

ILLINOIS POLLUTION CONTROL BOARD

IN THE MATTER OF:)
WATER QUALITY STANDARDS AND) R08-09
EFFLUENT LIMITATIONS FOR THE) (Rulemaking-
CHICAGO AREA WATERWAY SYSTEM) Water
AND THE LOWER DES PLAINES)
RIVER: PROPOSED AMENDMENTS)
TO 35 Ill. Adm. Code Parts 301,)
302, 303 and 304)

REPORT OF THE PROCEEDINGS held in the
above entitled cause before Hearing Officer Marie
Tipsord, called by the Illinois Pollution Control
Board, taken by Steven Brickey, CSR, for the State
of Illinois, 160 North LaSalle Street, Chicago,
Illinois, on the 8th day of November, 2010,
commencing at the hour of 9:00 a.m.

A P P E A R A N C E S

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MS. ALISA LIU, Environmental Scientist
MR. ANAND RAO, Senior Environmental Scientist
MR. TANNER GIRARD, Acting Chairman
MR. THOMAS JOHNSON
MR. GARY BLANKENSHIP
MS. CARRIE ZALEWSKI
MS. ANDREA MOORE

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L.A. COURT REPORTERS, LLC. (312) 419-9292

1 MS. TIPSORD: Good morning. My name
2 the Marie Tipsord and I've been appointed by the
3 Board to serve as hearing officer in this
4 proceeding entitled Water Quality Standards and
5 Effluent Limitations for the Chicago Area Waterway
6 System and Lower Des Plaines River. Proposed
7 Amendments to 35 Ill. Admin. Code 301, 302, 303
8 and 304.

9 This is Docket Number R08-9 and
10 where we are in sub dockets C and D today. With
11 me today to my immediate left is acting chairman
12 G Tanner Girard. To his left his Board Member
13 Carrie Zalewski, to her left Board Member Gary
14 Blankenship. To my far right is Board Member
15 Thomas Johnson and Board Member Andrea Moore will
16 be joining us traffic allowing. To my immediate
17 right is Anand Rao and to his right is Alisa Liu
18 from our technical staff.

19 Today's hearing is the first day
20 of hearings since we split this out into sub
21 dockets C and D. It is, however, the 44th day
22 overall in this proceeding. A few housekeeping
23 notes, as I indicated in sub docket B exhibits in
24 all of the sub dockets will continue to be

1 sequentially numbered so today the first exhibit
2 will be given number 420.

3 The exhibit list will be filed
4 after the hearing along with the exhibits as
5 always, but will only be docketed in sub dockets C
6 and D. The clerk's office is doing the same with
7 public comments. Some comments are being docketed
8 in multiple dockets, some only in one. If you see
9 that there's a public comment that you think may
10 have been misplaced, contact John or myself and
11 we'll take another look at it.

12 The subject of today's hearing
13 is the issue of Asian carp and the impact of the
14 measures to control Asian carp on the proposed
15 regulations. A prehearing conference was held to
16 establish the order of testimony and questions.
17 We will follow the following schedule. We will
18 begin with testimony by Robin Garibay for Citgo
19 Petroleum and PDV Midwest, LLC. Questioning for
20 Ms. Garibay will be first by the IEPA and then
21 Midwest Generation. After we are complete with
22 Ms. Garibay, we move to Julie Wozniak with Midwest
23 Generation, LLC. Questions for Ms. Wozniak will
24 begin with the IEPA and then the Environmental on

1 Law Policy Center and then Stepan Company. After
2 Ms. Wozniak we will move to Mr. Greg Seegert for
3 Midwest Generation. Again, IEPA will begin the
4 questioning and then Environmental Law on Policy
5 Center and then Stepan Company. Testimony by
6 Jennifer Wasik from the Metropolitan Water
7 Reclamation District of Greater Chicago will
8 follow that. IEPA will begin their questions then
9 ELPC and then Midwest Generation.

10 At the close after all of those
11 testifiers, we will go to the American Waterway
12 Operators and their testimony. All testimony will
13 be marked as an exhibit and entered as if read.
14 We will continue the hearing day-to-day until
15 Wednesday, November 10th beginning each day at
16 9:00 a.m. On Tuesday, we will break for lunch for
17 about an hour and a half. The Board has a
18 deliberative session rescheduled for 1:00. Anyone
19 may ask a follow-up question. You need not wait
20 until your turn to ask questions. I do ask that
21 you raise your hand, wait for me to acknowledge
22 you. After I've acknowledged you, please state
23 your name and whom you represent before you begin
24 your question.

1 Please speak one at a time. If
2 you speak over each other, the court reporter will
3 not be able to get your questions on the record.
4 Please note any questions asked by a Board member
5 or staff are intended to help build a complete
6 record for the Board's decision and not to express
7 any preconceived notion or bias.

8 One of these days, I'll have it
9 memorized. Dr. Girard?

10 MR. GIRARD: Good morning. Welcome
11 to hearing day 44. The Board is very impressed by
12 all the time and effort that all of the
13 participants are putting into this rulemaking.
14 Thanks for hanging in there. Let's get on with
15 the testimony and questions. Thank you.

16 MS. TIPSORD: Before we start with
17 the testimony, are there any other preliminary
18 matters? With that, Mr. Fort?

19 MR. FORT: Thank you, Madam Hearing
20 Officer. On behalf of Citgo and PDV Midwest, we
21 would like to thank the Board for holding this
22 hearing for focusing on the Asian carp issue.

23 Just as a preliminary matter
24 before our witness testifies, we are focusing here

1 on the issues of the uses and really a factor that
2 I think has evolved dramatically over the last
3 three years which is the Asian carp issue and the
4 issue of invasive species and we believe it's very
5 important for the Board to take note of this
6 phenomena and the phenomena that what is good for
7 many water quality issues may be even better for
8 increases of Asian carp migration, which we think
9 don't pretend to have solutions for this, but we
10 do think it's important for the Board to have that
11 information and we brought Ms. Garibay here to
12 talk about the issue of invasive species and how
13 that fits into the uses that we are making of the
14 Lower Sanitary and Ship Canal and we are starting
15 with the uses. We understand water quality will
16 come later and we'll have another set of hearings
17 on other use issues later on, but we are starting
18 today with the testimony on the uses and
19 particularly the invasive species barriers and
20 associated activities that are being undertaken to
21 protect Lake Michigan from the spread of Asian
22 carp. So, with that, I would like to proceed with
23 our witness.

24 MS. TIPSORD: Could we have,

1 Ms. Garibay sworn in, please?

2 WHEREUPON:

3

ROBIN GARIBAY

4 called as a witness herein, having been first duly
5 sworn, deposeth and saith as follows:

6

E X A M I N A T I O N

7

8 MS. TIPSORD: And do we have a copy
9 of her pre-filed testimony?

10 MR. FORT: If I can give you a clean
11 one at the break.

12 MS. TIPSORD: I'll tell you what,
13 why don't we get a clean one at the break. Why
14 don't you hang onto this. If there's no
15 objection, we will enter the pre-filed testimony
16 of Robin Garibay as Exhibit 420. Seeing none,
17 it's Exhibit 420.

18 (Document marked as IPCB Exhibit
19 No. 420 for identification.)

20 THE COURT: And then we'll begin the
21 questions with the IEPA.

22 BY MS. WILLIAMS:

23 Q. Good morning, Ms. Garibay.

24 A. Good morning.

Q. Garibay, right?

1 A. That's fine. Close enough.

2 Q. Can you say it for me?

3 A. Garibay.

4 Q. Garibay. Thank you. Just before we
5 begin maybe to remind everyone you've testified in
6 this proceeding previously, correct?

7 A. Yes, I have.

8 Q. And that was on August 13th of 2009,
9 does that sound right?

10 A. Yes.

11 Q. Can you remind us who you were
12 testifying for at that hearing?

13 A. I was testifying on behalf of Stepan
14 Company.

15 Q. And today you're testifying on
16 behalf of --

17 A. Citgo Lemont Refinery.

18 Q. When were you retained by Citgo in
19 this proceeding?

20 A. What's today? Sorry. Probably
21 about six weeks ago.

22 MS. TIPSORD: Excuse me. Can I ask
23 a point? You testified that -- your pre-filed
24 testimony says Citgo Lemont Refinery. Are you

1 only testifying on behalf of Citgo or are you also
2 testifying on --

3 THE WITNESS: And -- both.

4 MR. FORT: On behalf of both
5 entities. The colloquialism that we use is it's
6 the Citgo Lemont Refinery.

7 MS. WILLIAMS: But not Citgo and
8 Stepan?

9 MS. TIPSORD: No. PDV.

10 MS. WILLIAMS: Okay.

11 BY MS. WILLIAMS:

12 Q. To the pre-filed questions now.
13 Question number one, please describe your
14 experience in the areas of invasive species?

15 A. Okay. My experience in invasive
16 species in the Great Lakes really started with the
17 zebra mussels invasion and in assisting our
18 clients, particularly on Lake Michigan, in
19 evaluating the effective of controls for zebra
20 mussels and then in looking at those controls how
21 that impacted the quality of the discharge. In
22 addition, in support of a long-term bio assessment
23 program in the near shore area of Lake Michigan
24 that's been going on for about ten or fifteen

1 years now, we have observed impacted zebra mussels
2 on the abundance and diversity of plankton as well
3 as on water clarity.

4 Q. Anything else?

5 A. Well, outside of the Great Lakes,
6 yes, we have worked with clients in the southern
7 United States on invasive species related to
8 submerged and emergent aquatic vegetation
9 infestations as well as out in the west coast on
10 eelgrass issues. Both invasive issues that affect
11 aquatic habitat.

12 Q. Question two asks you to describe
13 your experience in the area of assessing
14 biological integrity. I don't even know if I'm
15 using the right term for that, but I was hoping
16 you'd understand at least?

17 A. Yes. In looking at bio assessments
18 and the use of biologic metrics to assess
19 biological integrity as I've mentioned we've been
20 involved with a long-term study on the near shore
21 area of Lake Michigan for about 10 to 15 years
22 that involved looking at both plankton fish,
23 sediment quality, water quality and
24 macroinvertebrates. Specific in Illinois, we have

1 been involved in looking at biological assessments
2 in support of the location of diffusers. There's
3 a requirement to conduct habitat assessments when
4 you're installing a diffuser in a mixing zone.

5 Also, in support of requesting a
6 variance from sulfate and TDS standards. There
7 was the current assessment of the fish and
8 macroinvertebrate community and then looking at
9 biological assessments of the watersheds and coal
10 mining areas.

11 Q. So let's talk about -- can you talk
12 a little bit about your role in those matters?

13 A. Well, when I first started my
14 career, I would be out in the field and later as
15 my career involved directing the studies.

16 Q. Are you trained in certain methods
17 of biological assessment, certain indices or
18 anything that you want to share?

19 A. The indices depend on the states.
20 So each state has their own grouping of what they
21 want to use for assessing integrity, whether a
22 fish is a macroinvertebrate. Same with habitat
23 assessments in Illinois. For this rulemaking, we
24 looked at the QAGI assessment for habitat, which I

1 am familiar with both for work in Ohio as well
2 as -- that's a fairly common metric so in other
3 states.

4 Q. Are you able to go out and actually
5 conduct those or are you talking about reviewing
6 the work of others?

7 A. In the old days, I would conduct and
8 now I direct staff.

9 Q. Are there any specific -- what
10 sulfate TDS relief are you referring to?

11 A. This was on behalf of what was at
12 the time Borden Chemicals in Illiopolis, Illinois.

13 Q. Let's go onto question number three.
14 On page 16, you state "It is suggested that no
15 habitat improvement options be implemented that
16 would increase the reproduction or presence of
17 algae and macroinvertebrates from existing
18 conditions." In your opinion, how could the
19 presence of algae be minimized? Should
20 dischargers to the CAWS be required to remove
21 phosphorus and nitrogen?

22 MR. FORT: I'm going to object
23 because it does go beyond her testimony, but
24 she'll answer it.

1 BY THE WITNESS:

2 A. I guess to back up. This portion of
3 the sentence in my testimony relates to aquatic
4 life habitat and the options available to improve
5 aquatic life habitat for fish. For example, the
6 in stream habitat and shoreline habitat. Based on
7 the 2010 Chicago Areas Waterways habitat
8 evaluation improvement study, the habitat
9 improvement report that was presented by MWRDGC,
10 the possible options to improve the aquatic life
11 habitat would not likely have a significant impact
12 on fisheries.

13 My testimony is not to embark on
14 habitat improvement options that would increase
15 the potential to increase the production of algae,
16 macroinvertebrates, plankton or increase their
17 presence. For example, creating areas where
18 there's more off channel bays, creating areas
19 where there could be pockets of slower moving
20 waters could create habitat conducive to the
21 increased presence of plankton. The two species
22 of Asian carp that are closest to Lake Michigan
23 are known to be plankton feeders so that's the
24 connection.

1 BY MS. WILLIAMS:

2 Q. Both of them?

3 A. The two species that are closest,
4 yes.

5 Q. Do they eat the same kind of
6 plankton?

7 A. No.

8 Q. What is the difference?

9 A. I would have to refer back to my
10 notes, but one eats one type of plankton and the
11 other eats more of the zooplankton.

12 MR. ETTINGER: Albert Ettinger,
13 Environmental Law on Policy Center. When you say
14 "no habitat improvements be implemented," where
15 precisely are you talking about?

16 THE WITNESS: Sorry. In the Lower
17 Reach of the Chicago Ship Canal.

18 MR. ETTINGER: In the Lower Reach of
19 the Chicago Ship Canal?

20 THE WITNESS: Right. And then the
21 work that was done by Metro by MWRDGC looked at
22 the habitat improvements available for the entire
23 Ship Canal.

24 MS. WILLIAMS: Can we clarify what

1 study?

2 MR. ETTINGER: That's what I was
3 trying to do. Go ahead.

4 BY MS. WILLIAMS:

5 Q. So when you referred to this 2010
6 MWRD work, are you referring to Public Comment 284
7 in this proceeding?

8 A. Yes. I think it is Public Comment
9 284 Chicago Area Waterway System Habitat
10 Evaluation and Improvement Study.

11 Q. When did you receive a copy of that
12 report?

13 A. I downloaded it from the web in the
14 summer.

15 Q. From the Board's website?

16 A. Yes.

17 Q. Do you know anything about the
18 methodologies that were used in that study or did
19 you have any discussions with the district about
20 how that study was conducted?

21 A. I have had no discussions with the
22 district and all I know about the methodologies
23 that were used in this study to develop model is
24 what was presented in the report.

1 MS. WILLIAMS: Do you want to
2 follow-up?

3 BY MS. WILLIAMS:

4 Q. I mean, part of the issue for us is
5 we actually have not had any testimony yet on that
6 study in this proceeding. So your testimony
7 actually is I think a little bit jumping ahead in
8 relying on some information that some of us are
9 not quite up to speed yet, which is fine.

10 MS. WILLIAMS: Albert, do you want
11 to follow-up on that?

12 MR. ETTINGER: No. I'm just trying
13 to find out precisely where you don't want new
14 habitat and you're saying it's the lower part of
15 Sanitary and Ship Canal that you're concerned
16 about or does Citgo have a view as to whether
17 there should be new habitat in other areas?

18 MR. FORT: I think we're completely
19 misconstruing the testimony.

20 MR. ETTINGER: Good. That's what
21 I'm trying to understand, but why don't we --

22 THE WITNESS: What I was pointing
23 out is that there are habitat improvement options
24 available for the Lower Reach of the Ship Canal as

1 available for the entire Ship Canal. If those
2 habitat improvement options were put forward,
3 first of all, the model from the 2010 report said
4 there would be limited impact to improving the
5 fisheries quality, but the second part is that
6 some of those habitat improvement such as creating
7 side channels or pockets that there are slower
8 moving water are the type of habitat improvements
9 that would increase the presence and production of
10 a planktonic community and then plankton are the
11 preferred food choice of the two Asian carp that
12 are closest to Lake Michigan.

13 MR. ETTINGER: Do you believe that
14 the Lower Sanitary and Ship Canal now is plankton
15 limited in any sense with regard to carp?

16 THE WITNESS: And the other part
17 that I'm trying to key up and I will apologize
18 ahead of time if I don't keep coming back to it is
19 that there is an existing quality and existing
20 designated use for the Lower Reach of the Chicago
21 Ship Canal. We're not opining that that use -- or
22 I'm not opining that that use should be different
23 from what it is now. So if the existing community
24 supports some presence of plankton, then it is

1 what it is. I'm just saying let's not have a
2 habitat improvement that would possibly increase
3 the presence of more plankton and the reproduction
4 and make it more suitable for reproduction of
5 plankton.

6 MR. ETTINGER: Do you believe -- I
7 guess I'll just ask my question again. Do you
8 believe that system now is plankton limited such
9 that carp would have trouble reproducing there or
10 operating there?

11 THE WITNESS: Well, the reproduction
12 Asian carp is separate from the presence of
13 plankton and then the second part is it plankton
14 limited for food? No, it's not plankton limited
15 for food.

16 MR. ETTINGER: So there's plenty of
17 food there under existing conditions?

18 THE WITNESS: I don't know that
19 there's plenty, but there's food and I'm just
20 hoping that we don't proceed with an upgraded
21 aquatic use designation without considering
22 that -- the upgraded aquatic use designation may
23 actually make the Lower Reach of the Ship Canal
24 more conducive for Asian carp by creating

1 friendlier habitat and creating more of a food
2 source than is existing there already.

3 MR. ETTINGER: Do you think that
4 creating an upgraded designation for the Lower
5 Sanitary and Ship Canal would result in creation
6 of more habitat?

7 THE WITNESS: It could.

8 MR. ETTINGER: How?

9 THE WITNESS: Once again as I was
10 trying to, for the habitat side of things, it's
11 the time of improvement that could create side
12 channels, type of habitat improvements that could
13 create areas of slower moving waters and those are
14 areas that are more conducive or are areas that
15 carp would prefer to be in and be attracted to
16 partly because of the habitat and partly because
17 those are areas plankton are able to reproduce
18 and, hence, be more present in.

19 MR. ETTINGER: I'll let Debbie go
20 again, but -- well, go on Ms. Williams. I'm
21 sorry.

22 BY MS. WILLIAMS:

23 Q. Where in the proposal leads you to
24 believe there's any intention to create side

1 channels or other habitat improvement in the Lower
2 Sanitary and Ship Canal?

3 A. Well, the --

4 MR. FORT: I don't think that's what
5 she testified to.

6 MR. ETTINGER: No, I think that is
7 what she testified to.

8 BY THE WITNESS:

9 A. The upgraded aquatic life use
10 designation for the Lower Reach of the Ship Canal
11 is going to require habitat improvements. The
12 habitat --

13 Q. How?

14 A. It is known by your -- by EPA's
15 statement of reason, the 2007 report that is a
16 poor to very poor habitat for aquatic life. So to
17 upgrade that aquatic life use one would need to
18 upgrade the habitat to support the upgraded --

19 Q. So you do not --

20 MS. TIPSORD: Let her finish. Go
21 ahead.

22 MR. FORT: You interrupted so now
23 she's finished.

24 MS. TIPSORD: Go ahead.

1 BY MS. WILLIAMS:

2 Q. You don't believe that the Aquatic
3 Life Use B reflects the habitat limitations in the
4 Sanitary and Ship Canal, is that correct, the
5 definition in the proposal?

6 A. Correct.

7 Q. In what way does it not reflect the
8 existing habitat limitations in the Sanitary and
9 Ship Canal?

10 A. The existing aquatic life habitat is
11 rated poor to very poor.

12 Q. Correct.

13 A. The Aquatic Life Use B is an
14 upgraded use from the current use.

15 Q. To what? Well, from -- what habitat
16 correlates to Aquatic Life Use B, in your opinion?

17 A. Something not very poor to poor
18 because you've upgraded the use. The current use
19 reflects a very poor to poor aquatic life use
20 designation.

21 Q. The current use does?

22 A. Yes.

23 Q. Where does it say that in the
24 current use designation?

1 A. Because that's what the current use
2 is and the 305(b) report doesn't identify habitat
3 as being a limiting constituent of current use.

4 MS. TIPSORD: For the record, the
5 305(b) report is attachment B to the proposal,
6 correct, the 2007 report?

7 THE WITNESS: The 305(b) report is
8 an every two-year report that Illinois EPA issues
9 on the health of the Illinois waterways and part
10 of that assessment is whether the designated use
11 of a waterway is being attained.

12 BY MS. WILLIAMS:

13 Q. Do you know how those assessments
14 are done because we have talked about those? I'm
15 not sure if it was when you were here. Do you
16 know how those assessments are done for second
17 contact waters today?

18 A. I wasn't focused on the secondary
19 contact water. I'm not focusing on recreation.

20 Q. Okay. I thought -- no. On
21 secondary contact and indigenous aquatic life use
22 are lumped together, are you aware that those
23 assessments are done purely by chemical
24 measurements?

1 A. In Illinois, the process --

2 Q. For particular use designations.

3 MR. FORT: Can we let her finish her
4 sentence and if you think she's misstated things
5 then ask a follow-up?

6 MS. WILLIAMS: Sure.

7 BY THE WITNESS:

8 A. I thought that there was biological
9 integrity assessments done for secondary contact
10 and indigenous aquatic life.

11 BY MS. WILLIAMS:

12 Q. Have you reviewed any of them?

13 A. Have I reviewed the 305(b) reports?

14 Q. Any assessments of habitat in the --
15 yes, any assessment?

16 A. Yes.

17 Q. Any assessment for secondary
18 indigenous aquatic life use waters?

19 A. I've certainly reviewed the 305(b)
20 reports. As far as whether they have biological
21 metrics in them I would have to pull back the
22 report out and have a look at them.

23 MR. ETTINGER: I just want to
24 clarify a few things. These are kind of legal

1 questions, but your understanding of the law
2 relates to the conclusions you draw in your
3 testimony. Is it your understanding of this
4 proceeding that if we designate an upgraded use
5 that will necessarily result in habitat
6 improvements?

7 MR. FORT: I don't think that's what
8 she testified to.

9 MR. ETTINGER: Let her answer that
10 assistance question whether that's what she
11 testified to or not because I think that will
12 bear -- it will help us understand her conclusion.

