus capping. The time frames  
10 are the same; two years to do it, 32 years to  
11 recover, but the costs are slightly less if  
12 you're going to cap the Crown Vantage side  
13 channel versus dig it up.

14       Remedy S4A for sediment, now this one is,  
15 basically, you're still going to remove all the  
16 hot spots but, also, along the banks of the river  
17 there's a mile and a half stretch, essentially,  
18 in each one, you would go and preferentially  
19 remove the material along both banks,  
20 one-and-a-half miles on each side. You would  
21 remove that under this remedy, and then you would  
22 also excavate that Crown Vantage side channel.  
23 So, it takes a little bit longer to implement,  
24 four years to implement. You reach your goals by

1 seven years faster, a 25-year time frame, and the  
2 cost is 33 million, so, it's almost three times  
3 the cost from there.

4 And then S4B is the same thing as S4A where  
5 you're going to remove the hot spots, remove the  
6 side bank material; but in this situation, you're  
7 going to cap that Crown Vantage side channel, and  
8 it's a little bit cheaper.

9 And then the last sediment alternative we  
10 looked at is sediment or S5, and this is a  
11 situation we looked at, what if you took it all  
12 away? What if you went through and you dredged  
13 20 miles of the river a foot deep, you know, what  
14 would it be? And if you take that approach, it's  
15 going to take -- you're going to remove a huge  
16 volume of material, anywhere between 300,000 and  
17 almost 500,000 cubic yards of sediment. It's  
18 going to take at least ten years to implement.  
19 That's using multiple crews to go in there.  
20 Forty-five years to reach your fish cleanup  
21 goals. Now, part of it -- well, why if you're  
22 taking everything out, why does it take longer to  
23 reach those goals? And there's a couple reasons  
24 for that. One is it takes at least ten years to

1 do the project and, secondly, you're going to do  
2 a lot of environmental harm and stir up the  
3 entire system, and it's going to take a greater  
4 time to get recovery ongoing when you do that.  
5 And the cost of this project, that one, is going  
6 to be anywhere from 200 to 337 million dollars.

7 So, we've kind of -- you've got the no  
8 action boundary on one end and you've got the  
9 full excavation on the other end that we looked  
10 at.

11 So, EPA, our -- we also looked at, if you  
12 look on your -- I just want to make sure we  
13 looked at all the different criteria, and I don't  
14 want you to read that. It's too small, but the  
15 point being, if you look at the proposed plan,  
16 you will see this chart that we looked at against  
17 all the nine criteria, short-term, long-term  
18 effectiveness, and evaluated them all. We  
19 discuss that in the document as well.

20 So, EPA's preferred sediment alternative is  
21 alternative S3A and, essentially, what we're  
22 going to do there is we're going to go into this  
23 remedial reach, and we're going to require the  
24 responsible parties to sample. And we're going

1 to go in and we're going to sample and look for  
2 other additional hot spots or other areas of  
3 contamination; and if they're there, we're going  
4 to dig it up, and EPA is going to approve the  
5 plan. And, so, we know, at a minimum, we're  
6 going to dig up these five hot spots and the  
7 Crown Vantage side channel as part of this. But  
8 you know, through sampling, if we find other  
9 ones, we're going to dig them up. That's part of  
10 what's going to be required in this.

11 The estimated removal is about 19,500 cubic  
12 yards, if you want to know the volume. That SWAC  
13 number within that two years, you see it's going  
14 to go -- right now it's 1.76. It's going to drop  
15 to 1.09 in two years doing it, and the truth of  
16 the matter is, as we take more data, we get more  
17 data, we take more samples, more than likely that  
18 SWAC number is going to go down regardless, just  
19 from the limited data we have for doing that SWAC  
20 calculation.

21 We're going to have to do long-term  
22 monitoring. All these remedies are going to  
23 require fish sampling, sediment sampling, surface  
24 water sampling for some until you meet those

1 goals, and in this case, it will be 32 years.  
2 So, there's certainly a lot of long-term  
3 monitoring, and that is a big component of  
4 everything, of all these sediment remedies that  
5 are going to happen.

6 The estimated cost of this is between 13 and  
7 16.6 million. The difference there is the 16.6  
8 millions assumes there's two more hot spots that  
9 we find, you know, with that.

10 I just wanted to show you one other thing  
11 here. If you look at the feasibility study, you  
12 may see some of these charts. This kind of shows  
13 how -- the time to reach some of these cleanup  
14 goals for us, just to give you an idea.

15 So, we have a situation where -- you know,  
16 in some of our background concentrations like in  
17 Morrow Lake upstream, they're above. They're up  
18 here right now. And, so, you know, the  
19 background -- some of the fish are above some of  
20 the levels we're trying to get to. So, one thing  
21 to understand is that we do have background  
22 sources, you know, PCBs that are in some of the  
23 fish that are up above of our study area, so,  
24 that naturally exists.

1           And, so, our goal is to come in here, do the  
2 removal and your cleanup, and you're going to  
3 drop that concentration, and over time it's going  
4 to decrease, and here's that two meals a month  
5 number we talked about. That was one our  
6 objectives to reach. And then as it kind of went  
7 down, ultimately, here's the number you're trying  
8 to get to, that .042 number. That's that line  
9 right there for small-mouth bass to get to in  
10 32 years going through that.

11           And if you look through the document, you  
12 will see a lot of these charts. And we've got  
13 upper and lower bounds on them based on some  
14 degree of conservatism, how we think this might  
15 go forward and might work but, generally, this is  
16 how it is.

17           Now, is there uncertainty with these  
18 numbers? Absolutely. Can I tell you it's going  
19 to be 32 years or 30 years or 34 years? I can't  
20 say that with a hundred percent certainty.  
21 That's why we've got to monitor, to see how that  
22 system recovers.

23           The one thing we do have is we have a lot of  
24 data, a lot of fish data over time, over the last

1 15 or 20 years, that show that recently those  
2 trends are going down slowly; but when we do  
3 additional action, we'll get those trends to go  
4 down. So, that's the sediment portion of the  
5 remedy.

6 Now, the other half of the story are the  
7 floodplains or the soils that are there. And,  
8 typically, the highest concentrations of PCBs  
9 that we find inside, on the floodplains, are in  
10 these bigger, larger impoundment areas or former  
11 lake areas, the areas that were dammed up where  
12 the river was narrow and then all of a sudden it  
13 just opens up. When it opens up, the water can  
14 spread and the sediment could deposit up in the  
15 floodplains.

16 In areas where the dam was higher, when the  
17 Plainwell Dam was eight foot higher, you had a  
18 lake; you had an impoundment. So, the Plainwell  
19 impoundment and the Plainwell 2 impoundment,  
20 these were the areas that had the highest  
21 concentration of PCBs in the floodplains, and we  
22 went in and did removal action in both. We did a  
23 removal in Plainwell and the Plainwell 2  
24 impoundment.

1           And in looking at all the data, the  
2 Plainwell 2 impoundment addressed all the  
3 contamination that was a concern. It was below  
4 all the ecological concerns that were there; so,  
5 we don't have to do any work there. But in the  
6 Plainwell impoundment, this blue area highlights  
7 areas that we still need to do some other work.

8           And what we did was -- again, this is kind  
9 of a recreational area. And, so, the 11 part per  
10 million is the number -- it's driven -- this  
11 cleanup on this floodplain is driven by  
12 ecological receptors, mammals such shrews or  
13 birds, to protect them. So, what we did is we  
14 looked at the one-acre home range of a shrew.  
15 And we kind of looked across here and said, how  
16 many of these one-acre home ranges are above 11  
17 parts per million? That's our cleanup number.

18           And currently, right now, 82 percent of them  
19 are below -- are below 11, and 18 percent are  
20 above. So, then we looked at doing extra work to  
21 figure out, what could we do to kind of remove  
22 that to make it so 98 to a hundred percent of  
23 them are below 11. And that's what the remedial  
24 actions for the floodplains look at. It's all

1 about the Plainwell Dam area, and these blue  
2 areas are the ones that really are laid out for  
3 the various options in the floodplain.

4 And here's the -- here are the alternatives  
5 again. We looked at the FPS, floodplain soil.  
6 That's what it stands for. FPS-1, the first one,  
7 is no further action. Just like looking at the  
8 sediment, we had to look at the no further action  
9 alternative from there, and that's here.

10 We then looked at -- FPS-2 looks at just not  
11 doing anything but just monitoring it. And, so,  
12 there's a cost of monitoring, and we don't know  
13 at this point, really, if we just monitor would  
14 you get natural recovery from flooding areas or  
15 putting clean sediment on -- clean soil on top.  
16 I don't know if that would happen or not, but we  
17 brought that remedy out.

18 FPS-3 is really capping this seven-acre  
19 area, with all the blue areas in the Plainwell  
20 impoundment, seven acres or 11.3, 11,300 cubic  
21 yards, but this would be -- FPS-3 would be  
22 capping that seven acres, and then you're going  
23 to have to monitor it over time, put in  
24 institutional controls, and it only takes a year

1 to put in that cap, and that cost is 3.8 million.  
2 Again, we're going to have long-term monitoring  
3 for that.

4 And then FPS-4A, you know, that goes and  
5 actually removes all those blue areas that you  
6 saw. Rather than cap them, you would remove  
7 them, and that's seven acres or 11,300 cubic  
8 yards. And in this situation, you would excavate  
9 that material about a foot and then put clean  
10 material back in. Again, it takes a year to  
11 clean that up, and the cost is about double, 6.8  
12 million, of what FPS-3 is.

13 And then FPS-4B in this situation, much like  
14 the river, we looked at, what if you took the  
15 floodplains, not just in Plainwell, but all the  
16 floodplains from the Morrow Dam all the way down,  
17 you know, and in those areas you excavated all  
18 that material? Again, what would be? And that  
19 would 1.4 million cubic yards of material. It  
20 would take ten years to do that at a cost of  
21 \$486 million, and you would probably do a lot of  
22 environmental damage just, basically, ripping up  
23 the floodplains from one end of the river to the  
24 other in that.

1           So, EPA's preferred alternative, again, we  
2       looked at all the different criteria and we  
3       evaluated against all the different factors, and  
4       our preferred floodplain alternative is FPS-4A  
5       and the excavation of the seven acres or  
6       11,300 cubic yards within the floodplain.

7           And what you do is you go in and excavate it  
8       to 12 inches, put down some fabric layer, and  
9       then you would backfill it with clean material  
10      and restore the area, and then you would have to  
11     go and you would have to do long-term monitoring  
12     to make sure it stays there. You would make 98  
13     to a hundred percent of those home ranges for  
14     those mammals and for those birds would be  
15     protected in this area. The cost of that is \$6.8  
16     million dollars.

17          Now, one other thing regarding the  
18      floodplains. So, the bulk of the floodplain  
19      issues were in those -- I mean, were in the  
20      former impoundments, the Plainwell and Plainwell  
21      2 impoundments, but we have a lot of other what  
22      we call natural floodplains. They're more  
23      narrower areas where there's residences that are  
24      adjacent to the river down there. And our

1 residential cleanup number is 2.5 parts per  
2 million. And we've sampled a bunch of properties  
3 already, and all of them -- the majority of them  
4 or all of them are below 2.5.

5 But what we're going to do, we're going to  
6 go back and sample more of them, and we are in  
7 the process of doing that sampling now. So, part  
8 of the floodplain remedy includes doing  
9 additional sampling in some of these other areas  
10 to confirm all the properties are indeed below  
11 that 2.5.

12 Now, if they exceed that 2.5 number, they  
13 might have to get dug up. They might have to get  
14 capped. They might have to have institutional  
15 control. We're not sure. We don't believe we're  
16 going to find those above 2.5 based on all the  
17 data we've seen, but we need to take more data to  
18 confirm that, and that information is in the  
19 proposed plan. It's in the feasibility study.  
20 We just wanted to highlight that as well.

21 So, in looking at this, I think from EPA's  
22 perspective, both of these, the sediment remedy,  
23 S3A, and floodplain remedy, FPS-4A, EPA's  
24 position is both these remedies really represent

1 the best balance of all the evaluation criteria.  
2 They're protective of human health and the  
3 environment. They meet applicable regulations.  
4 They meet our remedial action objectives. They  
5 -- they're a situation where they -- they're  
6 permanent solutions to remedy these problems out  
7 there and they're going to require long-term  
8 monitoring, and they're cost effective, and I  
9 think that's all the factors that we looked at to  
10 kind of address these from here.