13 MR. FORT: Do you understand the
14 question?

15 THE WITNESS: No, not quite. One
16 more time.

17 MR. ETTINGER: Okay. If this Board
18 were to decide that the Lower Sanitary and Ship
19 Canal should be a trout stream, would we
20 necessarily then create habitat so as to make it
21 possible to have a trout stream here?

22 MR. FORT: I think we're confusing
23 what this proceeding and my understanding was to
24 be about, which is about uses. The measures to be

1 taken to achieve those designated uses will get
2 into creating habitat or water quality standards
3 or whatever. So I think we're combining two
4 questions that are very distinct.

5 MR. ETTINGER: Well, my
6 understanding of Ms. Garibay's testimony is that
7 she is concerned that if this Board upgrades the
8 use of the Lower Sanitary and Ship Canal that that
9 will result in habitat improvements, am I correct?

10 THE WITNESS: What I try to do is
11 more of the systematic approach which is to go
12 through the three use attainability factors as
13 they apply to the Lower Reach of the Ship Canal.
14 The hydrologic modifications, the physical
15 modifications and the human cause conditions and
16 what my intent was was to say that there is an
17 opportunity given the evolutions of what has
18 occurred over the past three years with invasive
19 species to reevaluate the use attainability factor
20 of human cause conditions.

21 In that factor, it talks about
22 could the attainment of the use and the remedies
23 to meet that use be worse than the use itself, the
24 upgraded use. And I'm paraphrasing it, but

1 basically -- I mean, I can get the 40 CFR 131 and
2 read it, but basically it says is the remedy worse
3 than leaving it as it is. So by way of example of
4 a process of evaluating use attainability factor
5 three, I went through two ways that we talk about
6 remedies and removing of those remedies to allow
7 the upgraded aquatic use to be met.

8 One of them focused on the
9 evasive species there and the other focused on the
10 presumed -- and I will say presumed --
11 improvements that would need to be made to the
12 Lower Reach of the Ship Canal to meet Aquatic Life
13 Use B and those two improvements focus on habitat
14 improvements and focus on improvement to water
15 quality and then what would those improvements do,
16 would the remedies to meet those improvements by
17 any chance cause an unintended environmental
18 impact or harm. So --

19 MR. ETTINGER: If I were -- sorry.
20 Go on.

21 THE WITNESS: To answer your
22 question if it was designated for trout, would
23 there have to be habitat improvements for the
24 Lower Reach to be a stream capable of supporting

1 trout? Absolutely.

2 MR. ETTINGER: That's your
3 understanding of the law?

4 MR. TESHER: Absolutely.

5 MR. ETTINGER: Thank you.

6 THE WITNESS: There are no colds or
7 ripples or --

8 MR. ETTINGER: Thank you.

9 THE WITNESS: -- anything to support
10 the trout.

11 MR. ETTINGER: So your understanding
12 of the law is if we designate a water with a
13 particular use that somehow out of the operation
14 of the law we're going to have to change the
15 habitat to make it capable of supporting that use?

16 MR. FORT: She didn't say that.

17 MR. ETTINGER: That's exactly what
18 she said.

19 MR. FORT: You're combining a couple
20 things, Albert. I'm sorry.

21 MR. ETTINGER: Give her another
22 chance. What is your understanding of what is
23 going to happen as an operation of state law as a
24 result of designating a change in the designation?

1 MR. FORT: I'm going to object for
2 her asking her to state a legal opinion.

3 MR. ETTINGER: I'm asking her for
4 her understanding, which is necessary in order to
5 understand her conclusion. I'm quite certain I
6 won't agree with her legal conclusion. So I'm not
7 asking her for her discussion of the law. I'm
8 just understanding -- asking her for her
9 understanding of the law so that we can understand
10 her opinions.

11 THE WITNESS: If you have a use as
12 your example for trout, a designated use as a
13 trout supporting stream, my understanding of the
14 process is the state would then go in and assess
15 whether it's attaining that designated use as a
16 trout stream and then it would identify the reason
17 it's not attaining that use as a trout stream.
18 The reasons could be habitat, they could be
19 sediment qualities, they could be flow issues,
20 quantity issues, they could be quality water, they
21 could be temperature, but the state under 305(b)
22 and then later in evolving the 303(d) list
23 identifies those reasons, those impairments, for
24 why the Lower Reach of the Ship Canal wasn't

1 attaining use as a trout supporting stream.

2 That's my understanding of the process.

3 MR. ETTINGER: They would analyze
4 that. Would they necessarily do anything about
5 it?

6 THE WITNESS: My understanding of
7 the process is once the waterbody is identified as
8 impaired it is incumbent upon the state to take
9 the steps necessary, maybe through the TMDL
10 process, to restore that waterbody to the
11 designated use.

12 MR. ETTINGER: I wish that were
13 true. Let's go onto something else and ask
14 another question that touches on something you
15 said earlier, which is talking about you don't
16 wish any habitat that would create new algae or
17 phytoplankton or zooplankton that would add to the
18 food supply for Asian carp, is that correct?

19 THE WITNESS: I think I'd like to
20 put everything in context because I realize people
21 are taking phrases of a big long sentence or
22 paragraph and taking a bit out of context.

23 The use attainability factor
24 three that I was presenting testimony onto ask the

1 Board to consider a reevaluation of use
2 attainability factor three in the designating a
3 use for the Lower Reach of the Ship Canal was
4 focused on, you know, colloquially put, the ying
5 and yang. You have a human cause condition that
6 impacts the attainment. If you remove that
7 condition and now you meet an attainment, have you
8 actually made things worse.

9 MR. FORT: Excuse me. You're
10 talking very specifically about the electric fish
11 barrier or controls or general?

12 THE WITNESS: That was the
13 general -- my version of the human cause condition
14 factors of the use attainability analysis, so in
15 that context, in my testimony, I presented
16 examples of the designated use as I see it for the
17 Lower Reach of the Ship Canal and what would be
18 the remedies to achieve the proposed designated
19 use and where those remedies might actually cause
20 more harm.

21 Specifically, I'm looking at a
22 human cause condition that prevents attainment of
23 the proposed Aquatic Life Use B in the presence of
24 invasive species barrier. The electrical barrier

1 in 1 and 2A and soon to be online 2B are
2 operated -- are engineered and operated in such a
3 fashion to stun and in a few cases kill passing
4 fish. That impairs that Lower Reach from
5 attaining Aquatic Life Use B. So what would
6 happen if you removed it because if you removed it
7 there's a good possibility it will meet Aquatic
8 Life Use B, the proposed Aquatic Life Use B.

9 MR. ETTINGER: Remove what?

10 THE WITNESS: The invasive species
11 barrier.

12 MR. ETTINGER: Okay. Could you read
13 back my question?

14 THE WITNESS: I'm trying to put
15 things in context of what my process was because
16 that's what you're asking me is my understanding
17 and my process.

18 MR. ETTINGER: My question related
19 to zooplankton, phytoplankton and algae as I
20 recall. I think I'm hearing about the electric.

21 MR. FORT: I think, Mr. Ettinger, if
22 you would just let her finish she was getting to
23 that point.

24 MR. ETTINGER: Okay.

1 THE WITNESS: So in going through
2 that example in my testimony I said, okay, if
3 you -- the remedy for the impact of the invasive
4 species barrier on attaining proposed Aquatic Life
5 Use B would be to remove the invasive species
6 barrier. So the question is would that remedy,
7 what UAA factor three says is would that remedy
8 cause more harm and I made the -- my testimony is
9 that, yes, it would because we know that the
10 invasive species, in particularly Asian carp,
11 migrating into Lake Michigan is considered to have
12 the potential to be very detrimental to the Great
13 Lakes system. The next thing I keyed up was the
14 other human cause conditions of which some are
15 related to habitat and some are related to water
16 quality and what happens if you took the remedies
17 to improve habitat or improve water quality so
18 that the Lower Reach would meet the proposed
19 Aquatic Life Use B. What would those remedies --
20 what would be the impact of those remedies
21 specific to environmental damage? So not
22 discussing social, economic or anything like that,
23 but just specific to environmental damage. And my
24 comment was one thing to consider in the potential

1 environmental damage of moving forward with
2 habitat improvements and improvements to water
3 quality is that you could be creating the Lower
4 Reach as a living room for Asian carp. You have
5 nice habitat. You have nice, rich food source
6 with respect to creating an area where there's the
7 presence of more plankton from existing
8 conditions.

9 So that was the logic behind
10 these slightly out of context statements with
11 respect to my process of going through the
12 evaluation of use attainability factor three.

13 MR. ETTINGER: Now, could you read
14 back my question?

15 MR. FORT: Maybe we can go
16 through --

17 MR. ETTINGER: I'm just trying to
18 figure out if she ever answered it. We're making
19 a lot of money for the court reporter, but I just
20 asked about zooplankton, phytoplankton and algae.

21 THE WITNESS: I mentioned it's kind
22 of what I just said is that --

23 MR. ETTINGER: I'll ask a new
24 question. Is it your testimony that anything that

1 increases zooplankton, phytoplankton and algae in
2 the Lower Sanitary and Ship Canal is bad because
3 it may increase the likelihood of Asian carp
4 reaching the Great Lakes?

5 THE WITNESS: My --

6 MR. FORT: If the question as
7 phrased isn't one that you can answer, maybe you
8 can answer it the best that you can and
9 Mr. Ettinger can follow-up. I think the word bad
10 is probably the part of the question that I'm
11 having trouble figuring out what it means.

12 MR. ETTINGER: Please read back my
13 question so she actually hears my question and can
14 try to answer that question.

15 (Whereupon, the record was read
16 as requested.)

17 THE WITNESS: Are you asking this in
18 the context of use attainability factor three
19 where we're saying there's a human cause condition
20 and we're looking at the remedies to that human
21 cause condition?

22 MR. ETTINGER: My question speaks
23 for itself. Its context is stated in the
24 question.

1 THE WITNESS: I'm trying to figure
2 out what bad means.

3 MR. ETTINGER: Bad means the Asian
4 carp reaching the Great Lakes as is explained in
5 the question. So assuming we all agree that Asian
6 carp reaching the Great Lakes is a bad thing,
7 that's what bad is.

8 THE WITNESS: Okay. Do I think in
9 balancing and evaluating use attainability factor
10 three where you're looking at human cause
11 conditions and remedying them so that you can meet
12 the upgraded aquatic life? So I think one should
13 consider how habitat and water quality
14 improvements increase zooplankton, phytoplankton
15 and algae in the Lower Reach and what that might
16 do to have that portion of river be more
17 attractive to the Asian carp, yes, I do think that
18 needs to be considered as part of the evaluation
19 of use attainability factor three.

20 MR. ETTINGER: I give.

21 MR. FORT: I'm going to suggest,
22 Madam Hearing Officer, that it would be more
23 helpful to proceed with the structure of pre-filed
24 questions because the agency has filed their

1 questions. The witness can answer those. And
2 they actually may help tee up some of the
3 questions that I know Mr. Ettinger is trying to
4 get to.

5 MS. TIPSORD: And when Mr. Ettinger
6 has a follow-up unless it's irrelevant at the time
7 we'll let him do follow-ups.

8 MR. FORT: As long as it's
9 follow-ups.

10 BY MS. WILLIAMS:

11 Q. I have a quick follow-up I think.
12 So I think the context is you're envisioning that
13 the aquatic invasive species is a human cause
14 condition that the proposal would need -- would be
15 prior to the remedy, is that what you're saying or
16 is that what you're postulating, that the barrier
17 itself would need to be remedied, would need to be
18 taken out?

19 A. If you're to meet the proposed
20 Aquatic Life Use B.

21 Q. So you do not agree that when the
22 agency proposed Aquatic Life Use B the barrier was
23 already in place and considered?

24 A. I don't believe it was considered.

1 Q. So you --

2 A. Hence, why we said so much as
3 evolved since 2007 particularly in the last year.

4 Q. The barrier wasn't in place in 2007?

5 A. No, it was not.

6 Q. Okay. Have you -- the second piece
7 here now you're suggesting that improvements to
8 water quality could potentially make the Asian
9 carp situation worse, correct? I'm not trying to
10 confuse you or anything. I'm just trying to get
11 us back right.

12 A. Yes.

13 Q. Have you reviewed any studies that
14 have addressed that issue?

15 A. Specific to the Lower Reach of the
16 Ship Canal?

17 Q. For any part of the CAWS not
18 specific to the Sanitary and Ship Canal, but --
19 yeah, the Lower Reaches would be fine. Yeah.

20 A. Have I reviewed whether changing
21 water quality from existing conditions would
22 increase --

23 Q. Invasive species?

24 A. Increase invasive species in Lower

1 Reach?

2 Q. Have you reviewed any studies that
3 have looked at that question?

4 A. No. I wasn't aware of any studies
5 that had looked at whether reduction in chemical
6 concentrations in the water column would increase
7 the presence of Asian carp.

8 Q. I'm sorry. I'm really sorry. So
9 you're not aware that US EPA didn't study that
10 study?

11 A. No, I am not.

12 MS. WILLIAMS: I would like to enter
13 an exhibit. I've got plenty of copies. It's
14 called Report on Nonindigenous Species Migration
15 to the Chicago Area Waterways Comparative Risk
16 Water Quality Criteria.

17 MS. TIPSORD: It's dated August
18 13th, 2008, and there's a cover letter to Marshall
19 Wilhite from the US EPA to Denise Keehner,
20 K-E-E-H-N-E-R, from the US EPA. If there's no
21 objection, we will mark the report as Exhibit 421
22 with cover letter.

23 MR. DIAMOND: Madam Hearing Officer,
24 I don't have an objection to the Board

1 considering --

2 THE COURT REPORTER: Name.

3 MR. DIAMOND: -- it as truthful for
4 the matters that are asserted therein. If it's
5 being used to ask questions of the witness, you
6 know, to call into question some aspect of her
7 testimony, that's fine, but to just throw around a
8 report in the record, have it be considered an
9 exhibit and then allow the Board to rely on it is,
10 you know, asserting truth as to the matter stated
11 therein I think is inappropriate.

12 MR. FORT: We join in that
13 objection.

14 MS. TIPSORD: You forgot --

15 MS. WILLIAMS: And --

16 MS. TIPSORD: Hang on.

17 MR. DIAMOND: Tom Diamond on behalf
18 of Stepan.

19 MS. TIPSORD: Ms. Williams?

20 MS. WILLIAMS: I was just going to
21 say I don't think that's the standard that we
22 typically use. We have a lot fewer exhibits.
23 That's our standard for entering an exhibit.

24 MR. ETTINGER: I'll agree. I'll

1 just state -- Albert Ettinger for the
2 Environmental Group including Three Rivers
3 Network. I agree with Mr. Diamond that if we were
4 in federal court we would not be able to use such
5 an exhibit. It's hearsay without showing that it
6 had been prepared in various ways and it was
7 authenticated in some way or another. We are not,
8 however, in federal court. We are in the Illinois
9 Pollution Control Board. And a study written by
10 federal consultants and scientists is certainly
11 the sort of evidence that the Illinois Pollution
12 Control Board typically uses.

13 MS. TIPSORD: Go ahead, Mr. Diamond.

14 MR. DIAMOND: I would only respond
15 that it is one thing to put in a report when a
16 witness is put on the stand to give it some
17 context and to verify it, but we have no -- the
18 Board has no basis upon which to review this
19 report and make any conclusions as to the voracity
20 of any of its findings. To just throw in, you
21 know, what looks to be a hundred pages or more of,
22 you know, asserted facts and just to throw them
23 into the record and allow them to be considered
24 for any purpose without putting on a witness to

1 support them is not only not something that would
2 be allowed in federal court, but is not something
3 that the Board should engage in because it just
4 allows the record to be muddied up with things for
5 which there is really no support.

6 MR. FORT: Madam Hearing Officer, I
7 join in what Mr. Diamond's arguments are here.
8 What concerns me most is the agency has had this
9 for two and a half years. We had a hearing on
10 Asian carp. The Agency had such a high regard for
11 this before I guess that they chose not to even
12 bring it for the edification of the Board.

13 MS. WILLIAMS: We don't think it's
14 relevant. We didn't ask for this hearing.

15 MR. ETTINGER: What hearing on Asian
16 carp?

17 MR. FORT: This hearing.

18 MS. WILLIAMS: We don't think this
19 hearing is necessary and we would have entered
20 this report if we thought --

21 MR. FORT: So you're going to hold
22 back the information from the Board? That's what
23 I hear.

24 MS. TIPSORD: Ms. Franzetti, you

1 have a comment.

2 MS. FRANZETTI: Ms, Tipsord --

3 MS. TIPSORD: State your name and
4 who you represent.

5 MS. FRANZETTI: Sue Franzetti from
6 Midwest Generation. I just want to make an
7 objection that when counsel moved to introduce
8 this, counsel mischaracterized what this report
9 addresses. This report does not address the issue
10 of whether or not improving water quality
11 standards may make the waterway more conducive to
12 Asian carp or other invasive species. What this
13 report addressed, and I'll try not to belabor
14 this, but if you look at the very first sentence
15 of the cover letter to Ms. Wilhite from the US EPA
16 it says, quote, in response to a draft proposal by
17 Midwest Generation to your agency for creating an
18 invasive species barrier zone in much of the lower
19 Chicago waterway, Midwest Gen raised to US EPA
20 that it felt that issue should be looked at is
21 whether or not, and this is the key difference,
22 whether or not the existing conditions might be
23 serving as a barrier to the advance of the Asian
24 carp towards Lake Michigan. That's the issue that

1 this report looked at and it was determined and
2 I'm not going to try to characterize all the
3 findings of the report, but it was determined that
4 the conditions are not so bad for all the periods
5 of the year that they do provide an infectious
6 barrier, something more kin to the electric
7 barrier. So that -- I just wanted to state that
8 for the record. That's the context in which that
9 this report was prepared and the issue it was
10 addressing.

11 MS. WILLIAMS: I would disagree for
12 the record. I agree with the context, but I would
13 disagree that the issue -- I mean, it's clear in
14 the letter in the last bullet point the issue of
15 improving water quality was also looked at.

16 MS. TIPSORD: Mr. Armstrong, you
17 wanted to address the objection and state your
18 name and who you represent for the record.

19 MR. ARMSTRONG: Andrew Armstrong for
20 the Illinois Attorney General's Office. I don't
21 have the Pollution Control Board's rule in front
22 of me, but I do believe there is a provision to
23 allow for technical documents in rulemakings or in
24 any sort of proceedings before the Pollution

1 Control Board and I would just ask that for the
2 record I believe a federal study probably
3 followed --

4 THE COURT REPORTER: I didn't get
5 the end of that.

6 MS. TIPSORD: Could you repeat that
7 please at the end? He didn't get the end.

8 MR. ARMSTRONG: A technical study
9 produced by the United States Environmental
10 Protection Agency would likely follow within that
11 provision.

12 MS. TIPSORD: And just so you know
13 there is a lot of noise up in this area and I'm
14 having trouble hearing back there and even Deb,
15 you're -- hearing you because there is a lot of
16 rattling going on this morning.

17 MS. WILLIAMS: Would you mind if we
18 shut this door?

19 MS. TIPSORD: That would be great.
20 That would help. Okay. I am going to enter this
21 exhibit because the Board's rules provide that
22 anything relevant and not repetitive -- obviously,
23 Ms. Williams -- I'm assuming you're going to ask
24 the witness some questions.

1 (Document marked as IPCB Exhibit
2 No. 421 for identification.)

3 MS. WILLIAMS: I probably will only
4 ask her if she's reviewed it.

5 MS. TIPSORD: We'll admit it over
6 the objection.

7 MR. FORT: Madam Hearing Officer,
8 may I make a request here? That reading very
9 quickly through it I haven't seen this before,
10 Counsel. It was done over two years ago and it
11 says that there is a potential increase in the
12 risk --

13 MS. WILLIAMS: Okay.

14 MR. FORT: -- of spreading NIS --

15 MS. WILLIAMS: Do you want to ask a
16 follow-up of the witness if it says that?

17 MR. FORT: No. I'm making a request
18 here that given the fact that this report which
19 you have and says is an incremental increase in
20 risk, some increase may be argued over how big an
21 increase, but there is an increase, whether the
22 Agency would be providing witnesses to allow
23 questioning on this document.

24 MS. WILLIAMS: This is not an Agency

1 document.

2 MR. FORT: You're bringing it to
3 this hearing and it is addressed to the chief of
4 the water bureau. I don't know how it's not an
5 Agency document.

6 MS. WILLIAMS: You don't know how
7 it's not an Illinois EPA document?

8 MR. ETTINGER: I get the Chicago
9 Tribune. That doesn't mean I wrote the Tribune.

10 MR. FORT: Counsel, it's not quite
11 that you -- the Agency is sponsoring it as an
12 exhibit. I think it's now an exhibit brought in
13 by the Agency and I'm asking whether the Agency
14 would be willing to provide a witness for
15 examination on this question. It doesn't have to
16 be right now. We have more hearings coming.

17 MS. WILLIAMS: No.

18 MR. FORT: No?

19 MS. WILLIAMS: If the Board
20 subpoenaed a witness or the Board asks for
21 something, but it's not relevant.

22 MR. FORT: You may think it's not
23 relevant, but I don't understand how you can keep
24 withholding information.

1 MS. WILLIAMS: That is --

2 MR. FORT: I'll withdraw that
3 comment.

4 MS. TIPSORD: Thank you.

5 MS. WILLIAMS: I think it should
6 stay on the record.

7 MS. TIPSORD: We're going to admit
8 the document as Exhibit 421.

9 BY MS. WILLIAMS:

10 Q. Ms. Garibay, have you ever reviewed
11 this document or its conclusions?

12 A. No.

13 Q. Okay. Let's move onto the pre-filed
14 questions. Question number four. On page 16, you
15 describe a situation where you suggest that the
16 existing limit for copper of 1.0mg.L would be
17 better at repelling the Asian carp since it would
18 limit food source more than the proposed copper
19 limit. A, do you know if the proposed copper
20 limits are currently attained?

21 A. First, I want to go back.

22 Q. Yes or no?

23 A. I want to go back.

24 MS. TIPSORD: Let her explain. Go

1 ahead.

2 BY THE WITNESS:

3 A. I would like to go back and put that
4 sentence in context because on my testimony on
5 page 16 once again I was talking about the
6 suggestion that habitat improvements consider
7 whether it would allow an increase in algae
8 production, plankton production. So this now is a
9 second part of that which is similarly -- so the
10 first part was talking about habitat improvement.
11 The second part of the presentation was similarly
12 water quality standards that may be more
13 protective of aquatic use may benefit the plankton
14 species and enhance the food resource and act as
15 an attractant for Asian carp.