11 So, with that, before we get into any  
12 comments, you know, our next step, just to kind  
13 of remind you, what we're going to do is, you  
14 know, we can have any informal questions you've  
15 got about the presentation, about the documents  
16 itself, and these are informal. They won't go on  
17 the formal record. And then after that, we'll  
18 take a break, and then we'll have the formal  
19 comments to go there and we'll do that.

20 And, again, whatever comments get made in  
21 the record in the formal comments, those are  
22 going to get formalized in a record of decision  
23 and a responsive summary from there and will get  
24 finalized that way. Diane.

1 MS. RUSSELL: Can you get the lights for me?  
2 Thank you, Jim. Before we get started with the  
3 questions, Jim had mentioned a couple of  
4 documents: Feasibility study, proposed plan.  
5 The proposed plan is a large document, a larger  
6 document than the fax sheet. That's available on  
7 our web site. So, if you wanted to see this,  
8 that is available.

9 Also, for the question-and-answer period, I  
10 just wanted to remind you, in addition to what  
11 Jim had said, that now is the time to ask your  
12 questions; because when we get into the formal  
13 public comment period, EPA cannot respond to any  
14 questions during that period. So, please feel  
15 free. Now is the time to take the time to  
16 interact here so we can reserve that portion of  
17 the meeting for the public comment.

18 So, with that, just raise your hand, and I  
19 will come to you. I will make this easy for you.  
20 Again, please state your name and spell it for  
21 the court reporter. Thank you.

22 MR. KORNHEISER: My name is Kenneth  
23 Kornheiser, K-o-r-n-h-e-i-s-e-r. In this  
24 handout, it says that in the floodplain areas the

1 highest contaminated areas are located upstream  
2 from the former Plainwell Dam and around the  
3 two-flow control structures of Plainwell No. 2  
4 Dam. You had said that around Plainwell No. 2  
5 Dam the levels were not significant or not  
6 requiring attention?

7 MR. SARIC: Yeah, good question. So, in the  
8 Plainwell 2 Dam area we -- you know, we're  
9 looking at that 11 part per million number for  
10 cleanup. We did removal in that Plainwell 2 Dam  
11 area, and the removal addressed the majority of  
12 the contamination. So, when we went back and did  
13 that analysis, looking at what home ranges are,  
14 you know, above 11, we ended up having a hundred  
15 percent of them all below 11, so, we were good.  
16 That's why it got focused on the Plainwell  
17 impoundment.

18 MS. RUSSELL: Another question? State your  
19 name, please, and spell it for the reporter.  
20 Thank you.

21 MS. BULLOCK: Hi, this is Marge Bullock, B, as  
22 in boy, u-l-l-o-c-k. I'm asking a question that I  
23 hope will not be yes or no. So, I just want to  
24 say, why is it that we never hear anything about

1 drinking water now or in the future? Sources that  
2 are taking material from all of your sites, and why  
3 do not we get any facts regarding drinking water?

4 MR. SARIC: Excellent question. So,  
5 regarding drinking water, during -- you know, we  
6 have sampled the drinking water or the  
7 groundwater in the area; and when we did the  
8 Plainwell removal in 2007-2009, we put in several  
9 groundwater wells, and we sampled them, those  
10 groundwater wells, and I believe we sampled them  
11 for a two-year period, and none of the wells,  
12 none of them, had any detections of PCBs in any  
13 of the wells from -- you know, from the -- you  
14 know, that there were from the stuff that may  
15 have been in the banks. So, that was one line of  
16 evidence that we don't see any groundwater  
17 contamination occurring from the PCBs.

18 The PCB material itself doesn't like to get  
19 into groundwater, in general. It tends to grab  
20 onto other materials before it gets in there.  
21 So, typically, it doesn't like to do that.

22 And the third thing, if you look at all of  
23 -- some of the other operating units, we  
24 monitored the groundwater at some of the

1 landfills, the 12th Street landfill, the Willow  
2 Boulevard A-site landfill, you know, as an  
3 example, even the Allied, what you don't see --  
4 you do not see evidence of groundwater  
5 contamination coming from sources like that.

6 So, my point, to answer your question is, we  
7 sampled the drinking water, and we don't see any  
8 contamination, PCB contamination, getting in the  
9 drinking water from there. So, that's why that  
10 is not a pathway that we're concerned about from  
11 the PCB contamination.

12 MS. BULLOCK: What about right up there by  
13 that capped area on Cork Street?

14 MR. SARIC: The capped area on Cork Street.  
15 The Allied Landfill?

16 MS. BULLOCK: Yeah.

17 MR. SARIC: We do have ground well monitoring  
18 wells around that. In fact, we just did a round of  
19 groundwater sampling. We revisited that, and we  
20 don't see any significant contamination. Do we  
21 have a couple detections of PCBs in a couple wells?  
22 Yes. But nothing different. There's been no  
23 changes over that, any of the PCB contamination or  
24 concentrations in those wells over a 20-year period

1 of time of monitoring them.

2 So, you know, that is not a concern from what  
3 we see. And the groundwater flow direction up in  
4 that particular area, any of that material is going  
5 to Portage Creek. It is not going to the city  
6 well, and we've confirmed that with our samplings.

7 MS. BULLOCK: Thank you.

8 MS. RUSSELL: Great. Another question? State  
9 your name, please, for the court reporter.

10 MR. HARRISON: Dayle, D-a-y-l-e, Harrison,  
11 normal spelling. Jim, I'm curious about the -- you  
12 talk about 20 parts per million at the Plainwell  
13 Dam impoundment as sort of a cleanup standard; but  
14 in all the other floodplains you are talking 11  
15 parts per million, and is it because the elevation  
16 there is so much higher than the ordinary  
17 hundred-year floodplain? Or how do you guys  
18 interact with the various floodplains and  
19 impoundments versus the actual main stream where  
20 you don't have any impoundments?

21 MR. SARIC: All right. So, let me explain  
22 this. It's a little confusing. So, the cleanup  
23 number is 11. That's the ecological cleanup, 11  
24 parts per million. So, in the Plainwell

1 impoundment where we have the blue areas -- and  
2 we looked at how many of those one-acre home  
3 ranges exceeded 11. We looked at that.

4 So, the next step, what we did was, we  
5 looked at and say -- you kind of look at, well,  
6 how do you dig it all up? How do you dig it up?  
7 So, we looked at, what if we took everything  
8 greater than 50 parts per million out of there?  
9 How many of those home ranges now become less  
10 than 11? What percentage? And we looked at like  
11 50. We looked at 25. We looked at 20. We  
12 looked at 10. We looked at 5. We looked at one,  
13 and we kind of looked at them all and looked at  
14 how much material would be excavated.

15 And when you pick 20, you go in there and  
16 say, let's dig up everything greater than 20  
17 parts per million within that impoundment, okay,  
18 that would allow 98 to a hundred percent of all  
19 the home ranges to be below 11 part per million.

20 It was a remedial action level. So, 20  
21 wasn't the cleanup number. The cleanup number is  
22 11, but given the range of various concentrations  
23 in there, it was -- at what concentration -- we  
24 were looking at kind of this, where do you get

1 the biggest bang for your buck? If you try to go  
2 in and dig up more material, you wouldn't get --  
3 you know, to get from that 98, if you want to get  
4 99 percent of the home ranges, you'd have to  
5 clean up way, way more material and not really  
6 make an impact.

7 So, the cleanup number was 11 in all those  
8 areas. We looked at different remedial action  
9 levels or goals, what material to clean up or  
10 remove to obtain, you know, the percentage of  
11 home ranges for those ecological receptors to get  
12 as close to a hundred percent as possible, if  
13 that makes sense.

14 Paul, you want to try to explain?

15 MR. BUCHOLTZ: What's your kind of followup  
16 question, Dayle?

17 MR. HARRISON: Well, you've got the  
18 floodplain, the Crown, for example, where the  
19 river is flowing fairly quick through there. So,  
20 you've got a different floodplain number. I  
21 don't know if you'd call it an elevation number.  
22 Maybe that would help clarify it.

23 MR. SARIC: No, the different number -- the  
24 different number is not based on elevation. It's

1 based on land use. So, the residential areas of  
2 the floodplain that are essentially residential,  
3 that number is 2.5, and that's the additional  
4 sampling that confirmed those areas upstream are  
5 below 2.5.

6 MR. HARRISON: Is there like a map that  
7 shows the various --

8 MR. SARIC: Yeah.

9 MR. HARRISON: -- commercial and  
10 residential?

11 MR. SARIC: In the feasibility study,  
12 there's a bunch of maps that show all the  
13 different land uses and, really, the 11 really  
14 applies primarily to, let's say, the Plainwell  
15 and Plainwell 2 impoundments because those areas  
16 were primarily recreational land use, and that's  
17 where -- in that scenario, that's the primary  
18 land use.

19 The human health number would be 23 parts  
20 per million. So, the majority of the  
21 concentrations were all below 23 parts per  
22 million in there but the -- so, the ecological  
23 cleanup number comes into play, and that becomes  
24 the lowest level. It's not like it's residential

1 land use in the Plainwell impoundment, except for  
2 a couple of parcels.

3 MR. HARRISON: I'm not sure if -- Paul, do  
4 you have a different take on that? Do you  
5 understand the question?

6 MR. BUCHOLTZ: It's difficult to describe  
7 what -- we think about the different criteria,  
8 right? We have three criteria that we're talking  
9 about. One is a recreational criteria, 23 parts  
10 per million. The other then is an ecological  
11 criteria of 11 to protect the animals in the  
12 floodplain. Then you have a residential number  
13 of 2.5.

14 So, another way to look at it is to go into  
15 Plainwell; and if we think about the site and the  
16 average concentrations, like Plainwell has an  
17 average concentration, the former Plainwell  
18 floodplain, of about 16 parts per million before  
19 the cleanup. The Plainwell Dam No. 2 average  
20 concentration at the floodplain was about 3 1/2  
21 parts per million. And then when we get into the  
22 native floodplains upstream, we think it's even  
23 lower than that.

24 So, when we go to Plainwell, we exceed both

1 the residential criteria of 2.5 and we also  
2 exceed the ecological criteria of 11, but we  
3 don't necessarily exceed the 23 parts per  
4 million, which is the recreational area.

5 So, we go in there and we say, in Plainwell,  
6 this exceeds that ecological number of 11, so, we  
7 have to go in and take care of that area to  
8 achieve that goal of 11. So, that requires  
9 additional work in Plainwell.

10 When we go to Plainwell Dam No. 2, we see  
11 that the average is really more like 3 1/2, so,  
12 we don't think we have that purely ecological  
13 risk there that requires concentrations above 11  
14 to exceed that. So, that really doesn't require  
15 cleanup unless you go to like 2 1/2 per million,  
16 which is residential, and that's something we are  
17 going to evaluate with additional sampling.

18 So, then when we get into the rest of the  
19 floodplain, the only thing potentially we could  
20 exceed is the 2 1/2. We don't think that we're  
21 going to be anywhere near the 11, certainly not  
22 the 23. So, that just is going to require some  
23 additional sampling in the future to make sure  
24 that those levels in that floodplain are below

1 2 1/2. Does that help or --

2 MR. HARRISON: I think it does, but I guess  
3 looking at Plain -- when you look at the  
4 Plainwell impoundment, once those riverbanks go  
5 back to its native course, a lot of sediment is  
6 going to be seven or eight feet or more above the  
7 ordinary hundred-year floodplain for the river in  
8 that area, so, you've got that excavation to take  
9 place.

10 I'm just wondering how that compares to the  
11 normal, native floodplain state between Kalamazoo  
12 and Plainwell Dam No. 2. I'm wondering how you  
13 guys are going to interact with that or don't you  
14 at all? It seems like it's way above the native  
15 riverbed, Plainwell, once that takes place,  
16 Plainwell No. 1. You're excavating way above  
17 what people think of as the normal floodplains of  
18 the river.