16 So I just wanted to make sure
17 that it's put in context what then the example of
18 copper was about and when I presented the change
19 in the copper aquatic life criteria from
20 protection of the current designated use of the
21 Lower Reach to the proposed copper criteria for
22 Aquatic Life Use B, the most sensitive species
23 that copper is protecting is the planktonic
24 species.

1 Q. I understand. Do you understand
2 what I'm asking here? If the proposed standards
3 are currently attained in the Chicago Sanitary and
4 Ship Canal, how can retaining higher standards in
5 the regulations help to control Asian carp? Do
6 you understand that question?

7 A. Yes.

8 Q. Okay.

9 A. In the 2007 report, it's attachment
10 B, it didn't appear that all the proposed
11 standards for the proposed Aquatic Life Use B were
12 attained.

13 Q. Do you know if copper was attained?

14 A. Copper may have been one of the
15 metals that was attained. As I said, copper was
16 just by way of example. It's not the only
17 standard where the most sensitive species of the
18 proposed aquatic life criteria are planktonic
19 species.

20 Q. But you're not suggesting that
21 dischargers be allowed to increase the toxicity of
22 metals, correct?

23 A. No, I'm not.

24 Q. I think there's a related question I

1 want to jump to. Just give me one second.

2 MR. ETTINGER: Can I just ask one
3 question here? Are you aware of any chemical
4 being discharged now that if we just discharged
5 less of it would promote the potential for
6 movement of the Asian carp in the Great Lakes?

7 THE WITNESS: Could you read that
8 one back? I'm sorry.

9 (Whereupon, the record was read
10 as requested.)

11 THE WITNESS: No.

12 MR. ETTINGER: Specifically, my
13 understanding is that some of the parties to this
14 proceeding are concerned about chloride. Do you
15 believe that if we better controlled chloride that
16 that would lead to movement by Asian carp into the
17 Great Lakes?

18 THE WITNESS: The connection on the
19 copper wasn't about movement of Asian carp. It
20 was about promoting or having water quality
21 conditions so that plankton were more free to
22 reproduce and be a population. And plankton are
23 the preferred food choice of the two Asian carp
24 that are closest to Lake Michigan. So, for

1 instance, chloride the most sensitive species are,
2 once again, invertebrate species, are, once again,
3 the planktonic species.

4 MR. ETTINGER: Do you believe the
5 current discharges of chloride are inhibiting the
6 growth of plankton in the system?

7 THE WITNESS: I haven't studied
8 that. One again, I only use copper by way of
9 example.

10 MR. FORT: And I would again point
11 that our understanding of this hearing was to
12 focus upon uses not water quality standards, not
13 what changes are necessary one way or the other to
14 achieve these uses, which in the focus of this
15 hearing is on invasive species and the control of
16 invasive species.

17 MR. ETTINGER: My understand is that
18 one of the reasons that you're testifying and that
19 she is concerned about the use is precisely
20 because of her concern that designating the use
21 will result in lower levels of certain pollutants
22 or creation of certain habitat and that that will
23 cause migration of Asian carp. So I'm just trying
24 to identify the basis for that concern, but

1 sitting here today you do not know whether or not
2 dischargers of chloride are inhibiting the growth
3 of phytoplankton, zooplankton or algae in this
4 system?

5 MR. FORT: I think she said she
6 hasn't studied that.

7 THE WITNESS: Mm-hmm.

8 MR. ETTINGER: So you don't know.

9 THE WITNESS: I haven't studied it.

10 MR. ETTINGER: Okay. There's a
11 distinction for you.

12 BY MS. WILLIAMS:

13 Q. I'd like to just ask you a question
14 about a quote on page seven of your testimony
15 having just related to this topic.

16 MS. TIPSORD: Is this one of your
17 pre-filed questions?

18 MS. WILLIAMS: No.

19 MS. TIPSORD: I thought --

20 MS. WILLIAMS: I thought it was.

21 MS. TIPSORD: I was just going to
22 get the numbers, but it's okay.

23 BY MS. WILLIAMS:

24 Q. It's on page seven, the fourth line

1 the sentence begins "Water quality when compared
2 to the upgraded water quality criteria for
3 Illinois general aquatic use has not been
4 consistently attained for ten constituents
5 including DO temperature ammonia."

6 MS. FRANZETTI: I'm sorry, Counsel.
7 What page are you on?

8 MS. WILLIAMS: Seven.

9 MS. FRANZETTI: Thank you.

10 BY MS. WILLIAMS:

11 Q. Could you explain that sentence for
12 us, Ms. Garibay?

13 A. That is from the 2007 attachment B
14 summary of findings or their summary of the water
15 quality data that was presented in attachment B.

16 Q. I'm not going to ask you for a page,
17 but I am going to ask you do you know what the
18 other seven constituents are?

19 A. Attachment B, they were silver and
20 unfortunately I have a black and white copy,
21 silver, manganese, nickel or zinc. I can't tell
22 from the color copy. Ammonia, TDS, PH. I think
23 once again the black and white doesn't tab --

24 MS. TIPSORD: Ms. Garibay, are you

1 looking at a figure?

2 THE WITNESS: Yes. I'm looking at a
3 figure from attachment B. Yes. It starts on page
4 4-70 and goes through 4-74.

5 MS. TIPSORD: Thank you.

6 THE WITNESS: With a summary table
7 on 4-76.

8 BY THE WITNESS:

9 A. And I do not have a color copy. So
10 I'm not able to see the gradations of color, but
11 in the color copy you can see it.

12 BY MS. WILLIAMS:

13 Q. And that table doesn't refer to the
14 proposed criteria, it's just the existing general
15 use criteria, correct?

16 A. Correct.

17 Q. Are there any of those criteria in
18 particular that you are concerned about improving
19 the water quality?

20 A. Can we sort of back up and --

21 Q. That's fine.

22 A. This is one component where I was
23 saying in the use attainability factor three in
24 looking at human cause conditions and whether the

1 remedy to those human cause conditions would cause
2 more environmental harm than leading the existing
3 condition in place and this was just one example
4 of the process of the evaluation and I use copper
5 as one example of that.

6 Q. Maybe I'll just phrase this as a
7 hypothetical and get past this. Would you agree
8 that if the Agency's proposal for the Lower
9 Sanitary and Ship Canal was nearly reflecting
10 existing conditions of that stream that the
11 proposal would not have an impact on the movement
12 of Asian carp into the Great Lakes the proposal?

13 A. No. There needs to be another
14 designated use which was primarily the focus of my
15 testimony which is the Lower Reach needs to be
16 recognized for its use of engineered and operated
17 electrical barriers to prevent invasive species
18 migration and that has to be at that recognized
19 designated use of the Lower Reach.

20 Q. I understand that close condition,
21 but I'm not sure it answers my question. If the
22 Agency's proposal reflects -- if in the
23 hypothetical, if the proposal was reflecting only
24 the existing condition, would that -- a

1 hypothetical Agency proposal that reflects only
2 the existing conditions have an impact on the
3 movement of Asian carp to the Great Lakes?

4 MR. FORT: Excuse me. When you say
5 the Agency proposal, you're talking about all the
6 water quality standards being proposed or are you
7 talking about the use designation that's proposed
8 or are you concluding all of them?

9 MS. WILLIAMS: All.

10 BY THE WITNESS:

11 A. Okay. My focus was on the process
12 of looking at the three factors and coming up with
13 an attainable use as well as an existing use of
14 the Lower Reach.

15 BY MS. WILLIAMS:

16 Q. So if we went to the Board and we
17 all agreed we said our use is the existing use,
18 that's it, just existing use, that's what we want,
19 we all want existing, existing, existing, would
20 that have an impact on Asian carp? That's what I
21 want to know.

22 A. Is part of that existing use the
23 recognition of the mandatory use of invasive
24 species control?

1 Q. I'm not sure I understand what you
2 mean. Could you explain that?

3 A. If you're saying that the existing
4 use that you're hypothetically putting forward
5 includes that a mandatory use of the Lower Reach,
6 just as it's mandatory that it's used as a
7 conveyance of waters away from Lake Michigan, it's
8 mandatory that it's used for navigation, it's
9 mandatory it's used for flood control, that
10 another existing use that would be recognized by
11 IEPA for the Board to consider is invasive species
12 control.

13 Q. As it is today just that's what
14 I'm --

15 A. Yes.

16 Q. Within an electric barrier?

17 A. Yes. Absolutely. Invasive species
18 control as a recognized use of the Lower Reach is
19 the objective of my testimony.

20 MS. TIPSORD: Would that inhibit --
21 do you think that would then inhibit Asian carp
22 migration?

23 THE WITNESS: Recognizing as
24 an invasive species control?

1 MS. TIPSORD: Just what you said.

2 THE WITNESS: Yes.

3 BY MS. WILLIAMS:

4 Q. Good. Let's move on. Question
5 five. On page eight of your testimony, you make
6 the follow statement, quote, in our understanding,
7 since IEPA found that EPA goals for optimal uses
8 of the waters could not be obtained and
9 particularly since they were the result of
10 irreversible conditions for more than one factor,
11 the focus should have been on what water quality
12 standards were needed for those uses that were
13 and, in fact, occurring. A, is it your
14 understanding that the goal of the use
15 attainability analysis is to determine what uses
16 are occurring or what uses are attainable?

17 A. It is my understanding of a use
18 attainability analysis that it considers uses that
19 are occurring, uses that could occur and uses that
20 should occur.

21 Q. Please explain what difference it
22 makes that the Illinois EPA relied on three
23 different UAA factors versus 1 UAA factor.

24 A. Well, for the Lower Reach evaluation

1 of all three of the factors the hydrologic
2 modification, the physical conditions and the
3 human cause conditions provided a weight of
4 evidence and can provide a weight of evidence to
5 use to properly assigning the use that's
6 attainable.

7 Q. Would you agree that only one UAA
8 factor is necessary to rely on for establishing
9 use for the Clean Water Act goal?

10 A. In this case, no, because you have
11 both looking at recreation use as well as aquatic
12 life use and the use attainable by recreation may
13 be due to one factor that isn't impacting the
14 aquatic life designation. So --

15 Q. How many --

16 A. -- the three factors was a decent
17 approach and process to looking at designated use.

18 Q. Thank you. C, what water quality
19 standards would you propose to protect the current
20 uses of the Chicago Sanitary and Ship Canal?

21 A. My understanding of that is -- from
22 all the conversations, that's a separate hearing
23 and I was focused more on the use attainability
24 process and evaluation to appropriately assign

1 designated use.

2 Q. Would you plan on commenting to a
3 later hearing to propose some water quality
4 criteria?

5 A. I believe there is some new ground
6 here designating a use of the waterbody as an
7 invasive species control and certainly I would
8 envision that the Board is going to use a
9 precautionary principal in developing the water
10 quality standard to protect a unique designated
11 use of invasive species control.

12 Q. Question six, why do you conclude
13 that, quote, as the design and operation of the
14 Lower Reach of the Sanitary and Ship Canal are
15 irreversible, the evaluation of UAA factor four
16 and factor five would lead to a determination that
17 an expectation of attainment of aquatic life use
18 higher than the current use is extremely unlikely,
19 end quote? This is from page eight.

20 A. What I did is I keyed up at the
21 early parts of my testimony is I looked at the
22 reports that were submitted to the Board in 2007
23 and 2010 and those were listed on page four of the
24 testimony and that data was summarized on pages

1 five through seven and based on the limited
2 options available to improve the most limiting
3 element for attaining Aquatic Life Use B, the
4 upgraded use, being habitat. Given the mandatory
5 use of the Lower Reach of the Ship Canal for flood
6 control, navigation, invasive species control,
7 conveyance of waters away from Lake Michigan and,
8 though, I didn't know when I wrote my testimony
9 the recent findings from the 2010 report that
10 model potential habitat improvements to the
11 Chicago Ship Canal and said, okay, what would that
12 do to the quality of fisheries which said
13 basically it's negligible improvement to the
14 fisheries quality. All of that led to the
15 expectation that it's extremely unlikely that an
16 upgraded aquatic life could be supported.

17 Q. So is it your testimony that no
18 improvements in aquatic life uses have occurred in
19 the CSSC since these hydrologic modifications were
20 completed a hundred years ago?

21 A. I only looked at data for 17 years.
22 I don't know what the aquatic life use was before
23 looking at that data.

24 Q. What about since the 1970's?

1 A. Once again, I only looked at that
2 17-year data window.

3 Q. In 17 years, were there any
4 improvements?

5 A. In aquatic life use?

6 Q. Mm-hmm.

7 A. Now that you've pointed that the
8 metrics weren't generated for secondary contact
9 and nonindigenous -- I mean, indigenous aquatic
10 life use, I'm not sure I have the answer to that.

11 Q. Would you agree that if improvements
12 had occurred since the secondary contact,
13 indigenous aquatic life use was established in the
14 1970's that the Board would be required to reflect
15 those improvements in the use designation?

16 A. Certainly in the report the
17 information was noted on habitat quality of being
18 poor to very poor. The fish IDI information was
19 submitted on the Lower Reach for being poor to
20 very poor, the macro benthic index was submitted
21 saying it was poor to very poor and if there had
22 been improvements from very poor to poor that
23 would be something that gets factored in to
24 looking at the use that's attainable.

1 MR. ETTINGER: Can I just ask one
2 question at this point? Have you reviewed the
3 additional comments on proposed designated uses
4 and standards for the Chicago Area Waterway System
5 and Lower Des Plaines River that was recently
6 filed by the Illinois Department of Natural
7 Resources?

8 THE WITNESS: I'm aware they had a
9 filing.

10 MS. TIPSORD: Do you have a public
11 filing on that, Albert?

12 MR. ETTINGER: No, I don't.

13 MS. TIPSORD: I don't either.

14 MR. ETTINGER: My question is --

15 THE WITNESS: The.

16 MR. ETTINGER: My question is have
17 you studied that?

18 THE WITNESS: My references that I
19 used to prepare this testimony are on page four.

20 MR. ETTINGER: Thank you. That's
21 all I wanted to ask.

22 BY MS. WILLIAMS:

23 Q. Okay. I think we've covered seven.
24 On page ten -- this is question eight,

1 Ms. Garibay. On page ten, you testified that,
2 quote, strategies selected to prevent invasions of
3 non-native species into the Great Lakes, such as
4 Asian carp, includes, then it skips some parts,
5 the piscicide rotenone. Please explain this
6 statement.

7 A. About the strategies for controlling
8 invasive species, yeah, there's a myriad of
9 options that agencies are looking at given the
10 system-wide impact and potential ramifications of
11 Asian carp migrating into the Great Lakes. My
12 understanding of the myriad of options that are
13 published in the documents include short-term and
14 long-term growth, long-term controls. The use of
15 fish poisons is a short-term goal.

16 Q. So short-term you mean when the
17 barriers are down only?

18 A. Right now the use of the rotenone is
19 used when barriers are down for maintenance, but
20 there's certain other considerations of when --
21 when you look at the Asian Carp Regional
22 Coordinating Committee, they've listed out a
23 whole -- in their framework that came out in May
24 2010 and even in the executive summary they issued

1 in September 2010, they've listed a range of
2 short-term and long-term controls and they have
3 not taken off the use of rotenone, the fish
4 poison, as part of their tools for short-term
5 control of Asian carp migration.

6 Q. Question nine, your testimony
7 references Executive Order 13112. Please explain
8 that order and it's relevance to the CAWS?

9 A. Okay. I will do my best. Would it
10 be helpful if the Board had 13112 in consecutive
11 order?

12 MS. TIPSORD: Yes. I have been
13 handed Executive Order 13112 of February 3rd,
14 1999, as published in the Federal Register
15 February 8th, 1999, Volume 4, page 6183. If
16 there's no objection, we will mark this as Exhibit
17 422. Seeing none, it's Exhibit 422.

18 (Document marked as IPCB Exhibit
19 No. 422 for identification.)

20 BY THE WITNESS:

21 A. Okay. This is called the invasive
22 species executive order and it outlines the duties
23 of federal agencies. It requires agencies who
24 have the ability to take action that impact

1 invasive species to identify those actions, do
2 what they can to prevent invasive species and not
3 carry out any actions that could cause or promote
4 the introduction or spread of invasive species.

5 So --

6 Q. Is that -- I'm sorry.

7 A. And when I read that last portion of
8 the executive order, one of my points in my
9 testimony and why I brought it to bear was it
10 seems that that should be something that we
11 consider in designating the use of the Lower Reach
12 for invasive species control in making sure that
13 in protecting a mandatory use for invasive species
14 control we not do anything that potentially
15 promote or cause the spread of invasive species.

16 Q. Would that have also have to be done
17 consistent with the Clean Water Act?

18 A. Once again, to me, it seems in a
19 system-wide approach to the maintenance protection
20 of the Great Lakes, that implementation of this
21 executive order is consistent with the Clean Water
22 Act.

23 Q. So that's a yes, it would?

24 A. Yes, because I view invasive species

1 as a biological pollutant and the Clean Water Act
2 is all about controlling pollution particularly as
3 it impairs biologic integrity.

4 Q. Do you agree that that document
5 provides for the restocking of native species
6 harmed by the --

7 A. It doesn't specifically carve out
8 restocking as an action.

9 Q. Would you take a look at section two
10 and read to us -- do you see section two on the
11 second page, federal agency duties? And then you
12 see item two. So there section two and there's a
13 numbering one, two and then there's little Roman
14 numerals one, two, three, four, five. Could you
15 read to us Roman numeral four?

16 A. It says provide for restoration and
17 native species and habitat conditions, ecosystems
18 that have been invaded.

19 Q. Do you think that -- that to me
20 sounded like restocking of native species, would
21 you agree?

22 A. It can be. It's not specifically
23 stated.

24 Q. Okay. That's what you meant by

1 specifically stated?

2 A. Yes. Not to ignore the lead in
3 there, it's a function of funding.

4 Q. Correct. Would you agree that that
5 executive order encourages restoration of native
6 species and habitat conditions?

7 A. In ecosystems that have been
8 invaded.

9 Q. Correct.

10 A. That's what it says.

11 Q. Question ten. Explain your
12 statement on page 14 that, quote, the deterrent of
13 Asian carp to Lake Michigan in the Lower Reach of
14 the Ship Canal is an existing use, whether or not
15 it is recognized in the water quality standards.

16 A, what regulations do you propose the Board adopt
17 to recognize this use and what accompanying water
18 quality standards are needed to accompany the use?

19 A. As discussed in the testimony what I
20 was proposing was that there be a specific
21 designated use recognition of the mandatory and
22 engineered controls and operations of the invasive
23 species barrier in the Lower Reach.

24 Q. Question eleven. Explain your

1 statement on page 15 that the Agency's proposal
2 would -- we've already discussed this. I'm sorry.
3 Let me strike question 11. Question 12. On page
4 15, you discuss, quote, conditions that would
5 attract or be favorable to the target species. Do
6 you believe that elevated temperature levels in
7 the Chicago Sanitary and Ship Canal could attract
8 Asian carp to the Sanitary and Ship Canal in
9 non-summer months?

10 A. Well, we didn't focus on this in our
11 testimony. I would presume that temperature
12 depending on the absolute temperature or the
13 temperatures during non-summer months could
14 probably both be an attractant as well as a
15 deterrent. It depends.

16 Q. Thank you.

17 MR. ETTINGER: It depends on what?

18 THE WITNESS: The absolute
19 temperatures and the temperature differentials.

20 MR. ETTINGER: If it was very
21 cold -- if it would have otherwise been very cold
22 and it was warmer, would that attract?

23 THE WITNESS: It depends on how much
24 of that delta that chalk is. That's fish

1 physiology, fish behavior.

2 MR. ETTINGER: If the temperature
3 would otherwise have been 40 degrees Fahrenheit
4 and it's 50 degrees Fahrenheit, would that not
5 attract the fish?

6 THE WITNESS: I don't know. I don't
7 know Asian carp temperature tolerance or
8 intolerance levels. So, as I said, I didn't focus
9 on it in the testimony. I was just offering that
10 it could be an attractant or a deterrent.

11 MR. ETTINGER: Do you know if Asian
12 carp have a preferred temperature?

13 THE WITNESS: Most fish do. So I
14 would presume they do, too.

15 MR. ETTINGER: Thank you.

16 BY MS. WILLIAMS:

17 Q. Question 13. Please explain your
18 statement on page 17 that, quote, this designated
19 use (invasive species controls) in the CAWS is in
20 full support of the intent of the Clean Water Act
21 goals. What intent and goals are you referring to
22 in this statement?

23 A. Once again, I'd like to put this
24 sentence in context in my testimony because the

1 first part was left out, which is in a system-wide
2 approach to the Great Lakes, this designated use
3 in the Chicago area waterways is in full support
4 of the intent of the Clean Water Act. A
5 system-wide approach, a watershed approach, to
6 maintaining and protecting and restoring the
7 biological integrity of waters particularly of
8 this system is necessary to achieve the goal of
9 the Clean Water Act.

10 Q. What is the system -- when you say
11 system-wide, what system are you referring to?

12 A. The system-wide would be the Great
13 Lakes for starters and then system-wide as far as
14 the rest of Chicago area waterways that is
15 protected by the invasive species barrier being a
16 designated use for the Lower Reach.

17 Q. And what is the goal of the Clean
18 Water Act are you referring to when you --

19 A. The biological integrity.

20 MS. WILLIAMS: I don't have any
21 other questions at this time.

22 MS. TIPSORD: All right. Let's take
23 a five-minute break so Ms. Franzetti can move up
24 and we'll move onto Midwest Generation.

1 (Whereupon, a break was taken
2 after which the following
3 proceedings were had.)

4 MS. TIPSORD: Let's go back on the
5 record.

6 BY MS. FRANZETTI:

7 Q. Good morning, Ms. Garibay. My name
8 is Susan Franzetti and I represent Midwest
9 Generation. Starting with my first pre-filed
10 question. Please identify the full names and if
11 applicable the exhibit numbers in the record of
12 the 2007 and 2010 reports you were referencing on
13 page five of your testimony.