19 MR. BUCHOLTZ: Yeah. I think what you're  
20 talking about gets into this inundation of these  
21 areas or -- you know, we develop criteria that  
22 are -- two specific criteria. There are aquatic  
23 criteria that applies to the in-stream, and there  
24 are terrestrial criteria that applies to the

1 terrestrial area.

2 So, Plainwell is a good example. When we  
3 did the dam removal, we lowered those water  
4 levels by several feet down by the dam, and we  
5 feel much more comfortable calling the Plainwell  
6 impoundment purely terrestrial. So, it was that  
7 dam removal that gave us the separation. So,  
8 does that --

9 MR. HARRISON: That's good.

10 MS. RUSSELL: Thank you. Another question  
11 over here.

12 MR. DAHLINGER: Don Dahlinger. Actually,  
13 two questions real quick. The first one, is the  
14 target removal in the river 0.33 milligrams? The  
15 second one, I saw reference to thin-layer caps  
16 over 50 percent of the area. I didn't hear you  
17 talk about that in the presentation.

18 MR. SARIC: The first, .33 is the sediment  
19 cleanup number, the goal or objective in each of  
20 those areas. So, yes, that is the number for the  
21 sediment.

22 The capping really is applying thin-layer  
23 caps. It was discussed in a couple portions. It  
24 was talked about in the issue of the floodplain.

1 There may be some areas -- the idea is excavating  
2 maybe some areas and would putting a thin-layer  
3 cap make more sense? And you will see prepare  
4 thin-layer cap gets mentioned for some of the hot  
5 spot removal. The idea is more sand and gravel  
6 -- you get down and remove that hot spot and  
7 you've got a depression, so, maybe put some sand  
8 or a thin layer of sand and gravel, not just to  
9 kind of level the area out but for a little added  
10 layer of protection.

11 That is what that is really about, not a cap  
12 like thinking of a real protective cap in that  
13 sense but just adding -- putting sand or gravel  
14 in that area.

15 MR. DAHLINGER: You assume you will put that  
16 on 50 percent of the remedial area?

17 MR. SARIC: Given the depth, you may have  
18 excavated some of that stuff. That was the  
19 thought but, really, once we are done, you know,  
20 assuming we're moving forward with the remedy,  
21 and we get done with the ROD, ultimately the next  
22 step when you get into doing the work, your  
23 remedial design plan, we'll go in and suggest  
24 additional sampling and then the design plan will

1 say, here's how we are going to do this. Some of  
2 these hot spots have to get dug out maybe five  
3 foot below the surface. We're going to have this  
4 depression. We're going to backfill with some  
5 clean sand. That is the type of thing, and these  
6 details are going to be in that remedial design  
7 plan that are kind of missing from -- you know,  
8 that you wouldn't expect to have in a feasibility  
9 study because it's a proposed plan. We don't  
10 know the ultimate details of what we're going to  
11 do, and we need to get more specific data. Thank  
12 you.

13 MS. RUSSELL: Great questions.

14 MS. FISHER: My name is Marla, M-a-r-l-a,  
15 Fisher, spelled like Fish. Yes, I had a question  
16 about the 11 and 22 parts per million. Those  
17 numbers seem really high to me. I don't know. I  
18 am thinking about ecological receptors but -- and  
19 like a robin's level, their number is 6 or 8. I  
20 was wondering what the risks are for those  
21 numbers, and I am thinking to other PCB receptors  
22 like the fox. I think those numbers would be  
23 lower than 11 or 22. Could you address those  
24 numbers and how it affects them and the risks

1 involved?

2 MR. SARIC: I can tell you that I can't  
3 speak for what the numbers are that we did, like  
4 the fox. I don't know those off the top of my  
5 head, and these are for the floodplains. When  
6 you talk about how we developed the ecological  
7 numbers, it was a long process. Ecological risk  
8 assessments were conducted. There was  
9 peer-reviewed studies brought in.

10 Experts from around the country were looking  
11 at existing data that was there, and then there  
12 was new science developed, and it looked at a  
13 number of the bird species. You know, there was  
14 -- there were -- you know, there was a lot of  
15 risk assessment science looked at. What if you  
16 took a chicken egg and you injected it with PCB  
17 and what concentration would the birds get? And  
18 other science that says -- they looked at genetic  
19 receptors and some birds only have -- they're not  
20 as susceptible to PCBs. They can handle more  
21 PCBs than other birds. Some species can do that.  
22 You have different types of science. Some  
23 are conflicting; some are not. And all those  
24 studies, there's uncertainties with all of them.

1 So, what we did is try to balance looking at  
2 multiple species, not just one bird. You're  
3 looking at the shrew. You're looking at multiple  
4 birds, multiple species, looking at multiple  
5 science.

6 MS. FISHER: Are we are going to sacrifice  
7 the robins and eagles that won't live?

8 MR. SARIC: The number for larger birds is  
9 much higher, and all the signs show those are much  
10 higher; but when you look at some of that stuff,  
11 you have to balance the risk versus uncertainty.  
12 And all the risks assessed by the EPA, the State,  
13 we have to balance all that, and that 11 part per  
14 million number is really the -- kind of the  
15 reasonably exposed maximum ecological receptor.  
16 That's what we believe kind of balances the risk  
17 and uncertainty for ecological receptors. Paul,  
18 anything you want to add to that?

19 MR. BUCHOLTZ: I think the way Jim is  
20 describing it is good. We do have this range, you  
21 know, and maybe for the sensitive birds that are on  
22 a diet of -- you know, they're eating worms and  
23 getting a higher exposure, you know, those are some  
24 of the animals that might be more at risk. We kind

1 of look at a number that picks most of this stuff  
2 up.

3 Another piece to think about, like with the  
4 mink, we have looked at the mink, but the mink  
5 falls out on the ecological side as an aquatic  
6 receptor because they eat fish, and we get their  
7 data from the in-stream. And, again, we are  
8 looking at a cleanup point of .33 for the  
9 in-stream, and a risk assessment for the mink,  
10 sediment protection for that species was .5 to .6.  
11 We think that if we, you know, protect for people  
12 in-stream, we are going to get the ecological  
13 receptors. That's what analysis has showed us.