14 A. Okay. From the initial petition for
15 rulemaking from 2007 attachment B Chicago Area
16 Waterway System Use Attainability Analysis Final
17 Report prepared for IEPA by CEM August 2007,
18 attachment R Analysis of Physical Habitat Quality
19 and Limitations to Waterways in the Chicago area,
20 Center for Aquatic Bio Assessment and Bio Criteria
21 Prepared for US EPA Region 5 in 2004, what is
22 filed as PC No. 284, Chicago Area Waterway System
23 Habitat Evaluation and Improvement Study Habitat
24 Evaluation Prepared for the Metropolitan Water

1 Reclamation District of Greater Chicago by
2 Lunartech January 4th, 2010, and also part of PC
3 No. 284, Review and Selection of Fish Metrics for
4 the Chicago Area Waterway System Habitat
5 Evaluation and Improvement Study Prepared for the
6 Metropolitan Water Reclamation District of Greater
7 Chicago by Lunartech April 21st, 2009.

8 Q. Thank you. Question two -- let me
9 put that question in context. I just add this
10 preface. At the top of page four, you state that
11 the Lower Reach -- I'm sorry. At the top of page
12 four of your pre-filed testimony, you state that
13 the Lower Reach of the Ship Canal is defined as
14 starting, quote, at the confluence with the
15 Calumet channel and end at the confluence with the
16 Des Plaines River near the EJ&E railroad crossing.
17 Would you please explain what your basis was for
18 the factors you used to define that stretch of the
19 CSSC as the Lower Reach?

20 A. I use that definition of the Lower
21 Reach from the 2007 statement of reasons submitted
22 by IEPA.

23 Q. And why are you segregating out the
24 Lower Reach of the Ship Canal from the Upper

1 Reach?

2 A. Because of the presence of the
3 electric barrier system, the invasive species
4 control at about river mile 296.5 and 1,000 feet
5 up and down either side. Electrical barrier one
6 and then the recently completely electrical
7 barrier 2B that may be turned on in 2011 and then
8 electrical barrier 2A is in that Lower Reach of
9 the Chicago Sanitary and Ship Canal.

10 Q. Moving to question three. In
11 conducting the work to prepare your testimony, did
12 you primarily limit your review to only
13 information concerning the Lower Reach of the
14 Chicago Sanitary and Ship Canal?

15 A. In looking at the 2007/2010 reports
16 most of the data from the Chicago Sanitary and
17 Ship Canal is presented in a summary, whether it's
18 figures or graphs. So the individual stations are
19 basically all in the same grouping of data and,
20 yes, I would look at the station specific to the
21 Lower Reach, but all the Chicago Ship Canal data
22 was presented in the figures and graphs. In some
23 cases, it wasn't even carved out to the individual
24 stations and in my testimony where I talk about

1 the Ship Canal entirely without carving out the
2 Lower Reach, it's because in the reports presented
3 it was presented as a summary.

4 Q. All right. Moving onto number four.
5 Do you have any understanding regarding whether
6 the attributes of the Lower Reach of the Ship
7 Canal that you listed on page five of your
8 testimony such as off channel refuge, vertical
9 wall banks, rip-rap armored banks, macrophyte
10 cover, overhanging vegetation, bank pocket, et
11 cetera, also apply to the Upper Reach of the Ship
12 Canal?

13 A. Yes, I do. These are the attributes
14 that are the most critical attributes for
15 evaluating habitat quality for supporting aquatic
16 life use.

17 Q. Moving to question five. With
18 regard to the 2007 and 2010 reports referenced on
19 page six of your testimony, do you know whether
20 the IBI and MBI scores for all of the reaches
21 within the Chicago Sanitary and Ship Canal are
22 similar?

23 A. Yes, they are similar and, yes, once
24 again because the data was presented in such a

1 fashion that the graphs or the tables were
2 presenting all the stations at once. You couldn't
3 not see the data for the Upper Reach of the
4 Chicago and Sanitary Ship Canal and as summarized
5 in the 2007 statement of reasons and also in the
6 report, the QHEI scores reported very poor for the
7 entire Ship Canal. The IBI, MBI, the fish MBI
8 scores were once again poor to very poor
9 throughout the entire reach of the Ship Canal. No
10 score was greater than 24.

11 The MBI scores were from 6.4 to
12 10. Once again, rated poor to very poor. From
13 the 2010 reports, once again there was a
14 combination of both looking at the entire Ship
15 Canal as well as individual stations in the Lower
16 Reach and Upper Reach and overall the Chicago Ship
17 Canal scored by their habitat evaluation process
18 the lowest -- among the lowest of Chicago area
19 waterways.

20 They also in their fish metrics
21 report found that the number of nonhybrid species
22 in the Chicago Sanitary and Ship Canal so this is
23 for the entire canal between 5 and 17 with the
24 Lower Reach having slightly less fish abundance

1 and fish diversity.

2 Q. I'm not going to -- you just
3 answered the second part of that question so I'm
4 going to move onto number six.

5 MS. WILLIAMS: Can I ask a
6 follow-up?

7 MS. FRANZETTI: Yes.

8 MS. WILLIAMS: When you said -- I
9 believe you just testified that the CSSC scored
10 among the lowest of the reaches. Were there any
11 other reaches that also scored as low as the
12 Sanitary and Ship Canal?

13 THE WITNESS: There was one.

14 MS. WILLIAMS: Which one?

15 THE WITNESS: I have to look at the
16 report. I am looking at page 183 of the habitat
17 evaluation report and the South Branch of the
18 Chicago River and the Chicago Sanitary and Ship
19 Canal for the habitat scoring index were the same
20 or similar, within a point.

21 MS. WILLIAMS: How about the Cal-Sag
22 Channel in relation to those other two, in
23 relation to the South Branch -- South Fork of the
24 South Branch and the Chicago Sanitary and Ship

1 Canal?

2 THE WITNESS: Once again, looking at
3 page 138 and which branch.

4 MS. WILLIAMS: 138 or 183?

5 THE WITNESS: Did I say 183? I
6 meant 138.

7 MR. FORT: I think you may have said
8 183.

9 THE WITNESS: I apologize.

10 MS. WILLIAMS: Go ahead. I sorry.

11 THE WITNESS: Which branch?

12 MS. WILLIAMS: I just wanted to know
13 about the Cal-Sag Channel.

14 THE WITNESS: The Cal-Sag Channel
15 and page 139 is the actual table that goes into
16 the graph so I'm looking at that. The Cal-Sag
17 Channel scored 37.1.

18 MS. WILLIAMS: I'm sorry. I don't
19 have that.

20 THE WITNESS: And the Chicago
21 Sanitary and Ship Canal scored 33.8.

22 MS. WILLIAMS: 37.1 and 33.8.

23 THE WITNESS: Yes.

24 MS. WILLIAMS: Thank you.

1 BY MS. WILLIAMS:

2 Q. Moving onto question six. With
3 regard to the discussion sediment quality on page
4 seven of your testimony, do your observations on
5 sediment quality apply to the entire reach of the
6 Chicago Sanitary and Ship Canal or just to the
7 Lower Reach?

8 A. It applies to the entire reach.
9 That data was summarized for the entire reach.

10 Q. Question seven, on page seven of
11 your pre-filed testimony you state that, quote,
12 the predominant factor impacting aquatic
13 life and the ability of the lower reach of the
14 Ship Canal in supplying aquatic life are
15 related to the physical characteristics inherent
16 to the canal. Do you know whether this
17 is also the predominant factor impacting the rest
18 of the CSSC?

19 A. The attributes limiting habitat
20 which we went through in your earlier question
21 which were basically physical characteristics are
22 applicable to the entire Ship Canal with the lower
23 Ship Canal having slightly more vertical walls as
24 percent coverage, but the entire Ship Canal was

1 rated as poor to very poor in habitat.

2 Q. Moving onto question eight. On page
3 seven of your pre-filed testimony you discuss the
4 mandatory water management controls in the Ship
5 Canal that are necessary for navigation and flood
6 control. Are these observations applicable to the
7 entire Ship Canal?

8 A. Yes, they are.

9 Q. Question nine. With regard to your
10 discussion of the lack of quality to the aquatic
11 life at page seven of your testimony, do you agree
12 that the aquatic life characterization as poor to
13 very poor applies throughout the Chicago Sanitary
14 and Ship Canal?

15 A. Yes, and that is reflected also in
16 the 2007 IEPA statement of reasons.

17 MR. ETTINGER: Madam Hearing
18 Officer, my understanding was this set of hearings
19 for the next three days was centered on the issue
20 of Asian carp. I don't object to the little
21 background and context testimony that doesn't
22 actually deal with carp, but is that your
23 understanding, too, that this hearing is focused
24 on Asian carp rather than general habitat

1 considerations in the system that we're talking
2 about?

3 MS. FRANZETTI: If I may respond?

4 MR. ETTINGER: I asked for --

5 MS. FRANZETTI: The reason for these
6 few questions and they are very few and I will
7 take up less time than you did, Mr. Ettinger, in
8 questioning this witness is it was a bit unclear
9 to us, to Midwest Gen. in reading Ms. Garibay's
10 testimony given there was all this focus on the
11 Lower Reach although it was referencing
12 information that at times included the Upper
13 Reach. Whether her opinions were going to the
14 entire reach or did she see a distinction between
15 the two reaches other than just electric barrier,
16 so I am just simply trying to clarify what she
17 looked at, what the basis of her opinion was and
18 what is her opinion and not that she was trying to
19 say that she thinks, for example, that the habitat
20 is significantly worse in the Lower Reach. I
21 mean, you can't look at this in total isolation.
22 I don't want to get the record confused and I
23 think she was drawing those kinds of distinctions
24 between the Lower and Upper Reach, but I'm just

1 simply trying to clarify what she is saying.

2 MR. ETTINGER: I actually just asked
3 a question. I didn't object to Mrs. Franzetti's
4 questions. I just want to have a better
5 understanding of what we're doing here to guide us
6 for the next three days. We are focused on carp?

7 MS. TIPSORD: We are focused on
8 Asian carp and as that may extend to other
9 invasive species because that's what was requested
10 for with these specific hearings. We will be
11 having additional hearings later on and since you
12 didn't object to Ms. Franzetti's questions --

13 MR. ETTINGER: I asked a question
14 and that's all --

15 MS. TIPSORD: Yes, we are focused on
16 Asian carp. However, that's very broad. No one
17 asked for limiting -- we had no motion to limit it
18 any further. So that's where we're at.

19 MR. ETTINGER: Thank you.

20 MS. WILLIAMS: Madam Hearing
21 Officer, another question I asked is just if we're
22 going to be referencing this document that is a
23 public comment shouldn't we be entering it as an
24 exhibit?

1 MS. TIPSORD: I think it's fine as
2 PC 384. It's been in the record for some time.
3 Go ahead, Ms. Franzetti.

4 MS. FRANZETTI: Thank you.

5 BY MS. FRANZETTI:

6 Q. I believe I'm on question ten. On
7 page seven of your testimony, are you saying that
8 the, quote, design and operation, end quote, of
9 the Chicago Sanitary and Ship Canal in the Lower
10 Reach is any different from the design and
11 operation in the Upper Reach?

12 A. Yes. In the narrow aspect for the
13 overall use of the Chicago Sanitary and Ship Canal
14 with respect to invasive species control. The
15 electrical barriers are located in the Lower Reach
16 of the Chicago Ship Canal.

17 Q. And is the electric barrier the only
18 difference that you're referring to in the design
19 and operation of the Lower Reach versus the Upper
20 Reach?

21 A. Yes.

22 Q. I'm going to -- I'm going to change
23 pre-filed question 11 a little bit now that I've
24 heard your answers. So, in your opinion, is there

1 one relevant difference for your testimony for
2 your opinions between the Lower Reach and the
3 Upper Reach and is that one significant difference
4 the presence of the electric barriers in the Lower
5 Reach?

6 A. Yes, the significant difference
7 between the Upper and Lower Reach as far as the
8 physical attributes and aquatic life use
9 attainability based on the documents that I
10 reviewed is the presence of the invasive species
11 barrier.

12 Q. Moving onto question 12. I'm going
13 to ask it. I think in some respects your
14 testimony today has clarified this, but for the
15 record at the bottom of page 14 of your testimony
16 you referred to, quote, human cause conditions
17 (use of electric barrier and piscicides) is it
18 your opinion that the electric barriers and the
19 use of piscicides in the Chicago Sanitary and Ship
20 Canal satisfy the requirements of UAA factor
21 number three that also refers to, quote, human
22 caused conditions, end quote?

23 A. It is my opinion that the invasive
24 species control for the barriers and the fish

1 poisons are a human cause condition satisfying the
2 requirements.

3 Q. Question 13. In your opinion, are
4 the electric barriers in the Ship Canal an
5 existing physical condition in this waterway?

6 A. Well, this presumes that the federal
7 agencies that are mandated under Executive Order
8 13112 be long-term recommendations that are being
9 presented by the Asian Carp Regional Coordinating
10 Committee this year. That the electric barriers
11 or 1, 2A and 2B are going to be permanent. I
12 think there's going to be a point where when
13 something is permanent it becomes a physical
14 condition of the waterway.

15 Q. Question 14. Is it correct to state
16 that in the area of the Ship Canal where the
17 electric barriers are located, the purpose of
18 those barriers is to deter the passage of all fish
19 through the area in order to prevent the migration
20 of Asian carp?

21 A. Yes. The electric barriers and the
22 way they're engineered and operated are not
23 selected to what fish are deterred or repelled or
24 in some cases killed as they try to pass through

1 the barrier.

2 Q. Question 15. On page 15 of your
3 testimony, you state, quote, however, another
4 remedy to allow an upgrade to aquatic life use
5 designation from current designation to Aquatic
6 Life Use B would result in improvements of habitat
7 and water -- you know, I'm sorry. Reading this
8 I'm just going to skip it. I think the follow-up
9 questioning by counsel for the Agency and
10 Mr. Ettinger covered this question.

11 Moving onto 16. Are you
12 recommending a use designation for the Lower Reach
13 of the Ship Canal that identifies invasive species
14 control as its primary use? If so, please explain
15 why.

16 A. My testimony and what I'm
17 recommending on behalf of Citgo is the designated
18 use for the Lower Reach recognize an additional
19 use in addition to the flood control, in addition
20 to the conveyance in waters, in addition to
21 navigation, the use of the Lower Reach for
22 invasive species control, and among other reasons
23 it's important to have this use in the regulations
24 and considered as part of the attainable use for

1 the waterway for the protection of the Great
2 Lakes.

3 MS. FRANZETTI: That's all the
4 questions I have.

5 MS. TIPSORD: Anything else for
6 Ms. Garibay?

7 MR. GIRARD: I have a question.

8 MS. TIPSORD: Go ahead.

9 MR. GIRARD: Ms. Garibay, I have a
10 question. It has to do with a statement in your
11 testimony. Look at page 12. At the top of page
12 12, you've got two bullet points that start on
13 that page and I'm looking at the second bullet
14 point at the top and I'm looking at the last
15 sentence there and that says the commercial value
16 of Asian carp is quite low and much less valuable
17 than the native fish they replaced, but I don't
18 see a reference there. Were you referencing a
19 particular study?

20 THE WITNESS: Yes. All these
21 bullets come from the website, www.asiancarp.org,
22 which is the website for the Asian Carp Regional
23 Coordinating Committee and they have documents or
24 summary bullets to help communicate to the public

1 the impact and import of Asian carp as far as
2 their presence and migration. So this is as keyed
3 up in my testimony. These are some of the
4 excerpts from that website as far as the bullets
5 on information behind the Asian carp.

6 MR. GIRARD: Do you know if specific
7 field studies would have actually shown that Asian
8 carp have reduced native fish populations?

9 THE WITNESS: Yes. I know in
10 answering that I probably need to cough up the
11 documents.

12 MR. GIRARD: Yes.

13 THE WITNESS: But, yes, there have
14 been studies throughout the Mississippi River
15 system that show exactly that.

16 MR. FORT: Let me suggest this.
17 That we would be glad to provide those studies or
18 provide the links, whichever you would prefer, as
19 a follow-up here, unless you have them in your
20 bag.

21 THE WITNESS: No. I don't have
22 those ones in my bag.

23 MR. GIRARD: We don't expect you to
24 produce them today, but if you could produce those

1 specific field studies, which show that.

2 MR. FORT: If I may, Madam Hearing
3 Officer, we did bring along a summary of what is
4 being done on Asian carp by various agencies, US
5 and state agencies. We would be glad to mark that
6 as an exhibit. It won't answer the chairman's
7 question, but it provides some context. And this
8 document is entitled Executive Summary Asian Carp
9 Progress To Date. I believe this is from the
10 website that was issued September 15, 2010.

11 MS. TIPSORD: If there's no
12 objection, we will mark Executive Summary Asian
13 Carp Progress To Date September 15th, 2010 as
14 Exhibit 423.

15 MR. ETTINGER: Are you going to
16 offer a witness to authenticate this document?

17 MR. FORT: Okay. Ms. Garibay, have
18 you ever seen this document before?

19 THE WITNESS: Yes. It is available
20 off the www.asiancarp.org website, which is the
21 website for the Asian Carp Regional Coordinating
22 Committee.

23 MR. FORT: And you examined that
24 website as part of your preparation for your

1 testimony?

2 THE WITNESS: Yes, I did.

3 MR. FORT: And you looked at the
4 website again in anticipation of some of the
5 questions that you were going to be asked?

6 THE WITNESS: Yes, I did.

7 MR. FORT: And does this kind of
8 information seem reliable to you in your
9 professional opinion?

10 THE WITNESS: Yes, it is. It's the
11 Regional Coordinating Committees documents.

12 MR. FORT: Thank you.

13 MS. TIPSORD: We will admit the
14 Executive Summary Asian Carp Progress To Date as
15 Exhibit 423.

16 (Document marked as IPCB Exhibit
17 No. 423 for identification.)

18 MS. WILLIAMS: Can I ask a follow-up
19 real quick?

20 MS. TIPSORD: Mm-hmm.

21 MS. WILLIAMS: When you say
22 "Regional Coordinating Committee," who do you
23 mean?

24 THE WITNESS: I am going to refer to

1 the exhibit because there's no way I'll remember
2 all of them: The city of Chicago, the Great Lakes
3 Fisheries Commission, the Illinois Department of
4 Natural Resources, Metropolitan Water Reclamation
5 District of Greater Chicago, United States Army
6 Corps of Engineers, US Coast Guard, US EPA, US
7 Fish and Wildlife Service, US Geologic Service and
8 the White House Council on Environmental Quality.

9 MS. WILLIAMS: Was the Illinois EPA
10 on that list?

11 THE WITNESS: No, it is not.

12 MS. WILLIAMS: Thank you.

13 MR. GIRARD: I have an additional
14 question. Do all fish biologists with expertise
15 in the Midwest believe that the Asian carp is a
16 threat to the Great Lakes fishery?

17 MR. FORT: Do all biologists believe
18 that?

19 MR. GIRARD: All fishery biologists.
20 I'm asking if you know of any dissenting views
21 with these various reaches?

22 THE WITNESS: Well, I'm going to
23 find it hard to capture the universe of fisheries
24 biologists and their view, but certainly the

1 professional organization that represents
2 fisheries biologists, which I reference in my
3 testimony, which is the American Fisheries
4 Society. So that's sort of the professional
5 organization of which many fisheries biologists
6 belong to and actually conduct the certification
7 process for fisheries biologists have keyed up a
8 concern with the migration of Asian carp into the
9 Great Lakes system.

10 MR. GIRARD: So on the various
11 groups that you work with, there are no dissenting
12 voices, is that what you're saying?

13 THE WITNESS: I don't know how to
14 answer that because the groups that I'm working
15 with are focused on Asian carp control and the
16 short-term and long-term options and how to look
17 at funding those options and how to schedule the
18 timing. Sort of underlying their objective is a
19 concern to prevent the migration of Asian carp.
20 So, you know, if there's dissenting opinions, it
21 has to do with which projects to move forward with
22 on which funding and which timing. I mean an
23 example would be there's a project in the
24 framework right now I think it's 2.213 that is

1 actually looking at the ethicacy of using toxic
2 zones to prevent the migration of Asian carp into
3 the Great Lakes. Now, that's a project that
4 obviously people would have various opinions about
5 should you be using toxic zones to prevent the
6 migration of Asian carp. So it is not a
7 short-term project. It is a long-term project.
8 So I guess --

9 MR. GIRARD: You've answered my
10 question.

11 THE WITNESS: Okay.

12 MS. TIPSORD: Anything else for
13 Ms. Garibay?

14 MR. ETTINGER: Can I just ask you,
15 do you consider yourself a fisheries biologist?

16 THE WITNESS: No, I do not.

17 MR. ETTINGER: Okay.

18 MS. TIPSORD: Anything further?

19 MR. FORT: I have one follow-up
20 question. Ms. Garibay, are you familiar with the
21 various protective measures that are associated
22 with the invasive species barrier?

23 THE WITNESS: Yes.

24 MR. FORT: And you've actually seen

1 the barriers and the facilities around them?

2 THE WITNESS: Yes.

3 MR. FORT: Could you take a moment
4 to just describe your observations about, first,
5 the barrier and its appearance and then going into
6 the regulatory issues with it that the Coast Guard
7 has opposed.

8 THE WITNESS: Okay. The barrier
9 itself you can't see because it's virtually under
10 water, but the supporting structures for both
11 operations of the barrier and the backup systems
12 for the barrier if for any reason the electrical
13 grid goes down are pretty impressive. These are
14 not minor structures. They are certainly
15 well-concreted because of concerns with protecting
16 the generators. There are at least two control
17 rooms for controlling the operations or the
18 electrical currents going through the barriers and
19 over approximately 2,500 or half mile area that it
20 occupies significant signage on warning vessels
21 passing through of the dangers and the
22 requirements and it's a distinctive waterway. It
23 is so distinctive that the Coast Guard regulates
24 it as a regulated navigation area as well as a

1 safety zone.

2 A regulated navigation area
3 basically says what type of vessel can pass
4 through there and what reporting mechanisms they
5 need to go through to receive permission to pass
6 through there. A safety zone is specific to
7 laying out restrictions on boaters with respect to
8 person flotation devices, PFD requirements,
9 reporting requirements once again to the agency
10 controlling the waterway and in this case most
11 significantly between the two no vessels less than
12 20 feet are allowed to pass through this waterway
13 and absolutely no personal watercraft of any type.

14 When I say its a unique waterway
15 it is the only one in the nation that is both a
16 regulated navigation area as well as a safety
17 zone. It's pretty unique.