14 I think like eagles we're looking at, a lot of  
15 times, a much larger origin range that takes them  
16 outside the area, so, it gets harder to evaluate  
17 that risk. And a lot of things like the smaller  
18 birds, the shrew, they have smaller ranges.  
19 They're definitely within the contaminated area,  
20 more at risk, if that helps clarify.

21 MS. GERMAIN: Janet Germain, J-a-n-e-t, last  
22 name is G-e-r-m-a-i-n. We looked at dollar  
23 numbers. We looked at animals, but let's look at  
24 time slots on those charts. Some of them say

1 45 years; some say 85 years. Well, I'm 70 this  
2 year, and I have -- will have 10 generations then  
3 that I have lived in, ten generations of people.  
4 So, if those families live within this area, that's  
5 10 generations in 70 years. So, 85 years could be  
6 even more generations; and if they stay in the same  
7 area, and depending on the size of their family,  
8 one family, 10 generations, that's hundreds of  
9 people. I totaled up just my family in three of  
10 the generations, and it comes to way over a  
11 hundred. So, we need to look at the people concept  
12 of it more and also the consumption of those that  
13 live from this area of wildlife, fish, and fowl and  
14 so on.

15 So, I just wanted to put those numbers in  
16 people's heads of the alternatives we're looking at  
17 and time spans of how many people it will affect,  
18 if it can affect that many for one family. That's  
19 all I have to say right now.

20 MR. SARIC: Thank you.

21 MS. RUSSELL: Okay. Any other questions  
22 before we break for the public comment period?  
23 Again, this is the time to ask. We won't be able  
24 to answer any questions during the public comment

1 portion. This will be the time to ask those  
2 questions.

3 MR. HARRISON: Dayle Harrison. I'm still  
4 perplexed about this floodplain. In some areas,  
5 you excavated six feet. In some areas, you cover  
6 only a foot. How do you determine whether you  
7 are going to cover a foot of fill, if that's  
8 sufficient to protect the terrestrial or do you  
9 need to go deeper, two feet of fill? And why do  
10 you excavate sometimes six or seven feet in the  
11 floodplain, like the Plainwell impoundment, and  
12 sometimes you actually get to higher levels the  
13 deeper you go in Plainwell in some cases. Can  
14 you clarify any of that?

15 MR. SARIC: Yeah. I think the easiest way  
16 to look at it, when we looked at the map, we  
17 looked at a lot of maximum concentration values,  
18 right? So, within Plainwell, we look at the  
19 remedies and said, we want to dig up everything  
20 greater than 20 parts per million in that  
21 Plainwell impoundment. Some of those areas are  
22 greater than a foot down below the surface. So,  
23 that's why some of those areas we have to go down  
24 greater than a foot because we are trying to

1 target that.

2 Now, it may be that -- you know, generally,  
3 typically, if the contamination is over a foot  
4 below the surface, you know, the burrowing  
5 animals won't get down below there, so,  
6 therefore, they won't be exposed to that  
7 contamination. So, that's why that one-foot  
8 depth is kind of picked, and that's been uniform  
9 across the board in a lot of different  
10 floodplain-type cleanups, that one-foot  
11 excavation.

12 When we did the removals, the time critical,  
13 it was different than what you see now. You  
14 know, we had higher concentrations. What we see  
15 now is kind of the remaining stuff beyond the  
16 removal. So, I hope that clarifies, and I'd be  
17 willing to sit down and look at the maps and show  
18 you, you know, because it is confusing. I  
19 totally understand, particularly looking through  
20 some of this stuff. I can certainly --

21 MR. HARRISON: I just wondered what the  
22 threshold -- it sounded like it was one foot in a  
23 normal native floodplain.

24 MR. SARIC: That's kind of typical. I think

1 that one-foot barrier is kind of a typical number  
2 you look at. You know, what's the exposure below  
3 a foot? But, again, in many of these cases we  
4 were trying to be conservative and say, if any of  
5 this stuff maybe gets disturbed, gets a road put  
6 in, and we were looking at maximum values and  
7 trying to say, let's remove everything greater  
8 than 20 parts per million, as an example. It  
9 would help us insure that 98 to a hundred percent  
10 of the home ranges were protected when we're  
11 looking at that ecological number being the  
12 driver for the cleanup.

13 MR. HARRISON: So, the final numbers here in  
14 a lot of areas, like Otsego, Trowbridge, you're  
15 finding that there's four or five or six feet of  
16 contaminated PCB sediments along the banks. So,  
17 when you say you're only capping a foot or you're  
18 only removing a foot and covering a foot, how do  
19 you resolve that with five or six feet of  
20 contaminated shoreline sediment?

21 MR. SARIC: Okay. So, different situation.  
22 So, in the Plainwell, Plainwell 2, the  
23 contamination is much different. We don't see  
24 like this six-foot contamination up in the

1 floodplains. In Trowbridge and some of those  
2 areas, yeah. I mean, in Otsego city, you know,  
3 we see some of that stuff where you've got  
4 contamination in depth for some of those areas,  
5 and those are other issues for remedy.

6 The question becomes if you're going to --  
7 if it's along the bank, it can get eroded, so, it  
8 doesn't matter if it's a foot down, if it's five  
9 foot down. If that channel is unstable and it's  
10 going to widen and move, you've got to get that  
11 material out of there; you can't just leave it in  
12 place. But if it's further away from the channel  
13 and it's a depth of four or five foot below the  
14 surface, those may be cases where you could cap  
15 that area rather than excavate it, theoretically.

16 And in that situation -- but then if you're  
17 going to do that, you then have to control that  
18 property. You've got to make sure no one comes  
19 in and builds a house on that property, so, you  
20 have to control it that way. We haven't made any  
21 of those decisions but, I mean, we're thinking of  
22 the alternatives to evaluate. Those are things  
23 we'll look at.

24 MS. RUSSELL: We have time for one or two

1 more questions before we get into the comment  
2 period. Any takers? Great questions tonight.  
3 Really appreciate the time you're putting in.  
4 One question back here.

5 MS. GERMAIN: Janet Germain. Have any areas  
6 been checked once you get into the farm area part  
7 of the river where a farmer may dig a trench for  
8 all those years, using it to -- for water use,  
9 water for his plan to irrigate it? Have you  
10 checked any areas to see if there were any PCB  
11 runoffs into old areas there?