18 MR. FORT: When you talk about a
19 safety zone, have you looked at some of the issues
20 that are associated with ships and people on those
21 boats going over this electrified body of water?

22 THE WITNESS: I looked at the
23 reports that the Coast Guard commission NAVSEA,
24 which is the Navy -- NAVSEA -- Navy research arm

1 and they were commissioned to find out what would
2 happen if a boater fell off into this waterway and
3 part of it was to lay the groundwork for what the
4 Coast Guard eventually has regulated in this area
5 and I myself am a boater. I have been all my life
6 and I was most alarmed when I read the NAVSEA
7 conclusions in the report that basically you only
8 had minutes and that when you compared it to
9 NAVSEA's evaluation of cold water emersion you had
10 a better chance of recovery and survival if you
11 were in cold water than in this area of the Lower
12 Reach of the Ship Canal. It's sobering.

13 MR. FORT: Do you recall how brief
14 or how many minutes in general?

15 THE WITNESS: I have that report,
16 but I think in general --

17 MR. JOHNSON: Who volunteered for
18 that test?

19 THE WITNESS: It's the Navy. To
20 gain perspective on the electric shock risk posed
21 to a person emerged near a fish barrier in the
22 Canal such emersion could be compared to that of
23 an individual submerged in very cold water. In
24 cold water emersion, the victim's survival time

1 would be likely be measured in tens of minutes.

2 The same person emerged in the strongest
3 electrical field of the fish barrier might survive
4 for only minutes.

5 MS. FRANZETTI: Ms. Garibay, just
6 for the record the page and document you're
7 reading from?

8 THE WITNESS: I'm sorry. Page BII 7
9 of the Executive Summary of the NAVSEA report
10 which is an evaluation of risk that electric fish
11 barriers pose to human emersion in the Chicago
12 Sanitary and Ship Canal issued June 2008.

13 MS. TIPSORD: Is that part of the
14 record?

15 MR. FORT: We can mark it.

16 MS. TIPSORD: I think it's probably
17 a good idea since she is reading directly from it.
18 If there's no objection, we will mark the NAVSEA
19 Navy Experimental Diving Unit Naval Sea Systems
20 Manual as Exhibit 424. Evaluation of Risk That
21 Electric Fish Barriers Pose to Human Emersion in
22 the Chicago Sanitary and Ship Canal June 2008.
23 Seeing no objection, it's Exhibit 424.

24

1 (Document marked as IPCB Exhibit
2 No. 424 for identification.)

3 MS. WILLIAMS: I don't have an
4 objection. I would just request if you'll provide
5 us a copy for our record so we can -- at the end
6 of this so we'll have everything. We'll get a
7 copy from the clerk, but I would want it for --

8 MR. FORT: If I can just send you a
9 link, I'm glad to do that. I know --

10 MS. WILLIAMS: We'll have to print
11 it out anyway so if you can get a copy of the
12 document we'll get it from the clerk if you can't.

13 MR. FORT: Is anybody else asking
14 for the paper copy? If so, let me know.

15 MS. TIPSORD: Anything else?

16 MS. FREDE: Lisa Frede. Chemical
17 Industry Council.

18 MS. TIPSORD: I'm sorry.

19 MR. FREDE: Lisa Frede, Chemical
20 Industry Council. Ms. Garibay, was that report
21 done when the electrical barrier was at one volt
22 per square inch every four milliseconds?

23 MS. FRANZETTI: It was done after 1
24 and when 2A was being planned. So --

1 MS. FREDE: So that report is not
2 reflective of the current two volt --

3 MS. FRANZETTI: Right. Nor of 2B
4 coming online.

5 MS. FREDE: Thank you.

6 MS. TIPSORD: Anything further?
7 Thank you very much, Ms. Garibay.

8 MR. FORT: Thank you. Let's move
9 onto Ms. Wozniak with Midwest Generation. We'll
10 take a couple minutes so we can get rearranged.

11 (Whereupon, a break was taken
12 after which the following
13 proceedings were had.)

14 MS. TIPSORD: With that, we will go
15 to Ms. Franzetti.

16 MS. FRANZETTI: Under the heading
17 you can teach an old dog new tricks, I finally
18 remembered to bring a copy of the pre-filed
19 testimony to be marked and added to the record.
20 So if I may hand you the pre-filed testimony of
21 Julia Wozniak along with all the attachments.
22 That is the corrected, corrected November 4th,
23 2011, filed version.

24 MS. TIPSORD: Could we have

1 Ms. Wozniak sworn back in.

2 WHEREUPON:

3 JULIA WOZNIAK

4 called as a witness herein, having been first duly
5 sworn, deposeth and saith as follows:

6 MS. TIPSORD: If there's no
7 objection, we will mark Ms. Wozniak's testimony as
8 Exhibit 425. Seeing none, it's Exhibit 425.

9 (Document marked as IPCB Exhibit
10 No. 425 for identification.)

11 MS. TIPSORD: And we'll begin
12 questioning by the IEPA.

13 BY MS. DIERS:

14 Q. Good morning. My name is Stephanie
15 Diers and I'll be asking you questions on behalf
16 of Illinois EPA.

17 I guess the first question I
18 want to ask is this testimony was filed I think we
19 said November 4th. It was just marked as Exhibit
20 425. There was a prior version that had been
21 filed with the Board, correct?

22 A. Yes.

23 Q. Could you just explain the
24 difference? I wasn't able to access that on the

1 website when I left work on Friday. So could you
2 just tell me what the difference was between what
3 was previously marked and now marked as Exhibit
4 425?

5 A. There was some discrepancies or
6 actually some bad web links on there. When it was
7 originally filed the links all worked, but since
8 then there was some reshuffling of information to
9 the main Asian carp website from the Coast Guard
10 and there was some updates of information that now
11 have the appropriate links to them that have been
12 checked and I believe we also prepared hardcopies.

13 Q. If I can go to pre-filed question
14 number ten and it says the following references in
15 the pre-filed testimony are not available to the
16 public at the websites referenced because they are
17 password protected sources and question. Provide
18 the information relied on in your testimony for
19 the following Internet sources for the record and
20 then there's like A, B, C and D. Would that be
21 the corrected information that we now find what
22 has been marked as Exhibit 425?

23 A. Yes.

24 Q. Thank you.

1 MR. FORT: And, Counsel, if you give
2 me just a moment I want to just confirm I
3 believe -- yes, they are the last four exhibits to
4 the Exhibit 425 version of her testimony that's
5 been entered into the record. So we did opt not
6 only to respond to your question ten, but also to
7 avoid in the future these website links change.
8 Public access is there and not there so that now
9 hardcopies of those documents are attached to
10 Ms. Wozniak's pre-filed testimony.

11 MS. WILLIAMS: Thank you.

12 BY MS. DIERS:

13 Q. I'll start with pre-filed question
14 one. On page five of your pre-filed testimony,
15 you state "At the request of the supervising
16 authorities, Will County Station also altered
17 normal plant operations during the rotenone
18 application period to help facilitate the
19 effective application and dispersal of rotenone in
20 the waterway." Explain how this was accomplished
21 and why it was done.

22 A. Okay. This was with regard to the
23 December 2009 rotenone effort that was finished by
24 DNR as a result of needing to take one of the

1 barriers down for maintenance and also because of
2 the fact they were finding evidence of Asian carp
3 getting closer and closer to the barrier. So it
4 was all related to that rotenone effort. We had
5 been contacted by DNR to participate because of
6 the close proximity of our station to the electric
7 barrier and the fact that we were within that
8 six-mile zone that they were going to be
9 rotenoning and after some initial study was done
10 to try to determine how they're going to setup
11 their dosage rates and dosage stations, they asked
12 whether we might be able to decrease our
13 circulating water flow for the period of rotenone
14 dosing because they felt that by reducing the
15 flow, we wouldn't potentially be short circuiting
16 some of that rotenone because they're five
17 injection points going across the canal right
18 upstream of our station actually on our station
19 property and one of those rotenone injection
20 points may inadvertently been sucked into the
21 plant, go through the plant systems and maybe get
22 diluted out. So they wouldn't be necessarily
23 getting the dosage they thought they would be
24 getting. So we reduced our circulating water flow

1 and as a result reduced our unit load because flow
2 and the load are related.

3 And another reason that we
4 reduced circ water flow is that DNR had
5 arrangements for their consultants to put in a net
6 across our intake just in case they'd be a huge
7 flood of dead fish so they wouldn't be on our
8 screen immediately and the netting also works
9 better with a little bit of reduced flow. So
10 those are the two reasons that we altered
11 operations at the request.

12 Q. Question number two.

13 MR. FORT: Counsel, I'm sorry. I'm
14 going to ask a follow-up. Did IDNR ask Midwest
15 Generation for any other changes in station
16 operations that you could not do?

17 THE WITNESS: Actually, they did.
18 They asked us if we could generate additional heat
19 because they felt the rotenone work much more
20 effectively the hotter the water was, but because
21 we reduced unit load we weren't able to
22 accommodate their request and it's pretty much
23 well-known that rotenone works better in warmer
24 water and that was explained in the affidavit of

1 Charles Wooley, the deputy regional director of
2 the Midwest Region of the US Fish and Wildlife
3 Service. In his affidavit filed in the federal
4 district court litigation, the Asian Carp Regional
5 Control -- Regional Control Committee workgroup
6 had information to say that rotenone was not
7 effective at cooler water temperatures and that's
8 discussed in the Wooley affidavit page 12,
9 paragraph 30.

10 MS. FRANZETTI: Madam Hearing
11 Officer, she's going to, I think, reference
12 Mr. Wooley's affidavit again and/or perhaps
13 Mr. Seegert's so given that I did bring just a few
14 extra copies if you would like me to introduce
15 this into the record?

16 MS. TIPSORD: Yes, let's do. I have
17 been handed across the top Case 1:10-CV-04457,
18 Document 47-19, filed 8/4/10, Declaration of
19 Charles M. Wooley. If there's no objection, we'll
20 enter this as Exhibit 426. Seeing none, it's
21 Exhibit 426.

22 (Document marked as IPCB Exhibit
23 No. 426 for identification.)
24

1 BY MS. DIERS:

2 Q. Ms. Wozniak, do you know why
3 rotenone works better with heat?

4 A. I believe it has to do with the
5 respiration rate of the fish. It increases the
6 respiration rate of the fish and since it's so
7 toxic it affects their ability to take oxygen out
8 of the water. It just acts more quickly because
9 they're pulling more of it into their system.

10 Q. Two, will the bio-acoustic bubble
11 barrier system have an impact on dissolved oxygen
12 levels in the Upper Dresden Island Pool?

13 A. The US Army Corps of Engineers
14 hasn't really provided any information on the
15 impact of the barrier on DO and I don't have any
16 information on that. I know that the acoustic
17 bubble barrier system isn't anything like a SEPA
18 station in which it's not designed to put
19 dissolved oxygen in water. That's not it's
20 purpose.

21 Q. Question three. Has a final
22 selection for the location of the ABS system been
23 made by the US Army Corps of Engineers?

24 A. Yes, it has. After the Corps looked

1 at several different locations, they determined
2 that the Brandon Road Lock and Dam site would be
3 the most effective and this is also documented in
4 the federal defendants pleading filed in the
5 federal district court litigation that was
6 included in copy of Byers comments on the Asian
7 carp that are filed in this rulemaking and that's
8 on page 13, quote, also on July 13th, 2010, the
9 assistant secretary of the Army approved the
10 interim 3A report. That report recommended
11 implementing a fish deterrent barrier employing an
12 acoustic bubble curtain and strobe light
13 technologies to encourage Asian carp to disperse
14 as a demonstration project to examine the efficacy
15 of the dispersal technology. The project would be
16 located at the Brandon Road Lock and Dam on the
17 Des Plaines River just below the city of Joliet,
18 Illinois and this information is also included in
19 the affidavit of Colonial -- Major Peabody of the
20 US Army Corps of Engineers which is attachment
21 four to pre-filed testimony from Jennifer Wasik in
22 this case.

23 MS. FRANZETTI: And given that I
24 think Ms. Wasik has more than one set of pre-filed

1 testimonies, the one that is filed on October 8th,
2 2010.

3 MS. TIPSORD: For submission later
4 today or tomorrow in this hearing?

5 MS. FRANZETTI: We're just trying to
6 avoid adding more paper where things are already
7 an attachment to pre-filed testimony.

8 BY MS. DIERS:

9 Q. Question four. What impact will an
10 ABS system at the Brandon Road Lock and Dam Lock
11 have on Hickory Creek?

12 A. None directly as far as I know, but
13 the planned invasive species control efforts is
14 that will be done in conjunction with the use of
15 the ABS could result in at least a temporary
16 isolation of Hickory Creek from the main channel
17 of the Lower Des Plaines.

18 MS. FRANZETTI: Ms. Wozniak, when
19 you say ABS, what are you referring to?

20 THE WITNESS: The acoustic bubble
21 barrier system.

22 BY MS. WILLIAMS:

23 Q. Question five. Will Midwest
24 Generation be compensated by the federal

1 government if the ABS system is located on Midwest
2 Generation owned property?

3 A. We don't know at this time.

4 MR. ETTINGER: Speaking of
5 compensation and money, did it cost the company
6 anything to alter the operation of it's Will
7 County plant to facilitate the rotenone?

8 THE WITNESS: We reduced unit loads
9 so there was less power to be sold so that extent,
10 yes, we did.

11 MR. ETTINGER: Do you have any idea
12 how much it cost?

13 THE WITNESS: No.

14 BY MS. DIERS:

15 Q. Question six. Has the Corps of
16 Engineers established supplemental cooling to keep
17 the electrical barriers running effectively?

18 A. Yes. It's my understanding that a
19 closed cycle cooling system will be part of the
20 new barrier.

21 MR. ETTINGER: Do you have an
22 understanding of why they do that?

23 THE WITNESS: I know the electrical
24 components that are used to power the barrier need

1 to be kept cool because they generate a lot of
2 heat and the original barrier -- barrier one had
3 no cooling system. Barrier 2A had a cooling
4 system that used canal water and they experienced
5 considerable corrosion and biofouling from having
6 that canal water go through it. So the new
7 barrier, barrier 2B, is going to have a closed
8 cycle system that's going to be using well water
9 as their water source.

10 MR. FORT: What -- do you know what
11 the -- what generally the range of temperature of
12 well water is that they're going to use for 2B?

13 THE WITNESS: I know well water is
14 generally -- groundwater is generally cooler than
15 surface water. So it ranges anywhere from 50 to
16 60 year-round and I think that's what they want is
17 something consistent.

18 MS. FRANZETTI: Fifty to sixty
19 degrees Fahrenheit, I take it?

20 THE WITNESS: Yes, Fahrenheit.

21 BY MS. DIERS:

22 Q. Seven, please explain the basis for
23 the following statements on page 24 of your
24 pre-filed testimony. A, the USACE, the USCG and

1 IDNR have accepted the need to sacrifice the full
2 use of the CAWS as well as Upper Dresden Island
3 Pool in order to better protect the Great Lakes
4 and Mississippi River ecosystems.

5 A. Obviously, all of the Asian carp
6 control efforts are aimed at limiting upward
7 migration of Asian carp and other invasives and
8 all these agencies that you mentioned are, in
9 fact, operating to try and prevent upward
10 migration. In doing so, the Coast Guard has
11 established RNA, which is prohibitive to small
12 recreational watercraft going through that system.
13 They're retaining commercial navigation by
14 presenting other entry into the barrier system by
15 any other sources. DNR is establishing fish
16 eradication efforts. The Coast Guard -- or the
17 Army Corps of Engineers is installing additional
18 barrier systems. All these things have the effect
19 of, you know, limiting the immediate system from
20 having full use of -- for recreation or any other
21 sources while they're protecting Lake Michigan and
22 to a lesser extent the Mississippi River system
23 from the movement of invasive back and forth.

24 Q. B, they have also recently

1 reiterated their commitment to ensure the
2 protection of commercial navigation, even at the
3 expense of secondary contact recreational uses in
4 the cause?

5 A. There, again, I was referring to the
6 Coast Guard's prohibition of recreational transit
7 through the barrier zone while still protecting as
8 described in the RNA document that I referenced in
9 my testimony and it's also stated in the federal
10 defendant's brief opposition to the plaintiff's
11 preliminary injunction motion in the federal
12 district court case which is included in Eyer's
13 October 8th comments in the proceeding. The
14 Corps' notes on page 24 that it operates and
15 maintains the CSSC as necessary to sustain
16 navigation from Chicago harbor on Lake Michigan to
17 Lockport and the Des Plaines River. It goes on to
18 state on page 25 that, quote, Congress specified
19 in the Aquatic Nuisance Prevention Act that to the
20 extent the Agency finds feasible efforts to combat
21 aquatic nuisance species are to be considered
22 incorporated into the ongoing operations of the
23 canal.

24 Q. I'm sorry. What were you reading

1 from?

2 MS. FRANZETTI: Page 25 --

3 MS. WILLIAMS: This isn't her
4 testimony -- I'm sorry.

5 MS. FRANZETTI: -- of the brief
6 that's attached to Eyer's October 8th comments
7 that was filed by the federal defendants in the
8 pending Northern District Illinois court, an
9 action brought by the state of Michigan, et al.

10 MS. DIERS: Thank you.

11 MR. ETTINGER: Can I just follow-up
12 a little bit on that? This is your conclusion,
13 but you're not saying that any of these officials
14 have actually said "We are willing to sacrifice
15 these systems"? You're drawing that conclusion
16 from the individual actions that they've
17 authorized or proposed?

18 MS. FRANZETTI: Counsel, I'm just
19 going to object when you say "sacrifice these
20 systems," her statements don't say that.
21 Sacrifice them --

22 MR. ETTINGER: I'm sorry.

23 MS. FRANZETTI: The full use.

24 MR. ETTINGER: The full use.

1 MS. FRANZETTI: The full use.

2 MR. ETTINGER: Okay. To your
3 knowledge, did any of these officials say we're
4 willing to sacrifice the full use of any of these
5 waters you identified.

6 THE WITNESS: I'm not aware that
7 that's a quote from anyone.

8 MR. ETTINGER: Okay. That's a
9 conclusion you draw from observing their other
10 proposals.

11 THE WITNESS: Yes.

12 MR. ETTINGER: Thank you.

13 BY MS. DIERS:

14 Q. Question eight. Please explain the
15 basis for the following statement on page 25 of
16 your testimony. Any attempt to upgrade the
17 existing uses of the canal system to enhance the
18 ability of aquatic life to use the Chicago and
19 Sanitary and Ship Canal as a highway between areas
20 of better habitat appear to be in direct conflict
21 with recent federal government decisions and
22 directives that are aimed at preventing aquatic
23 migration through the Chicago Sanitary and Ship
24 Canal and limiting recreational use due to the

1 risks presented. A, what federal government
2 decisions and directives are you referring to?

3 A. I'm referring to the Coast Guard's
4 RNA and safety zone rule, be it Asian Carp
5 Regional Committee's directive to implement a
6 variety of Asian carp control technologies such as
7 intensive commercial fishing, the ABS system,
8 rotenone applications, and a variety of other
9 alternatives that are considering to prevent
10 upward movement of invasive species into Lake
11 Michigan and some of these may be in direct
12 conflict with the Clean Water Act goals. As an
13 example, the barrier zone acts to eliminate the
14 zone of passage going upstream and downstream, but
15 the barrier is not to allow anything through, not
16 just Asian carp.

17 Q. B, are the limits on recreational
18 uses you described permanent or temporary?

19 A. As long as the electric barrier
20 remains in operation as far as I know it's
21 designed to be permanent. In fact, I think it's
22 got funding from the federal government to make it
23 permanent. There will be a restriction barring
24 recreational boat traffic and that was mentioned

1 by Ms. Garibay that no boats less than 20 feet in
2 length will be allowed through that system and no
3 personal watercraft whatsoever and I think that
4 will stay in place as long as the electric barrier
5 exists because of the safety concerns involved and
6 the fact that the electric barriers are intended
7 to personal was also -- it's documented in
8 Colonial Quarrels of the US Army Corps in his
9 federal courts affidavit in talking about the fact
10 that Congress authorized the Corps to upgrade and
11 make permanent both barrier one and barrier two
12 and that in the Quarrels affidavit, page six
13 paragraphs 17 and 18 and I believe that's included
14 in the attachment. So the barriers aren't going
15 away so neither will the restrictions.

16 Q. Question nine. You state the
17 Brandon Road --

18 MS. FRANZETTI: I'm sorry, Counsel.
19 Just one term I don't think is clear in the record
20 that Julia used in the answer. You referred to
21 boats are less than 20 feet then you also referred
22 to personal watercraft. Can you give some
23 examples of what is in the personal watercraft
24 category that is not -- was not intended to be in

1 your boats less than 20 feet category?

2 THE WITNESS: Right. Twenty feet is
3 actual boats. This is also, you know, documented
4 in the RNA from the Coast Guard, but personal
5 watercraft are considered jet ski, kayaks, things
6 like that, canoes. You know, manually powered
7 equipment or things that you ride on as opposed to
8 in.

9 Q. Question nine. You state that the
10 Brandon Road tailwater would be isolated from the
11 rest of the Lower Des Plaines River. A, explain
12 how and when it would be isolated.

13 A. As I explained in my testimony and
14 Greg Seegert will also discuss this, the ABS
15 barrier at Brandon Road would be used in
16 conjunction with intensive sampling efforts to try
17 to herd fish into the tailwater area where they
18 would be more easily killed or harvested and as I
19 understand it from my participation in the Asian
20 carp committee and in discussions with the Army
21 Corps representatives is activity would take place
22 on a reoccurring basis triggered by either
23 sampling showing Asian carp are moving further
24 upstream or -- either physical sampling, evidence

1 of fish actually being found closer to the ABS or
2 EDNA sampling results would trigger those types of
3 sampling events where they would be herding fish
4 in either eradicating them with rotenone or
5 netting them.

6 Q. And you said on a reoccurring basis,
7 do they know how many times a year they would do
8 that at this point?

9 A. In discussions regarding the ABS,
10 there have been no statements made that there was
11 going to be a set schedule. I think it's all
12 going to be triggered by sampling events. So it
13 could possibly take place any time of the year.
14 In fact, you know, if they found Asian carp in
15 breeding conditions, I'm assuming that they would
16 do a fish kill effort during spawning season just
17 to try to eliminate as many as possible.