12 MR. SARIC: I mean, I can't speak  
13 specifically to an example of that. We monitor  
14 surface water in lots of different areas from  
15 there all the time. Paul, anything specifically  
16 you can think of?

17 MR. BUCHOLTZ: No. I think, generally  
18 speaking, you know, the contamination is within  
19 pretty much the hundred-year floodplain, give or  
20 take. So, you know, we know generally the  
21 footprint, and I think, you know, one of the  
22 steps we're going to take is some additional  
23 sampling in the floodplains in some of these  
24 areas, but we don't see anything specific that

1 you're discussing right now. We haven't seen a  
2 situation like that.

3 MS. GERMAIN: Thank you.

4 MS. RUSSELL: We have time for one more  
5 question before we take a quick break. Any  
6 takers?

7 MS. BELCHAK: My name is Margy Belchak,  
8 M-a-r-g-y B-e-l-c-h-a-k. My question is going to  
9 be a nice, easy technical one.

10 MR. SARIC: Yeah.

11 MS. BELCHAK: So, your averages that you're  
12 talking about for your parts per million  
13 concentrations of the Plainwell Dam, you said was  
14 about 16 parts per million?

15 MR. SARIC: Yes.

16 MS. BELCHAK: So, when you're looking at  
17 those numbers, I'm kind of curious about a couple  
18 of things. One, what is the area that you're  
19 looking at? Obviously, if you took a huge area  
20 and did an average, you'd come up with a very low  
21 concentration, even if there's some high data  
22 points. So, what are you -- I guess, can you  
23 tell me a little about the process that you used?  
24 And if you find hot spots, you know, what do you

1 do? Do you do more testing around that?

2 MR. SARIC: Let me go back and show you  
3 something real quick. So, the area for the  
4 averages -- see the gray? The gray would  
5 represent -- this is the Plainwell impoundment.  
6 So, when Paul says the average concentration,  
7 it's the average concentration of this gray area,  
8 which is about -- you know, this one impoundment  
9 is like 16 part per mill. Okay?

10 MS. BELCHAK: That includes the blue areas?

11 MR. SARIC: That includes the blue, so, this  
12 whole thing is the impoundment, the former lake  
13 bottom, if you will.

14 MR. BUCHOLTZ: And it also included the  
15 areas before the removal action.

16 MR. SARIC: Right.

17 MS. BELCHAK: Key point.

18 MR. BUCHOLTZ: So, before 2007, 2009, just  
19 as a relative consideration of what the  
20 concentrations are like along the river. So,  
21 today the averages are lower after that removal  
22 action was done.

23 MR. SARIC: Really good point.

24 MR. BUCHOLTZ: But we haven't gone through

1 and recalculated.

2 MS. BELCHAK: Yeah, we haven't recalculated  
3 the new numbers?

4 MR. SARIC: Right. So, what we did then, in  
5 this area, as Paul described, that 11 part per  
6 million number became -- that's kind of the  
7 control ecological number, and we're below the  
8 23, you know. So, then what we did is we knew --  
9 we took -- we used the mammal, like the shrew,  
10 who has a one-acre home, a smaller home range  
11 than some of the larger -- than the bird species.  
12 So, you, basically, envision a circle that is one  
13 acre and you plot it all across that gray area.

14 And you look and say, how many of these  
15 one-acre home ranges exceed 11 parts per million?  
16 And before this work, 18 percent of them exceeded  
17 11, right? 82 percent did not in this particular  
18 area. In the Plainwell 2 impoundment, a hundred  
19 percent of them were below 11.

20 So, once we looked and said, okay, we have  
21 82 percent of them that are protected, 82 percent  
22 of the home ranges. Can we do more? And that's  
23 when we looked at all the data, and we said,  
24 okay, what if you took all -- anything that was

1 greater than 50 parts per million, if you pull  
2 that, what percentage of home ranges are now  
3 protected? Well, you go from 82 to 85 or 88, you  
4 know, and then we looked at looking at 50. We  
5 looked at, I think, 35, 25, 20. We looked at  
6 different numbers, and it just -- when you looked  
7 at kind of that risk/benefit type thing, it was  
8 very clear that when you looked at everything  
9 greater than 20 part per million and you excavate  
10 that, which is all the blue areas, then in doing  
11 that, now 98 to a hundred percent of the home  
12 ranges are protected. So, that's kind of how we  
13 did that.

14 MS. BELCHAK: And that's sort of  
15 theoretical, right? So, at some point, I mean --

16 MR. SARIC: Right. We're going to sample.  
17 We're going to go back and sample all that. You  
18 bet, we're going to go back and sample, but, you  
19 know, a lot of the stuff inside the blue, you  
20 know, from here -- you know, from here toward the  
21 river, a lot of that was all removed. That  
22 material was all removed when we did our time  
23 critical remedial action in 2007-2009.

24 MS. BELCHAK: Thank you.

1 MS. RUSSELL: Thank you very much. Okay.  
2 So, what we're going to do is at this point we're  
3 going to take a short break to prepare for our  
4 public comment portion. If you would like to  
5 make a comment tonight, I ask that you -- we have  
6 some cards that look like this at the back desk.  
7 There's not a whole lot of writing required.  
8 Just fill out the back and turn them in to me.  
9 So, we'll take a few short minutes if you wanted  
10 to still do that, and we'll come back here to  
11 start the public comment period. Thank you.

12 (Proceedings concluded for this portion at  
13 7:10 p.m.)

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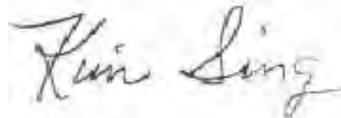
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CERTIFICATE

STATE OF MICHIGAN  
COUNTY OF VAN BUREN

I, KIM SING, a Certified Shorthand Reporter and  
Notary Public in and for the State of Michigan, do  
hereby certify that the foregoing transcript taken on  
May 19, 2015, is true and accurate to the best of my  
knowledge, skill, and ability.

IN WITNESS WHEREOF, I have hereunto set my hand  
this 28th day of May, 2015.



KIM SING, CSR-2263, CP-RPR

My commission expires:  
August 11, 2017

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Kalamazoo

Meeting

Taken on: May 19, 2015

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ALLIED PAPER/PORTAGE CREEK/KALAMAZOO RIVER  
SUPERFUND SITE - PROPOSED CLEANUP PLAN

PUBLIC COMMENTS

Held at the Kalamazoo Nature Center  
7000 N. Westnedge Avenue, Kalamazoo, Michigan  
Tuesday, May 19, 2015, at 7:16 p.m.

Presenter: James Saric, U.S. EPA Remedial Project  
Manager  
Coordinator: Diane Russell, U.S. EPA Community  
Involvement Coordinator

1 MS. RUSSELL: Let's go ahead and get started  
2 with the final piece here. Before I call the next  
3 name, please remember that this is your opportunity  
4 to provide comments which will be recorded as part  
5 of the official record for this project. EPA will  
6 not be responding to comments or questions  
7 expressed during this portion of the meeting,  
8 however, EPA will follow up with responses to  
9 comments in a Responsiveness Summary which will be  
10 made publically available.

11 If you -- again, if you do not want to make  
12 comments tonight, there are other ways you can  
13 submit comments on the proposed cleanup plan. You  
14 can submit them in writing to EPA's office, which  
15 is provided in the fax sheet. You can offer those  
16 online. We have an online comment form. You can  
17 also fax those to me in my Saginaw office. So,  
18 there are multiple ways you can submit those  
19 comments if you do not feel like providing those  
20 here verbally tonight.

21 With that, I am going to call the first  
22 commenter, and I will come to you with the  
23 microphone. And, again, please state your name,  
24 for the court reporter, and the first commenter is

1 Kenneth Kornheiser.

2 MR. KORNHEISER: Thank you. The proposed plan  
3 aims to reduce PCB levels in fish to the level  
4 acceptable for sports anglers. Sport anglers are  
5 figured to eat two bass per month. However, it  
6 acknowledges that there are a large number of  
7 subsistence anglers, and it also acknowledges that  
8 fish consumption advisories are inadequate for  
9 protecting subsistence anglers and their families.

10 So, I would suggest that the potentially  
11 responsible parties are potentially responsible for  
12 poisoning all of those subsistence anglers and  
13 their families; and even though it is not typically  
14 part of the remedial action in these kinds of  
15 projects and programs, that I would suggest that  
16 that needs to be addressed more sufficiently.

17 MS. RUSSELL: Thank you. I think I have  
18 another card coming. All right. You're next.  
19 State your name for the court reporter.

20 MR. HARRISON: I am Dayle Harrison, D-a-y-l-e,  
21 H-a-r-r-i-s-o-n. I am the president of a group  
22 called the Kalamazoo River Protection Association.  
23 We have been on the site -- and I know many of you  
24 have heard the story before. We have been on the

1 site since 1976, '77. We're still really saddened  
2 deeply by the failure of GP and the Koch Brothers  
3 -- Koch Industries to take a commanding lead in  
4 this cleanup. It's our belief that Koch  
5 Industries, when they acquired GP, factored in the  
6 billion dollar cleanup costs as a liability to  
7 reduce the purchase price for that amount. So,  
8 they need to man up and step up with the deal they  
9 already got.

10 So, having said that, I think, as a  
11 preliminary review, I think what EPA proposes here  
12 is adequate. We've got some more research to do  
13 and some more reading to do, but I think the two  
14 alternatives will help us with the downstream and,  
15 hopefully, bring about more cleanup in that area.

16 We will be submitting written comments  
17 probably within the next three or four days, but I  
18 would request an extension in the next ten days to  
19 give us more time to review what is a pretty  
20 cumbersome document. Thank you.

21 MS. RUSSELL: Okay. I have run out of cards,  
22 but I am willing to open it up to someone who would  
23 like to take a chance and give a comment now. And,  
24 again, no problems submitting a written comment.

1 Make sure that if you're going to send it by mail,  
2 it needs to be postmarked by June 3rd, and you can  
3 also submit that, again, online and can also fax  
4 that, and that information is on -- in our fax  
5 sheet. So, unless there's any last minute holdouts  
6 -- do you want to add to your comment?

7 MR. HARRISON: Dayle here. It's pretty  
8 perplexing that -- and this is probably a side  
9 line, but we've cleaned up -- excavated 300,000  
10 cubic yards out of a \$4 million dollar cleanup  
11 excavation process that's needed. So, if we do  
12 that in 20 years, you can figure out -- you can do  
13 the math yourself -- how long it's going to take,  
14 at this rate, to get the river restored for the  
15 fisheries, the human health risk reduced, and  
16 ecological safety for wildlife.

17 It's really puzzling why -- I think even the  
18 community is having difficulty understanding why  
19 it's taking so long, given the resources that these  
20 companies have, to clean up the river, and why EPA  
21 has not been more aggressive. At the present rate,  
22 we're talking about a 300-year cleanup at the  
23 present rate we're doing the work now. That's  
24 really frightening and just unbelievable.

1 MS. RUSSELL: Okay. Thank you. Last  
2 opportunity before we close it up for the evening.  
3 Okay. That concludes our meeting for this evening.  
4 I would like to thank you, again, for taking the  
5 time to come up and learn about the cleanup project  
6 for Area 1. Have a very safe evening and drive  
7 home safely. Thank you very much.

8 (Proceedings concluded at 7:24 p.m.)  
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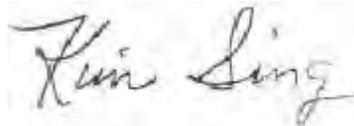
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CERTIFICATE

STATE OF MICHIGAN  
COUNTY OF VAN BUREN

I, KIM SING, a Certified Shorthand Reporter  
and Notary Public in and for the State of Michigan,  
do hereby certify that the foregoing transcript  
taken on May 19, 2015, is true and accurate to the  
best of my knowledge, skill, and ability.

IN WITNESS WHEREOF, I have hereunto set my  
hand this 28th day of May, 2015.



\_\_\_\_\_  
KIM SING, CSR-2263, CP-RPR

My commission expires:  
August 11, 2017

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