18 Q. Is there a funding source for the
19 acoustic bubble barrier at this point in time that
20 you discussed?

21 A. There was funding for the barrier,
22 but because they could not complete it prior to
23 October 28th when their funding ran out they need
24 to get a new appropriation for it. So I believe

1 that, you know, the process of asking for that is
2 in the works right now.

3 MS. DIERS: We have nothing else.
4 Thank you.

5 MS. TIPSORD: Mr. Ettinger, if you
6 don't mind asking from right there we can move on
7 to your questions.

8 MR. ETTINGER: That sounds fine.

9 BY MR. ETTINGER:

10 Q. Well, number one, has Midwest
11 Generation ever studied the effect of heat
12 discharges on the growth or reproduction of Asian
13 carp?

14 A. We have not.

15 Q. Two, has Midwest Generation ever
16 studied the effect of heat discharges on the
17 growth of cyanobacteria, algal growth or other
18 vegetative growth in the Chicago Sanitary and Ship
19 Canal, in the Des Plaines River or elsewhere?

20 A. No, we haven't.

21 Q. Just to follow-up on my own
22 question. I gather you have not studied the
23 effect of heat discharges on creating food for
24 Asian carp?

1 A. We haven't done any studies that
2 looked at that and I'm not aware that anyone else
3 has done any of that.

4 Q. Has Midwest Generation ever studied
5 the effect of heat discharges on the growth or
6 reproduction of big head or silver carp?

7 A. I believe that's the same question
8 as question one and my answer is still, no, we
9 have not.

10 Q. Four, has any work to trap big head
11 or silver carp in the Brandon Pool ever been
12 funded?

13 A. Not to my knowledge.

14 Q. One more thing here. On page 25 of
15 your testimony, you have a long sentence here "As
16 such, any attempt to upgrade the existing uses of
17 the canal system to enhance the ability of aquatic
18 life to use the CSSC as a highway between areas of
19 better habitat appear to be in direct conflict
20 with recent federal government decisions," et
21 cetera. Do you know of any proposal to upgrade,
22 to do anything, that would upgrade the existing
23 uses of the canal system?

24 A. It's my understanding that if the

1 Illinois EPA proposal is approved that would make
2 water quality standards more stringent which could
3 ultimately improve the ability of fish to move
4 back and forth.

5 Q. Do you know of any particular
6 standard that might be changed that would do
7 anything to help the Asian carp?

8 A. I would just say it's a combination.
9 I mean, if the intent is to approve the overall
10 water quality it could be any combination of
11 things.

12 Q. Well, if they change the standard as
13 to heat, do you know whether that would help or
14 hurt the Asian carp?

15 A. Yeah. I mean, from the information
16 that I have it's my understanding that Asian carp,
17 although they have a wide temperature tolerance
18 range, really do not like it very hot.

19 Q. Do you know what their preferred
20 temperature is?

21 A. I believe they start --

22 MS. FRANZETTI: It's in the report
23 that was just read.

24 THE WITNESS: Right.

1 MS. FRANZETTI: You can reference
2 that.

3 THE WITNESS: I think based on what
4 I remember from the Tetra report that was done for
5 US EPA, I think their avoidance -- and I can't
6 remember if it's big head or silver is somewhere
7 around 92 degrees for avoidance.

8 MR. ETTINGER: Avoidance temperature
9 is 92 degrees. Okay. And what is their preferred
10 temperature?

11 THE WITNESS: A wide range. That's
12 why they're invasive. They are able to kind of
13 acclimate to conditions.

14 MR. ETTINGER: They can deal with a
15 lot of different temperatures. Chloride, do you
16 know how changing the chloride levels might affect
17 anything here?

18 THE WITNESS: Chloride would affect
19 osmotic pressure to some extent, but I'm not an
20 expert on that.

21 MR. ETTINGER: So you don't really
22 know of anything that's being proposed in this
23 proceeding that would actually make it better for
24 Asian carp?

1 MS. FRANZETTI: Objection, Counsel.
2 That was her answer to the prior question
3 temperature.

4 MR. ETTINGER: Are you testifying
5 now that the current temperature -- that the
6 temperature standards would be that at 92 degrees
7 it would prevent the Asian carps movement?

8 MS. FRANZETTI: You just changed
9 your question, but you can go ahead and answer
10 that question.

11 THE WITNESS: From the discussions
12 I've had as my participation in the Asian carp
13 barrier panel committee, they've always discussed
14 the fact that higher temperature would react as
15 some sort of barrier to fish. Maybe not all of
16 themselves, but that would be a contributing thing
17 that could help prevent them from moving upstream.

18 MR. ETTINGER: Did they discuss
19 whether raising temperatures in the winter, spring
20 and fall might attract Asian carp?

21 THE WITNESS: That was not
22 discussed.

23 MR. ETTINGER: That was not
24 discussed. Thank you.

1 MS. TIPSORD: Okay. Mr. Diamond, if
2 you're comfortable there, we can go ahead and
3 start with your questions.

4 BY MR. DIAMOND:

5 Q. Ms. Wozniak, I've got a number of
6 questions. Some of them are related to pages in
7 your testimony and the pages that I have are to
8 your original testimony of October 8th. So I
9 don't have them translated to your revised
10 testimony.

11 On page 13 of your original
12 testimony, you state that, quote, approximately
13 50,000 pounds of fish were collected during
14 operation silver screen, end quote, which refers
15 to the December 2009 application of rotenone in
16 the Chicago Sanitary and Ship Canal. Don't you
17 mean that 50,000 pounds of fish were killed?

18 A. That's correct. Approximately
19 50,000, 55,000 pounds of fish were collected
20 during the rotenone application effort, but US
21 Fish and Wildlife Service believes there were
22 probably a lot more, but sunk to the bottom and
23 couldn't be recovered.

24 Q. On page five of your original

1 testimony, you indicate that the installation of a
2 hybrid bio-acoustic barrier also sometimes
3 referred to the ABS system is under consideration,
4 quote, at the downstream side of the Brandon Road
5 Lock and Dam, end quote. Is this the same as the
6 area often referred to by the Agency in this
7 proceeding as the Brandon Road Dam tailwater?

8 A. Generally yes, but it's probably
9 good to look at a paragraph and in my attachment
10 11 to my testimony there's kind of -- this comes
11 from the US Corps of Engineers. It talks about
12 where it would be located and the actual barrier
13 would be located at the mouth of the lock chamber
14 on the downstream side of the Brandon Lock and
15 Dam. And, yes, you probably see it better on the
16 photographs that Susan Franzetti is handing out
17 right now that shows the location of the barrier
18 would be opposite the downstream side of Brandon
19 Lock and Dam where you can see the location of the
20 tailwater is directly adjacent to that. So that's
21 a much larger area that's outlined in red.

22 MS. TIPSORD: If there's no
23 objection, we'll enter for purposes of the record
24 the paragraph referred to as Exhibit 427. It

1 is -- has in red proposal location of ABS system,
2 Brandon tailwater area and Brandon Road. Seeing
3 no objection, it's Exhibit 427.

4 (Document marked as IPCB Exhibit
5 No. 427 for identification.)

6 BY MR. DIAMOND:

7 Q. So, with reference to Exhibit 427,
8 the full circled areas sort of in the middle left
9 of the -- of the aerial photograph would be where
10 the ABS system itself would be placed?

11 A. Correct. The ABS system would be
12 across the channel on the upstream side and the
13 fish coming from downstream would get herded into
14 the tailwater which is the large enclosed area and
15 that's where all the eradication efforts would
16 take place.

17 MS. FRANZETTI: Because the ABS is
18 going across the mouth of the main channel portion
19 of the UDIP in that area so that the Asian carp
20 can't get into the main channel, they're going to
21 get deterred into the tailwater, correct?

22 THE WITNESS: Right. The only way
23 the fish could actually move upstream is going
24 through the main channel and swimming through the

1 lock chamber, but if that ABS system is in there,
2 that would effectively herd them into this area
3 which is pretty much a dead end. Hickory Creek
4 comes in at the end. This is the Dam here so it's
5 not like they could swim upstream from there.

6 BY MR. DIAMOND:

7 Q. Refresh my recollection. The
8 Brandon Road Dam tailwater, is that one of the
9 areas or is that the area of the Upper Dresden
10 Island Pool that is generally considered to have
11 the better habitat for that entire pool?

12 A. That's correct.

13 Q. Number three, even though the ABS
14 system is sometimes called a, quote, barrier, is
15 it correct that it is intended to defer fish
16 migration, but not absolutely prevent it?

17 A. That's correct.

18 Q. Number four, what other actions to
19 retard Asian carp migration towards Lake Michigan
20 are under consideration with the operation of ABS
21 system?

22 A. As I mentioned, one of the reasons
23 the Brandon location was chosen is because of the
24 tailwater area and the US Army Corps of Engineers

1 felt if they put the barrier in downstream of
2 Brandon they could herd fish into this enclosed
3 area and use rotenone in a controlled manner or do
4 some netting because it's very shallow in here.
5 They'd be able to get more of the fish than they
6 could in other locations. They felt it would be
7 more effective in eliminating more Asian carp.

8 Q. If they net the fish, what would
9 they do with the netted fish?

10 A. I'm sure they could dispose of them.

11 Q. If the -- number five, if the ABS
12 system is installed downstream of the Brandon Road
13 Lock and Dam and actions are taken to kill Asian
14 carp in the Brandon Road Dam tailwater, will that
15 be expected to impact the ability of the tailwater
16 to serve as an area in the Upper Dresden Island
17 Pool -- to serve as an area for fish to spawn and
18 in what way?

19 A. It would negatively impact the
20 ability of tailwater to serve as a nursery or
21 spawning area because if fish travel there to
22 spawn, they might be captured or killed because
23 before they can spawn or if they do spawn their
24 eggs or larvae could also be killed during a

1 rotenone application and, you know, since these
2 rotenone applications or intensive sampling
3 efforts are going to be taken place on an
4 as-needed basis, the entire fish population could
5 be reduced because of the intensive fishing
6 pressure and that would further reduce the level
7 of spawn that would normally occur in that
8 waterway, in the tailwater area.

9 Q. And that's because the application
10 of the rotenone or the use of the netting is
11 indiscriminate in terms of what fish species are
12 killed and taken out of the waterway, is that
13 correct?

14 A. That's correct. It would affect
15 everything that would be in that area at that
16 time.

17 MR. DIAMOND: Thank you. That's all
18 I have.

19 MS. TIPSORD: Are there any other
20 questions for Ms. Wozniak? Thank you very much,
21 Ms. Wozniak. With that, let's take lunch. We'll
22 come back at 1:00.

23

24

1 (Whereupon, a break was taken
2 after which the following
3 proceedings were had.)

4 MS. TIPSORD: I think we're ready to
5 go back on the record. Good afternoon, everyone.
6 Welcome back and we're ready to begin with the
7 testimony of Mr. Seegert. Could we have him sworn
8 in please?

9 WHEREUPON:

10 GREG SEEGER
11 called as a witness herein, having been first duly
12 sworn, deposeseth and saith as follows:

13 MS. FRANZETTI: Should we start
14 with -- I'd like to introduce into the hearing
15 record a copy of Mr. Seegert's pre-filed testimony
16 regarding Asian carp issues that was filed in this
17 rulemaking on October 8th, 2010.

18 MS. TIPSORD: If there's no
19 objection, I will enter Mr. Seegert's pre-filed
20 testimony as Exhibit 428. Seeing none, it's
21 Exhibit 428.

22 (Document marked as IPCB Exhibit
23 No. 428 for identification.)

24 MS. TIPSORD: And, with that, we're

1 ready to begin with the IEPA's questions.

2 MS. FRANZETTI: If I could ask for
3 one more second of indulgence?

4 MS. TIPSORD: Sure.

5 MS. FRANZETTI: This is totally
6 optional. We just thought if any members of the
7 Board, including staff, had not seen any of the
8 video that has been taken of Asian carp,
9 particularly silver carp jumping out, like, in the
10 Illinois River, et cetera -- it's less than five
11 minutes long and Mr. Seegert was sent a disk from
12 the -- where?

13 THE WITNESS: Illinois Natural
14 History Survey.

15 MR. JOHNSON: Does this involve
16 great bodily harm?

17 MS. FRANZETTI: Not great bodily
18 harm. I think somebody does at one point -- I
19 watched it once. I think somebody does get hit at
20 one point.

21 MR. JOHNSON: I'll watch it then.

22 MS. TIPSORD: If there's no
23 objection --

24 MS. FRANZETTI: No objection. Do

1 you already have one loaded in there?

2 THE WITNESS: We're all set. I
3 don't know what sequence -- it doesn't make any
4 difference. We'll just see --

5 MS. FRANZETTI: It's a series of
6 clips that the Illinois Natural History Survey put
7 together.

8 THE WITNESS: These are silver carp
9 jumping out of the water. That's it's for that
10 one. Driving a boat that's Kevin Irons who was
11 with the history survey, now with the DNR. Kevin
12 was kind enough to provide these. You can see the
13 numbers of fish we're talking about here.

14 MS. MOORE: And these are not fish
15 in the barrier, these are just fish swimming
16 along?

17 MS. FRANZETTI: No. Further down
18 the Illinois River.

19 MR. ETTINGER: What part are they
20 in?

21 MS. FRANZETTI: They didn't ever
22 specify it. They just referred to it as being on
23 the Illinois River.

24 THE WITNESS: They actually have

1 tournaments now that instead of catching fish with
2 hook and line you drive your boat around and see
3 in a given span of time how many silver carp you
4 can get to jump in your boat. They have
5 tournaments on the Lower Illinois doing that.

6 MR. ETTINGER: Have you ever seen
7 the carp archery?

8 MS. TIPSORD: I was going to say
9 that was in the Tribune.

10 MR. ETTINGER: That requires skill.

11 MS. FRANZETTI: That was the
12 longest. All the rest of these --

13 MS. MOORE: Repeat what that one
14 was.

15 MS. FRANZETTI: Do you know what
16 that one was?

17 THE WITNESS: Not specifically, no.
18 Just other than it was in Illinois on the Lower
19 Illinois River. This one shows why you need to be
20 careful when you're dipping fish.

21 MS. FRANZETTI: He got hit.

22 THE WITNESS: Let me see if I can
23 cue this one up again. I don't know why it keeps
24 doing that.

1 MS. FRANZETTI: That gentleman got
2 hit in a sensitive spot.

3 MS. MOORE: He's still standing.

4 MS. FRANZETTI: He's still standing.
5 It doesn't kill you. Just like the barrier
6 doesn't kill them, it just deters you. Good
7 enough. That's the end of that presentation. Do
8 you want a copy?

9 MS. TIPSORD: I think technically we
10 should probably go ahead and put it in the record.

11 MS. FRANZETTI: I hereby offer into
12 evidence a copy of the Asian carp video that we
13 just saw.

14 MS. TIPSORD: If there's no
15 objection?

16 MS. WILLIAMS: I think I'm going to
17 object if there's no copies.

18 MS. FRANZETTI: If you want a
19 copy --

20 MS. WILLIAMS: Can you make a copy?

21 MS. FRANZETTI: Yes.

22 MS. WILLIAMS: Thank you.

23 MS. FRANZETTI: I didn't think it
24 really rose to that level.

1 MS. TIPSORD: We will admit this as
2 Exhibit 429.

3 (Document marked as IPCB Exhibit
4 No. 429 for identification.)

5 MS. TIPSORD: I think we're ready
6 for IEPA.

7 BY MS. DIERS:

8 Q. I'm not sure what he was taking down
9 in the videos that were being shown. So just to
10 be clear, Exhibit 429 that we just reviewed those
11 were taken in the Illinois River, is that correct?

12 A. The lower portions of the Illinois
13 River as they were provided by Kevin Irons
14 formerly with the Illinois Natural History Survey
15 and I believe he is now with the Illinois DNR.

16 Q. And do you know were they taken this
17 year?

18 A. I don't know the date.

19 Q. Okay. I'm going to start with
20 pre-filed question number one. Please describe
21 your experience with invasive species.

22 A. Okay. Well, I started studying
23 invasive species nearly 40 years ago. That's what
24 I actually did my masters work on and some of the

1 people who are old like me in this room remember
2 when alewife were the invasive de jour in Lake
3 Michigan and the world was going to come to a an
4 end because of alewife. So I spent my masters
5 research studying alewife.

6 Since that time, I've studied a
7 number of other invasive species. Some of those
8 would be common carp, sea lamprey, rainbow smelt,
9 round gobies, zebra mussels, corbicula, which is
10 the Asiatic clam, and three out of the four Asian
11 carp species. The one that I have not had any
12 direct contact with is black carp and for many of
13 these species we've done projects. We do a lot of
14 work with common carp because they typically have
15 a high body burden of metals and other
16 contaminants. So we collect common carp in a lot
17 of different places. I also was the first person
18 to document the presence of white perch, which is
19 an invasive species on the Ohio River. A company
20 I worked for we got the first record of that
21 species and also for several projects, I've been
22 involved in reviewing the literature on the
23 affects of invasive species on native fishes and
24 just one example of that would be a couple years

1 ago we did work at the Point Beach Nuclear Power
2 Plant. That's located about roughly 200 miles
3 north of here up the Lake Michigan shoreline a
4 little bit south of the Green Bay area and in this
5 case the issue had to do with the bal- --
6 so-called balance indigenous community. So in
7 order to determine that we had to look at what
8 were the affected various exotic or invasive
9 species. So in that study we looked at alewife,
10 rainbow smelt, gobies, white perch and the salmon
11 in Lake Michigan which some people don't realize,
12 but they're also an exotic species. So I've been
13 looking at invasive species for nearly 40 years.

14 Q. Mr. Seegert, you've testified before
15 these hearings about your experience out on the
16 waterways that are the discussion of this
17 rulemaking. So with respect to that question
18 number two asks when was the first time you
19 personally observed Asian carp in the Upper
20 Dresden Island Pool?

21 A. I personally haven't collected Asian
22 carp from Upper Dresden Island Pool. Others at EA
23 have. I have collected Asian carp from other
24 places. Principally, the Ohio River and in my job

1 as chief ichthyologist at EA, I've looked at and
2 verified Asian carp from a number of other
3 waterbodies including the Ohio River and the
4 Wabash River to name a couple.

5 Q. And do you know when EA found Asian
6 carp, like the timeframe they found Asian carp in
7 the Upper Dresden Island Pool?

8 A. The most recent collection we made
9 was just this past May when we collected six large
10 adults in Upper Dresden Island Pool just upstream
11 of I-55 near where Jackson Creek comes in.

12 Q. That would be in 2010?

13 A. Yes. May of this year.

14 Q. And has there ever been any other
15 findings prior to 2010 of Asian carp in the Upper
16 Dresden Island Pool?

17 A. That anyone has collected?

18 Q. If you know of or EA --

19 A. I'm not aware of collections by
20 others. EA collected -- I'm not sure. I think it
21 was one specimen, it might have been a couple, I
22 believe in 2002. I was talking about earlier than
23 that, but in this year, in 2010, in addition to
24 the six that we've collected, the Illinois DNR

1 through their netting work that they've been doing
2 they've collected almost 100 Asian carp from
3 Dresden Pool.

4 MR. ETTINGER: Excuse me. Where did
5 you catch the two in 2002?

6 THE WITNESS: Sitting here today I
7 couldn't tell you. I'm quite sure it was in
8 Dresden Pool, but, you know, I wasn't in the boat
9 at that time and it was eight years ago. So I
10 don't remember.

11 MR. ETTINGER: How did you collect
12 them then?

13 THE WITNESS: Electrofishing. All
14 the ones that EA has collected have been by
15 electrofishing.

16 MR. ETTINGER: And how did you
17 collect the six that you said EA collected this
18 year, that was with electrofishing?

19 THE WITNESS: That's correct.

20 MR. ETTINGER: Is electrofishing a
21 good way to catch Asian carp?

22 THE WITNESS: Electrofishing is not
23 particularly effective for collecting Asian carp.
24 If you want to specifically get Asian carp there

1 are better ways of doing it than electrofishing.

2 MR. ETTINGER: Does electrofishing
3 tend to miss Asian carp?

4 THE WITNESS: I'd say that's a
5 correct characterization, yes, it does. It
6 underestimates the true number that are there.

7 MR. ETTINGER: It might be
8 reasonable to believe that if you caught two
9 through electrofishing in 2002 that there were
10 probably more than two present in the pool?

11 THE WITNESS: That's possible.
12 Maybe there were only those two at that time.

13 MR. ETTINGER: Thank you.

14 BY MS. DIERS:

15 Q. What is a better way of catching the
16 Asian carp?

17 MR. JOHNSON: Dynamite.

18 BY THE WITNESS:

19 A. I was just going to say actually in
20 the fisheries profession we use cordite. There's
21 nothing more fun than blowing fish up. But aside
22 from rotenone, which is certainly a way -- if
23 you're doing a standard survey, probably one of
24 the net -- what we call passive netting

1 techniques, either gillnetting or trammel netting,
2 that's what the DNR is using as their kind of
3 standard survey technique to see where Asian carp
4 are and how many Asian carp are present.

5 BY MS. DIERS:

6 Q. Since we're talking about the
7 subject I'm going to jump to pre-filed question
8 number 11 and the question is why is it more
9 difficult to sample Asian carp with
10 electrofishing?

11 A. The answer is the Asian carp either
12 can sense the electricity or they can sense the
13 presence of the boat and a lot of people think
14 it's more the boat, but perhaps it's both, but in
15 either case because of them being able to sense
16 it, they're able to move away and you have to get
17 fairly close, typically within five to ten feet,
18 for the electrofisher to be effective.

19 So if the fish are sensing
20 either the presence of the boat or the feel of the
21 electric from the generator and they move away,
22 they're going to be difficult. I should mention
23 it's not just Asian carp that do that. There are
24 a number of other large river fishes, which have a

1 similar ability. A couple I could mention would
2 be paddle fish and flathead catfish. They're very
3 difficult to get on what I call standard
4 electrofishing. You can make modifications to
5 have electrofishing be more effective and target
6 certain species, but when you make it very
7 effective for only a couple of species then it
8 becomes less effective. So all the work that EA
9 has done we're trying to get a broad spectrum of
10 fish so it's just off to the standard approach to
11 electrofishing.

12 Q. Can you name two that were difficult
13 to electrofish? I'm sorry. I might have
14 misunderstood you. I was wondering if there were
15 any other species you can think of?

16 MS. FRANZETTI: That are difficult
17 to catch through electrofishing?

18 MS. WILLIAMS: Yes.

19 BY THE WITNESS:

20 A. Well I don't want to make this too
21 complicated, but there's -- in Illinois round
22 numbers, there's 200 species of fish and they all
23 have different sensitivities to electrofishing.
24 Some of very easy to electrofish. It doesn't have

1 anything to do with avoidance. They just get
2 shocked easily. They're more sensitive to being
3 shocked. So actually things like large mouth bass
4 and walleye shock very easily. Then there are
5 species which are hard to shock. Nobody quite
6 knows why, but topminnows are very hard to shock,
7 they just are and most fish, of course, fall
8 somewhere in the middle, but they're two different
9 things going on. One is the ability of the
10 shocker to actually shock the fish. In other
11 words, to get in close enough, but even when
12 you're close you have trouble shocking gar and
13 topminnows. In this case, this is mostly an
14 avoidance. It's not that they're insensitive to
15 being shocked. It's that they get the hell out of
16 dodge before a shocker gets there.

17 BY MS. DIERS:

18 Q. I'll go back to pre-filed question
19 three. Are you involved in any groups established
20 to evaluate Asian carp in the Upper Dresden Island
21 Pool?

22 A. No. To my knowledge, all the folks
23 that have been asked to participate are members of
24 either agencies or universities. So I have not

1 been asked to participate in any of those groups.

2 Q. Question number four. On page two
3 of your pre-filed testimony, you state "Attainment
4 of the Clean Water Act's aquatic life standards
5 clearly will no longer be achievable once Asian
6 carp become established in the Upper Dresden
7 Island Pool." Is the Clean Water Act attainment
8 not possible in any waters that have been
9 populated by Asian carp?

10 A. Let me start by saying as noted in
11 my previous testimony it's my opinion that
12 regardless of whether there are or aren't Asian
13 carp, regardless of how many Asian carp might be
14 present Upper Dresden Island Pool is not going to
15 attain Clean Water Act goals because of the
16 inherent limitations in the system. Things like
17 the dams, the impounding affect from the dams,
18 sedimentation and some other issues.

19 So I don't believe whether the
20 carp are there or not, it's not going to attain,
21 but now you've added one more layer of a problem
22 in the system. Adding Asian carp to this mix only
23 serves to move Upper Dresden Island Pool even
24 further away from attainment and really to address

1 your question adequately one would need to conduct
2 a UAA type of analysis for the waterbody in
3 question. That's because every waterbody is going
4 to be different. You have to consider things like
5 what's the density of the carp, what fish
6 community you have in the waterbody in question,
7 the amount of food that would be in that area and
8 a number of other site specific questions.

9 So in order to address this,
10 you'd have to do a UAA that looked at that
11 specific site because every site is going to have
12 a different combination of characteristics.
13 Certainly, there would be some areas where
14 attainment would likely occur. There would be
15 probably many areas where it wouldn't, but you'd
16 have to look at each site individually to make
17 that determination.

18 MR. ETTINGER: Excuse me. What is
19 your understanding of the section of the Illinois
20 River that is now most overrun with Asian carp?

21 THE WITNESS: It kind of depends on
22 who you talk to. Certainly, the lower three
23 pools; LaGrange, Alton -- I'm forgetting the third
24 one. They not only have large populations, the

1 kind you saw on those videos, but it's been
2 established that they're reproducing populations
3 in those pools. The next pools up which include
4 Marseilles, which is just below Dresden, Starved
5 Rock and then there's a third one and I'm
6 forgetting, there's definitely Asian carp in
7 pretty good numbers. I mean, we're talking
8 numbers. We're not talking about from -- I think
9 from Starved Rock or Marseilles pool the DNR
10 removed as part of the netting activities that
11 we're talking about just this past year they
12 removed 100,000 pounds. That's a lot of fish in
13 my book.

14 The debate is whether or not
15 they're reproducing in those pools. A number of
16 people say they are because you're seeing a pretty
17 good size range of fish, but I don't think it's
18 actually been documented that they're reproducing,
19 but given the wide range of size of fishes in
20 those pools most likely they are reproducing in
21 those. So the lower three pools, big populations
22 in reproducing. The next three pools, pretty
23 large populations and are probably or certainly
24 possibly reproducing.

1 MR. ETTINGER: I'm sorry. I don't
2 know all my pools very well. Is the third pool
3 Peoria?

4 THE WITNESS: Peoria is one of the
5 lower pools. That's one of three lower pools.

6 MR. ETTINGER: Is that one of the
7 three pools we're talking about where the carp are
8 really all over the place?

9 THE WITNESS: Correct.

10 MR. ETTINGER: That would be the
11 third lower pool?

12 THE WITNESS: That's correct.

13 MR. ETTINGER: And above that they
14 have Marseilles and Starved Rock, Marseilles --
15 I'm in Illinois. Marseilles and Starved Rock?

16 THE WITNESS: I can't remember what
17 is below Starved Rock. I think there's a pool
18 between Peoria and Starved Rock, but without a
19 navigation chart -- we don't do much work down
20 there. So off the top of my head I can't
21 remember, but I'm pretty sure there's one in
22 between.

23 MS. TIPSORD: Mr. Diamond?

24 MR. DIAMOND: This is Tom Diamond

1 for Stepan. Mr. Seegert, in your opinion, is a
2 use attainability analysis for Upper Dresden
3 Island Pool that doesn't consider the potential
4 impact of Asian carp inadequate under the Clean
5 Water Act?

6 MS. WILLIAMS: Objection. He is
7 asking for a legal conclusion from the witness.

8 MR. DIAMOND: I'm asking for his
9 professional opinion.

10 MS. WILLIAMS: You're asking for his
11 legal opinion.

12 MR. DIAMOND: No, I'm not.

13 MS. TIPSORD: He can answer the
14 question to the best of his ability.

15 MS. FRANZETTI: Maybe he can answer
16 it in his own terms.

17 THE WITNESS: I can't address what
18 from a legal perspective is required or is called
19 for, but I would say that in order to properly
20 characterize the area and the degree to which
21 attainment can or can't be attained, you would
22 need to include Asian carp as part of that and if
23 there's obviously, you know, numbers just below
24 Dresden, there's numbers moving into Dresden, so

1 you would need to include that to do what I call a
2 proper UAA. Whether it's legal, I can't address,
3 but a proper or a comprehensive UAA I would think
4 you would need to include Asian carp as part of
5 that assessment.

6 MR. DIAMOND: Thank you.

7 MR. ETTINGER: May I ask a question
8 on that then? You testified previously in this
9 proceeding. Did you discuss the Asian carp as
10 part of your reasons and in your prior testimony
11 as to why you felt this area could not attain the
12 Clean Water Act standards?

13 THE WITNESS: I didn't at that time.

14 MR. ETTINGER: Did it just skip your
15 mind?

16 MS. FRANZETTI: Objection to the
17 form of that question.

18 THE WITNESS: The Asian carp at that
19 time hadn't moved up in the numbers that we're
20 talking about now. Also, very importantly, and I
21 think this is where you and I would probably
22 differ. It's not just the Asian carp that are the
23 problem as far as attainment. It's the measures
24 that control Asian carp, the so-called framework

1 document that came out from the Asian Carp
2 Regional Control Commission, which only came out
3 in May of this year. It lists all the strategies.
4 Those very strategies are going to prevent
5 attainment. Either the carp are going to come
6 here or you're going to kill off many of the
7 native fish trying to stop the Asian carp. You're
8 damned if you do and you're damned if you don't.

9 MR. ETTINGER: I've forgotten when
10 you testified. It was 2008, I think? Before?

11 THE WITNESS: I've forgotten also.

12 MR. ETTINGER: These hearings
13 stretch into the eons. It's hard to remember. I
14 think it was 2008. Do you believe that the Asian
15 carp had gotten significantly greater in numbers
16 in the Illinois River since 2008?

17 MS. FRANZETTI: Illinois River,
18 Mr. Ettinger, or the Des Plaines River or the
19 Upper Dresden Island Pool?

20 MR. ETTINGER: Let's say the
21 Illinois River watershed.

22 THE WITNESS: Yes. It's clear that
23 they're moving up the Illinois waterway and
24 they're coming in increasing numbers. That's why

1 you have people spending tens of millions of
2 dollars trying to prevent them.

3 MS. TIPSORD: Mr. Fort?

4 MR. FORT: Jeff Fort on behalf of
5 Citgo. Following up on your point here of the
6 spread or the increased numbers of Asian carp at
7 least in the three lower pools within the Illinois
8 River system, is it just that they are increasing
9 or is it that they are also supplanting the native
10 species?

11 THE WITNESS: In the lower pools, I
12 don't know if they're actually increasing. They
13 may have reached their population threshold there.
14 Once you get to have a bazillion -- I don't know
15 if there's now a bazillion. There's a lot of
16 them. In that part of the river, it has been
17 documented and this was a question I was asked as
18 a previous witness, had there been adverse impacts
19 documented to the native fishes and the answer is,
20 yes, the Illinois Natural History Survey looked at
21 two fishes that are in direct competition with
22 Asian carp, namely gizzard shad, which is one of
23 the RAS species that's been identified for Upper
24 Dresden Island Pool and big mouth buffalo, which

1 is there, but not a RAS species and both of those
2 native fishes were adversely affected as a result
3 -- as a direct result of the presence of very
4 large numbers of Asian carp.

5 MR. FORT: Thank you.

6 MR. ETTINGER: That was the Irons'
7 paper that is cited in your testimony?

8 THE WITNESS: Yes. 2007 reduced
9 condition factor of two native --

10 MR. ETTINGER: Right. Are you aware
11 of any other studies of the effects of Asian carp
12 on the Illinois River on other fish in the
13 Illinois River other than the Irons' study which
14 you cite in your paper?

15 THE WITNESS: People have been
16 looking for effects on paddle fish because that's
17 another filter feeder. So it's in direct
18 competition with Asian carp. I don't believe
19 those studies have been restricted to the Illinois
20 River. It's just paddle fish in general.

21 MR. ETTINGER: Good point. Let me
22 broaden my question. Are you aware of any other
23 studies of the affect of Asian carp on native
24 species in North America?

1 THE WITNESS: I can't identify a
2 specific paper, but, you know, everything that
3 I've been reading in the literature indicates that
4 that's one of the expected results of Asian carp
5 being present. One of the things you have to
6 understand in science -- there's also a certain
7 amount of lag time. So it's going to take a while
8 for these effects to be seen, but that doesn't
9 mean that they're not occurring.

10 MR. ETTINGER: Over time sometimes
11 native species recover after an invasive species
12 comes in, is that not true?

13 MR. DIAMOND: Objection. Are you
14 asking Asian carp specifically or native species
15 and invasive species without regard to Asian carp?

16 MR. ETTINGER: It was the latter.

17 THE WITNESS: I'm sorry. Could you
18 repeat that please? I got lost.

19 MS. FRANZETTI: So which one is it?

20 MR. ETTINGER: In general, are you
21 aware of circumstances in which native species
22 have recovered subsequent to the takeover of
23 invasive species of a waterbody?

24 THE WITNESS: The situations I'm

1 familiar with there's some degree of recovery, but
2 in the vast majority of the situations I can think
3 of what happens is that the native fish initially
4 get knocked for a loop. There is some level of
5 recovery, but they don't come back to the level
6 that they had before. So they established a new
7 kind of dynamic equilibrium, but before their
8 population was up here. It dips down.
9 Eventually, things kind of settle out, but they
10 are reduced overall both in terms of things
11 like -- at the individual level, now there's like
12 their condition, the number of eggs they've
13 produced, but also at a community level. The carp
14 are occupying a niche. They're taking niche space
15 away from the native fishes.

16 MR. ETTINGER: Go on.

17 MS. TIPSORD: Ms. Williams -- I'm
18 sorry. Ms. Diers?

19 BY MS. DIERS:

20 Q. I'm asking a follow-up. We talked
21 about the three pools in the Illinois River.
22 There's LaGrange -- I'm sorry. I forgot the other
23 two.

24 A. Alton and Peoria.

1 Q. Do you know are they prepared for
2 aquatic life?

3 A. I don't know.

4 Q. I'm going to go back to pre-filed
5 question number five. What is meant by
6 established population and I have page two of the
7 pre-filed testimony.

8 A. Well, in this case, I mean, a high
9 density of carp and I can further clarify by
10 saying high enough where they're going to be in
11 direct competition with other fishes. So, in
12 other words, food is at a premium because of the
13 high numbers of carp, the high density of carp.
14 So basically, the various species are competing
15 against one another and, unfortunately, Asian carp
16 are much better able to compete than a number of
17 other native fish species are.

18 MR. ETTINGER: You say a number.
19 We're talking buffalo and gizzard shad. Is there
20 another one?

21 THE WITNESS: Those are the only
22 ones that have been studied, but you have to look
23 at things in -- I guess a reasonable context.
24 There's a limited amount of food in any aquatic

1 environment and we know that -- the fish that have
2 been studied to date are fish that as adults adopt
3 a similar feeding strategy as Asian carp. In
4 other words, they're filter feeders. They go
5 through and if there's particles in the water,
6 those particles being phytoplankton and
7 zooplankton, they gobble them up.

8 So the first group of fish you'd
9 expect to be affected are those that are in most
10 direct competition, but almost all fishes, and
11 I'll say probably 90 percent, in their early life
12 stage either as larvae or early juvenile rely on
13 phytoplankton and zooplankton. So they're going
14 to have an affect at that level and if you've got
15 this many carp, the number of carp you saw in
16 those videos, it's not hard to imagine why those
17 species wouldn't be affected. I guess the way I
18 look at it is how could they not be affected?

19 MR. ETTINGER: Let me ask you. Do
20 bass rely on phytoplankton and zooplankton on
21 early life stages?

22 THE WITNESS: Yes.

23 MR. ETTINGER: So you'd expect the
24 bass to be pretty much decimated by the carp, too?

1 THE WITNESS: I didn't say
2 decimated.

3 MR. ETTINGER: Weakened?

4 THE WITNESS: I think over time
5 those species would be adversely affected.
6 There'd be less reproduction going on. Again, you
7 have to look at it -- also, when Asian carp first
8 come in, there's a certain amount of -- okay.
9 Think of this. There's a giant refrigerator out
10 there and initially everyone can go to the
11 refrigerator and get a snack and they can all live
12 together and be happy, but at some point the
13 refrigerator is empty. So now they have to
14 compete against one another. So in a lot of these
15 cases that competition is going to take time to
16 eventually get down to where fish eat fish.
17 They're going to be in direct contact with one
18 another and so all these are native fishes. Some
19 are as adults in competition, but there are many
20 others that like bass and blue gills and even
21 walleye that as young that's what they're feeding
22 on is phytoplankton and using more zooplankton,
23 but a lot of them use phytoplankton and then as
24 the Asian carp eat the zooplankton then that makes

1 them unavailable for these other fish species.

2 MR. ETTINGER: Are you aware of any
3 data regarding the number of bass or walleye in
4 the lower three pools of the Illinois River?

5 THE WITNESS: There are data. I
6 don't know that anyone has looked specifically
7 at -- I don't know if anyone specifically tried to
8 analyze those data.

9 MR. ETTINGER: What data are you
10 aware of?

11 THE WITNESS: The Illinois Natural
12 History Survey sent us annual reports for the
13 period 1985 through, I believe, it was either 2008
14 or 2009 and they also sent us data summaries that
15 went back about another 20 years, sometime in the
16 early or mid '60s. So they've been doing annual
17 surveys on the lower river for 40 or 50 years. So
18 it's mainly the data from the Illinois Natural
19 History Survey that I know is available. There's
20 probably also data from the Illinois DNR, but I'm
21 not as familiar with that.

22 MS. WILLIAMS: Can I ask a quick
23 follow-up? Your refrigerator analysis made me
24 think of a question I had this morning.

1 MS. FRANZETTI: I'm sorry. I don't
2 object to a lot of things, but the one place I
3 draw the line is tag teaming and I believe
4 that's --

5 MS. TIPSORD: She did ask permission
6 and I did nod yes in this one case.

7 MS. FRANZETTI: One question?

8 MS. TIPSORD: Yes.

9 MS. WILLIAMS: It's a tie-in to
10 Ms. Garibay's, her testimony this morning. Just
11 using your refrigerator analogy a little bit.
12 What I got out of this morning is that we wouldn't
13 want to do anything to keep restocking the
14 refrigerator, because if you put more food in the
15 refrigerator that's going to encourage the Asian
16 carp and bring them up, do you agree with that?
17 Does that make sense to you that limiting the food
18 in the refrigerator will help to control Asian
19 carp?

20 MR. FORT: I object. That was not
21 her testimony. That's maybe what you heard, but
22 that was not her testimony.

23 MS. WILLIAMS: I would just like his
24 opinion.

1 MS. FRANZETTI: I don't know that
2 Mr. Seegert has studied her testimony. Can you
3 maybe just without referencing Ms. Garibay's
4 testimony, Ms. Williams -- what is your question
5 for him? Is it really just that does he agree
6 with her or not? It sounded like at the end that
7 you had a different question, not just
8 characterizing --

9 MS. WILLIAMS: Would limiting the
10 food source be as effective at limiting the
11 progress of Asian carp?

12 MR. FORT: That was not her
13 testimony. I object.

14 MS. FRANZETTI: She's removing the
15 connection that you have a problem with and
16 Mr. Seegert may have a problem with. So is one
17 way to deter Asian carp to reduce the food source
18 or would that be the barrier or --

19 MS. WILLIAMS: Or the flip side is
20 does having more food encourage them? Whichever
21 way he wants to address that question. I don't
22 care. I just want to understand his biological
23 opinion on this point. I'm not trying to trick
24 him.

1 THE WITNESS: I think in general the
2 more food that's up there, the more they will like
3 it. The general upward movement of these fish,
4 though, I don't think is driven by food
5 availability. That based on everything that I've
6 read Asian carp are a lot like a lot of North
7 American fishes, which is in the spring they go
8 upstream to spawn. So their natural tendency is
9 going to be to head up river. Where this kind of
10 gets -- what you're asking, when they get to the
11 next pool up and they see a nice big refrigerator
12 with a bunch of beer in it, they're going to say
13 "Hey, this is great. I'm going to hang around
14 here," but if they find that the fridge has pretty
15 well been raided, they're going to keep right on
16 going.

17 So it has to do with how long
18 and how good a home this is going to be for Asian
19 carp and we don't want to do anything that's going
20 to encourage them to hang around, but I do think
21 they'll keep challenging these barriers whether
22 there's a lot of food or a little food just
23 because from an evolutionary standpoint that's
24 what they do. In the spring, they say "I'm going

1 upstream."

2 MS. WILLIAMS: Thank you.

3 BY MS. DIERS:

4 Q. Since we've been talking about
5 establishing population --

6 MR. FORT: May I?

7 MS. TIPSORD: Go ahead, Mr. Fort.

8 MR. FORT: In that sense, you would
9 tend to agree with Ms. Garibay's logic of not
10 making a nicer living room in the upstream pools
11 that would provide a reason for these fish to hang
12 around?

13 THE WITNESS: Right. We don't know
14 a lot about what's been going on in the system and
15 keeping them from maybe moving any more rapidly,
16 but I guess, you know, I think we should be
17 cautious. Why do things that might make it
18 better. Will it make it better? I can't say with
19 assurance, but more food, certain changes of
20 habitat, they might make it better. Why do
21 something that might encourage them, might make it
22 better for their living?

23 MR. ETTINGER: What kind of factors
24 encourage the growth of zooplankton or

1 phytoplankton or algae plankton?

2 THE WITNESS: I'm hesitating only
3 because you're asking like Ecology 101.

4 MR. ETTINGER: I'm very stupid.
5 I'll take the 101 class.

6 THE WITNESS: Okay. Most
7 phytoplankton -- first of all, you need the raw
8 material. That's the nutrients. If you have no
9 nutrients, you're not going to get much, but
10 besides that most phytoplankton and zooplankton
11 are more adapted to -- the scientific term would
12 be lake like conditions. So that's why in the
13 Lower Illinois River and elsewhere the carp are in
14 the backwaters. They're in the backwaters because
15 that's where the food is. So on these backwaters
16 where it's shallow, it's generally shallow, you
17 get the sun, you get -- everything gets cooking
18 and you've got the nutrients, the phytoplankton
19 grow, the zooplankton eat the phytoplankton and
20 then the fish, not just the Asian carp, eat the
21 zooplankton and because these phytoplankton have
22 little or no swimming ability, most have no
23 swimming ability whatsoever, they just kind of
24 drift around with the currents.

1 Zooplankton have limited
2 swimming ability. They can't be out where the
3 currents are like three to five feet per second.
4 They just get swept away. So, again, where they
5 can do best is in the we'll call them off channel
6 areas and then they increase and, again, you have
7 to have the basic raw materials, the nutrients.

8 MR. ETTINGER: Are there any other
9 factors that lead to more or less zooplankton?
10 You've identified still water and sun light?

11 THE WITNESS: Nutrients. Well, the
12 other factors would be competition and this would
13 be either zooplankton and a lot of them are
14 grazers. So it depends on what your zooplankton
15 community is like because they're going to graze
16 on the phytoplankton and that also depends on the
17 fish community, what kinds of fishes are present
18 and what -- they're abundant. So if you have a
19 lot of predators, not just Asian carp, but just in
20 a natural situation other predators they're going
21 to what we call crop off the zooplankton and
22 they're going to keep the zooplankton and the
23 phytoplankton numbers down because there's a high
24 number of predators. So perdition would be

1 another major factor affecting populations of
2 those.

3 MR. GIRARD: Could I ask a question
4 sort along these lines, maybe an offshoot?
5 Mr. Seegert, would your testimony here change if
6 some subsequent studies show that, for instance,
7 large mouth bass preferred to eat juvenile Asian
8 carp instead of gizzard shad, so over time we had
9 larger large mouth bass populations in these
10 waterways?

11 THE WITNESS: No. Two reasons for
12 that. First of all, for the same reason that
13 gizzard shad aren't a very good prey fish so
14 gizzard shad very rapidly go from this size where
15 they are good prey to by the end of their first
16 growing season a gizzard shad might be as big as
17 eight inches long. So unless you're a really
18 honking big bass you can't eat gizzard shad after
19 the first year and these Asian carp, if anything,
20 grow even faster. So, yes, for a very short
21 window of time Asian carp are a good food source
22 for any of our native predators, but they very
23 quickly get to be this big, this big, and on and
24 pretty soon they're completely outside the range

1 and then when they're that size they're going to
2 be in direct competition.

3 The other reason I say that is I
4 look at things more from an overall community or
5 ecological perspective. I fish. I love to fish.
6 I like to catch bass. I like to catch wali's, but
7 those what we call sport fish are only a few
8 species out of our entire range of species in
9 Illinois, which in round numbers is about 200
10 species of fish, and I'm concerned about all those
11 other guys, the minnows, the darters, the red
12 horse, you know, they're not going to be able to
13 take advantage of this food supply. So for most
14 fishes, they'd be no benefit whatsoever, but, yes,
15 for bass or walleye for a brief period of time
16 they would be able to eat small Asian carp.

17 MR. GIRARD: Okay.

18 BY MS. DIERS:

19 Q. I asked you earlier before some of
20 my other questions came in about established
21 populations. I'm going to jump to question nine
22 and just ask, in your opinion, when will we have
23 an established population of Asian carp in the
24 Upper Dresden Island Pool?

1 A. Okay. Well, as I said, there is a
2 population in Dresden Pool right now. This past
3 year the DNR netted roughly 100 Asian carp. I
4 don't think that's at a level which is, you know,
5 when I was calling high numbers or established
6 those were not the numbers I was talking about,
7 but on the other hand Mr. Chapman in the federal
8 proceedings testified to -- and I'll quote so I
9 don't mess this up. He said, quote, once
10 accessible Asian -- Asian carp into a reservoir is
11 thought to have been the result of the escape of
12 only about 50 fish and then he goes onto note,
13 quote, invading ordinances often go through a
14 population lag of several generations when they
15 invade a new environment after which the
16 populations sometimes increase dramatically and as
17 part of that he went onto say this is what is
18 going on in the Illinois River.

19 They'd be there for a while, not
20 big numbers, all of a sudden they'd explode and go
21 crazy. But to try to address your question
22 directly, I haven't seen anything anywhere that
23 says this is the density they need to achieve.
24 That hasn't been established anywhere so far as

1 far as I know and also the time part of this
2 question is going to strongly depend on how
3 aggressive the agencies are in trying to control
4 Asian carp because we no longer have just a
5 natural experiment going on. We've had
6 intervention by the agencies and properly so. So
7 they're netting, they're rotenoning, they're
8 planning to put up this ABS -- the turn system.

9 So it's going to depend on how
10 aggressive the agencies are in trying to keep carp
11 under control and it's also going to depend how
12 long the funds are available for that. They may
13 want to do it, but let's face it, the state of
14 Illinois has no money. They're not going to be
15 able to pay for it so it has to come from some
16 other source and I don't know how long that's
17 going to continue. So, for all those reasons, I
18 don't know how long it's going to take.

19 MR. ETTINGER: You brought it up.
20 Do you know how much rotenoning costs?

21 THE WITNESS: I believe for the
22 rotenone effort that was done in Lower Lockport
23 Pool where they rotenoned a section that was 5.5
24 miles long I think this was in the order of

1 \$500,000 and I don't believe that took into
2 account people's time. A lot of the agencies
3 contributed their people on their own. Now, of
4 course, those people still have to get paid, but
5 that didn't get directly factored in and that was
6 just for one effort in a 5.5 mile section.

7 MR. ETTINGER: Does that count the
8 amount of money lost by shipping interests and
9 things for the period in which they couldn't go
10 through?

11 THE WITNESS: I don't know that.

12 MR. ETTINGER: Thanks.

13 MS. FRANZETTI: Madam Hearing
14 Officer, Mr. Seegert has now made reference to the
15 testimony of Duane Chapman and that was in the
16 declaration of Duane Chapman filed again in the
17 United States District Court Northern District of
18 Illinois in the state of Michigan, et al, versus
19 United States Army Corps of Engineers, which we've
20 all been, I think, referring to it as the federal
21 district court litigation. I'd like to, since he
22 read from it, introduce that as well as an exhibit
23 into the record.

24 MS. TIPSORD: Thank you very much.

1 MS. FRANZETTI: Anyone need copies?

2 MS. TIPSORD: If there's no
3 objection, we will admit the declaration of Duane
4 C. Chapman -- we'll admit this as Exhibit 430.
5 Seeing no objection, it's Exhibit 430.

6 (Document marked as IPCB Exhibit
7 No. 430 for identification.)

8 BY MS. DIERS:

9 Q. Jumping back to question six. What
10 field data did you review referenced on page three
11 of your pre-filed testimony?

12 A. It was that information that I was
13 alluding to in my response to Mr. Ettinger, the
14 information from the Illinois history survey.

15 MS. FRANZETTI: Can you be more
16 specific?

17 THE WITNESS: The dates were -- the
18 full annual report was 1985 to 2008. I might have
19 said, perhaps, 2009. It was 2008. And then they
20 sent us summary information going back to 1962. I
21 didn't bring that because even the few reports I
22 printed out were about an inch thick. So 20 years
23 worth we're talking 20 inches of reports.

24

1 BY MS. DIERS:

2 Q. Question seven. In your opinion,
3 does sediment have any impact on the Asian carp in
4 the CAWS or Lower Des Plaines River?

5 MS. FRANZETTI: Counsel, could you
6 explain what you mean by the phrase, does sediment
7 have any impact? We're not sure what you mean on
8 Asian carp. Can you explain a little bit further
9 or clarify what it is you're asking in that
10 question?

11 BY MS. DIERS:

12 Q. I think what we were trying to do --
13 it's been a while since I looked at these
14 questions. I apologize. We talked about sediment
15 being an impact -- a negative impact on other
16 aquatic life in the waterbody. I think there was
17 testimony about that. So that is my question.
18 Does it impact the Asian carp like we've talked
19 about with other fishes you've seen in this water
20 area?

21 A. Probably. Not a lot is known about
22 the actual early developmental stages of the Asian
23 carp, but probably if there was a lot of
24 sedimentation that would be adverse to Asian carp

1 and, like you say, just like it is to other
2 species. So Asian carp would not be unique in
3 this respect.

4 Q. I'm going to strike question eight.
5 We already did nine. So I'm going to go to ten.
6 Why is the tailwater area below the Brandon Pool a
7 suitable habitat for spawning carp and are there
8 other areas in the Lower Des Plaines River that
9 would be suitable?

10 A. It's a suitable spawning habitat
11 because it has fairly high current velocity and
12 relatively turbulent flow. I use those qualifiers
13 because we're not talking about a montane stream
14 where there's a tremendous current, but at least
15 for this system that's about the highest gradient
16 that we have and based on everything in the
17 literature that's what Asian carp like. They like
18 turbulent, kind of mixed up water with a certain
19 amount of currents and that's what you have.

20 I should point out, though, that
21 even though the area appears to be suitable for
22 spawning that doesn't mean the spawning is going
23 to be successful. I think they're going to
24 attempt to spawn in that area, whether it's

1 successful is another question. And the last
2 answer -- the last part of your question, I'm not
3 aware of any other areas anywhere in Dresden Pool
4 that has that kind of habitat.

5 Q. We already did 11. I'm going to
6 strike question 12. Question 13, I'm going to go
7 to 14. Why will artificial and natural barriers
8 not keep the Asian carp from entering the Upper
9 Dresden Island Pool? And this is referenced to
10 page nine of the pre-filed testimony.

11 A. First of all, there are no natural
12 barriers. A natural barrier would be a waterfall
13 or a cascade that was too steep for fish to ascend
14 and we don't have anything like that in the
15 Illinois waterway as far as artificial barriers.
16 The only barrier keeping them out of Dresden Pool
17 is the Dresden Lock and the Corps did a fairly
18 extensive analysis where they convened a panel of,
19 I believe, it was ten experts to look at different
20 ways in which the locks could be operated. You'd
21 only have them open a few days and then you'd keep
22 them closed, different other scenarios for
23 operating the lock and the expert panel as far as
24 I can recall unanimously concluded that there was

1 no way. That there's no way to have a lock and
2 actually operate in a way which is going to
3 significantly reduce the chance of these fish
4 getting through. So you have an artificial
5 barrier, but there's no way you can operate the
6 lock and have it be an operating lock and keep
7 carp from moving through.

8 Q. I'm going --

9 MR. ETTINGER: Going back to the
10 habitat question. I just wanted to clarify
11 something. Are you saying the only good place for
12 them to breed in the pool is the Brandon Road
13 tailwaters?

14 THE WITNESS: The only good place
15 for them to spawn.

16 MR. ETTINGER: Spawn?

17 THE WITNESS: Spawn.

18 MR. ETTINGER: On page four of your
19 testimony, you talk about the Dresden Pool has an
20 abundance of such habitat. Is that for adult
21 fish?

22 THE WITNESS: Yes. That's talking
23 about the backwaters. So that's where they can go
24 and be happy in the backwaters.

1 MR. ETTINGER: But they couldn't
2 spawn there?

3 THE WITNESS: No.

4 MR. ETTINGER: The Brandon Road Lock
5 and Dam tailwater is the only place, in your view,
6 they can spawn?

7 THE WITNESS: Yes, that's correct.

8 MR. ETTINGER: Thank you.

9 BY MS. DIERS:

10 Q. I'm going to strike question 15 and
11 go to 16. If temperature in Upper Dresden Island
12 Pool were reduced and nutrient levels in Upper
13 Dresden Island Pool were reduced, would there be
14 less plankton growth? And this is page nine of
15 the pre-filed testimony.

16 A. The affect of both of those -- of
17 those parameters I'll call them is complex. First
18 of all, you'd have to specify what the magnitude
19 of the temperature change is. If the testimony is
20 currently 20 Centigrade and it goes to 20.5
21 Centigrade, it's not going to have any affect at
22 all. So you'd have to have a fairly large change
23 to expect anything to happen.

24 MR. ETTINGER: What do you expect?

1 Give me an example of the change you would expect
2 to have happen. 20 to 25?

3 MS. FRANZETTI: What do you mean
4 when you say "you would expect to have happen"?

5 MR. ETTINGER: I believe Mr. Seegert
6 just testified that a small change from 20 to 20.1
7 or something you wouldn't expect any change. I'm
8 just trying to get an order of magnitude when you
9 would expect a change.

10 MS. FRANZETTI: Approximately how
11 many degrees?

12 MR. ETTINGER: Yes. Is it bigger
13 than a bread box, smaller than a locomotive?

14 THE WITNESS: That's a fair
15 question. I would say you probably would need to
16 see something on the order of about five degrees C
17 plus or minus for things to change and I'll call
18 it measurably because one of the problems we're
19 dealing with phyto and zooplankton. Their
20 population dynamics are so variable that it's
21 hard. They change all the time on their own. So
22 to actually see a measurable change, I would say
23 it would probably be on the order of five degrees.
24 So to try to address the question that was asked.

1 It's then -- it's not necessarily going to change
2 it in one -- in only one trajectory and that's
3 because some phytoplankton and zooplankton prefer
4 cool water, some prefer warm water. So if you
5 increase the temperature, the critters that like
6 the warm water are going to increase, but the ones
7 who like the cool water are going to decrease and
8 then conversely if you cool the temperature from
9 what it is then the ones that like the cool water
10 they'd probably increase and the other ones would
11 decrease.

12 So what is it going to do for
13 the community as a whole? You have to do a study.
14 You'd have to look carefully at the phyto and
15 zooplankton communities, get an idea of what the
16 composition is and then go through kind of critter
17 by critter and say is this one going to increase
18 or is this one going to decrease? So you really
19 don't know how it's going to change because,
20 again, it doesn't all go in the same trajectory.

21 MR. ETTINGER: The zooplankton
22 basically eats the phytoplankton, right?

23 THE WITNESS: Primarily, yes, and
24 each other.

1 MR. ETTINGER: And what does the
2 phytoplankton eat?

3 THE WITNESS: The phytoplankton, the
4 sun. They're primary producers. Photosynthesis.
5 Remember this, Mr. Ettinger, when you were in --

6 MR. ETTINGER: I'm a lawyer. I
7 don't know anything.

8 THE WITNESS: I was going to say,
9 didn't you ever take a science class?

10 MS. TIPSORD: We lawyers try to
11 avoid those.

12 MR. ETTINGER: The lawyers that can
13 do science become patent lawyers.

14 THE WITNESS: You need sunlight so
15 turbidity comes into play because you can have --
16 that gets into the next point about nutrients. So
17 what are nutrients going to do? It's kind of the
18 same thing. Some critters need certain amounts,
19 others don't. And even if you change the amount
20 of nutrients it's going to depend on other factors
21 like shading would be one. So in a highly turbid
22 system, phytoplankton don't grow very well because
23 they're shaded so the sunlight doesn't penetrate.

24 Also, it depends on where the

1 population -- where the nutrient level currently
2 is. If nutrients aren't limited, we have a lot of
3 them. We're going back to the refrigerator
4 analysis. We have a refrigerator. Your
5 friends -- you're watching the football game.
6 They come out and take a six pack out of the
7 refrigerator. You have it loaded with beer. It
8 doesn't have any effect. It's not until you get
9 down and there's only a couple beers in there that
10 now these guys are going to be competing and I
11 don't know where they stand right now in terms of
12 the refrigerator out there. So in terms of the
13 nutrients, it's going to depend on is it at a
14 point where nutrients are actually limiting and
15 then if you reduce it you would expect to see
16 differences, but if you just got ten times the
17 amount of nutrients you currently need and you
18 reduce it by 50 percent they're still not going to
19 be limiting. You're not going to see any affect
20 whatsoever.

21 MR. ETTINGER: What do you think --
22 do you think the lower three pools in the Illinois
23 River may well have maxed out, right?

24 THE WITNESS: That's possible.

1 MS. FRANZETTI: On the number of
2 Asian carp?

3 MR. ETTINGER: On the number of
4 Asian carp.

5 MS. FRANZETTI: Not on the amount of
6 phytoplankton?

7 MR. ETTINGER: I'm just saying you
8 think we might have maxed out on Asian carp?

9 THE WITNESS: I think that's
10 certainly possible.

11 MR. ETTINGER: What do you think
12 might be limited there?

13 THE WITNESS: The food supply.
14 They've exhausted the refrigerator.

15 MR. ETTINGER: They've exhausted the
16 refrigerator. So we'd expect fewer Asian carp
17 below the three lower pools, I guess, in the
18 Mississippi because they have a different
19 refrigerator?

20 THE WITNESS: They have a different
21 refrigerator, a bigger refrigerator.

22 BY MS. DIERS:

23 Q. So do the phytoplankton grow -- do
24 they like the warmer water better or cooler water?

1 A. It depends on the phytoplankton.
2 It's just like fish. We have warm water fish. We
3 have cold water fish. Some like warm water. Some
4 like cold water and then to make it difficult we
5 also have a classification of cool water fish.
6 Phytoplankton are no different.

7 Q. Question 17. On page ten of your
8 pre-filed testimony, you state EA field crews have
9 seen reduced fish abundance and diversity in the
10 section of the Lockport Pool that was rotenoned.
11 When did EA go out after the rotenoning took
12 place?

13 A. All that sampling was in this year,
14 2010, and we sampled eight times from May through
15 September and we sampled I believe it was 21
16 locations during each one of those eight efforts.
17 That includes Lower Lockport, Brandon and Dresden
18 Pool. I just meant that our total sampling effort
19 was 21 locations. We have four locations. To be
20 clear, we have four sampling locations in Lower
21 Lockport Pool.

22 Q. I'm going to strike 18.

23 MR. ETTINGER: Can I ask a question?
24 Were you in a position to know whether you saw any

1 effects of rotenone below the Lockport Pool?

2 THE WITNESS: No one brought to my
3 attention that there was a noticeable affect and,
4 again, you do -- it has to be large enough to be
5 noticeable. We have not had a chance to
6 quantitatively analyze our 2010 data. So these
7 are based on the observations of our crew and they
8 observed it in Lockport, they didn't observe it in
9 Brandon.

10 MS. TIPSORD: Mr. Fort?

11 MR. FORT: So just to follow-up. In
12 these four locations that you sampled from May
13 through September of this year, you saw a
14 difference due to the rotenone, which occurred,
15 what, in November?

16 THE WITNESS: December.

17 MR. FORT: December of '09?

18 THE WITNESS: That's correct.

19 MR. FORT: So that's five to ten
20 months later?

21 THE WITNESS: Yes.

22 MS. FRANZETTI: Thank you.

23 BY MS. DIERS:

24 Q. I'm going to strike question 18, 19,

1 20 and 21. Question 22. On page ten of your
2 pre-filed testimony, you state "I agree with
3 ARCC's determination that Asian carp will cause
4 considerable ecological damage in the Upper
5 Dresden Island Pool." Can you just state where
6 that information can be found in the ARCC's
7 determination where they made such statements?

8 A. Well, at numerous places in the
9 framework, severe, adverse biological effects due
10 to the presence of Asian carp are discussed and I
11 did cite a couple of those in my pre-filed
12 testimony and I could cite other passages. For
13 example, on page five of the framework that they
14 note that in the Mississippi River basin, and this
15 has been a direct quote, many commercial fishing
16 locations have been abandoned as native fishes --
17 I'm sorry. As native fish have largely been
18 replaced by Asian carp, closed quote. And then
19 Mr. Chapman in the affidavit that I believe
20 Ms. Franzetti just recently introduced, he said,
21 quote, if Asian carp reach high densities we would
22 expect undesirable consequences, closed quote.
23 And he continues, quote, important species are
24 likely to be marginalized and fish communities

1 could change dramatically if big head and silver
2 carp reach high densities as on page 16 paragraph
3 37 of his affidavit.

4 So my point was and is that
5 wherever Asian carp have reached high densities
6 ecological destruction follows and I did not mean
7 to imply that the ARCC specifically made these
8 statements in regard to Upper Dresden Island Pool.
9 However, given the fact that this pattern has
10 occurred everywhere else I see no reason to
11 believe it wouldn't also occur in Upper Dresden
12 Island Pool.

13 MS. TIPSORD: Just a couple of
14 points for clarification for the record. The
15 question asks about ARCC. I'm assuming you
16 actually mean ACRCC.

17 THE WITNESS: Yes.

18 MS. TIPSORD: And that's the Asian
19 Carp Regional Control Committee?

20 THE WITNESS: Thank you.

21 MS. DIERS: We have no further
22 questions. Thank you.

23 MS. TIPSORD: Let's go ahead with
24 ELPC.

1 BY MR. ETTINGER:

2 Q. Okay. On page three of your
3 testimony you refer to excellent habitat for
4 silver and big head carp in the Dresden Pool.
5 Where is this habitat?

6 A. I was referring to the various off
7 channel and backwater areas that provide the --
8 actually the feeding habitat for big head and
9 silver carp and in Upper Dresden Pool the main
10 area that fits that description would be the area
11 behind Treats Island. There's even more areas
12 like this in the lower portion of Dresden Pool.
13 There's a portion below I-55.

14 Q. Are Asian carp the only fish that
15 like that kind of habitat?

16 A. No. The fish -- we're talking about
17 phytoplankton and zooplankton that like lentic
18 habitat so there are fish that like lentic
19 habitat. So for that group of fish they would
20 like -- that would be good habitat for them. For
21 others, it would be terrible habitat.

22 MS. FRANZETTI: If I may, what
23 Mr. Ettinger seems to be getting at is you
24 previously testified in this proceeding that you

1 don't think there's a lot of quality habitat in
2 the Upper Dresden Island Pool. Aren't you now
3 contradicting yourself?

4 MR. ETTINGER: That's an awful nasty
5 question.

6 MS. FRANZETTI: I can be nasty to
7 Mr. Seegert. He's my witness.

8 THE WITNESS: What I testified to
9 was you didn't have the proper range of habitat.
10 Again, for those fish that like backwater off
11 channel areas that would be things like bass and
12 blue gills, they can do very well in that habitat,
13 but what the agency wants is to have a fish
14 community that's consistent with what you would
15 expect for a riverine habitat. It's called the
16 Des Plaines River. It's not called the Des
17 Plaines backwater. It's called the Des Plaines
18 River and it's those riverine habitats that are
19 limiting. So any of the fishes that are -- we
20 have a fancy scientific term. It's called
21 rephilic. Species that are rephilic taxa, they
22 don't live in that habitat. They can't live in
23 that habitat. And it also turns out that most of
24 the fish that live in these backwaters are habitat

1 generalists. They can pretty much live anywhere,
2 but what makes a fish community diverse, what
3 allows it to meet the full range of expectations
4 are the things that are habitat specialist and the
5 things that are habitat specialist requires the
6 things that I talked about during my last set of
7 hearings, which is high gradient, fast water, hard
8 substrates. Things that are -- another term would
9 be obligate ripple dwellers. They need a ripple
10 in order to live and survive. So the backwaters
11 are great for some things, but terrible for quite
12 a few other fishes.

13 Q. I guess you know what the Agency
14 wants better than I do. There are backwaters in
15 the lower Illinois River, too. Are those not
16 areas that we are trying to protect with our
17 existing standards in the Lower Illinois River?

18 MS. FRANZETTI: Objection to the
19 form of the question and the relevancy. I'm
20 having trouble. You're making a distinction.

21 BY MR. ETTINGER:

22 Q. As to parts of the waterbody as to
23 as to what is being protected by the standard.
24 Are you suggesting, for example, that the proposed

1 standard only applies to the rapidly moving water
2 in the Upper Des Plaines? I'm having some
3 trouble --

4 MS. FRANZETTI: It mischaracterizes
5 his testimony, Mr. Etinger. Could you -- do you
6 want to try -- do you understand the question?

7 THE WITNESS: The definition that
8 the Agency has for the Upper Dresden Island use
9 classification for aquatic life use, is it will
10 contain a mix of tolerant -- moderately tolerant
11 and intolerant fishes. That means a broad
12 spectrum of fishes have to be present and I'm
13 saying that in order to have a broad spectrum of
14 fishes present, you have to have a broad spectrum
15 of habitats available and those habitats are not
16 available. That spectrum of habitats aren't
17 available and, therefore, you're not going to get
18 the kind of fish community -- they're saying
19 that's what should be there. That's what this
20 area can attain and I'm saying, no, it can't
21 because it doesn't have the right habitat.

22 MS. FRANZETTI: And just for clarity
23 of the record, Mr. Seegert, when you say "they're
24 saying" in there, are you referring to in the

1 Agency's proposed use designation language for the
2 Upper Dresden Island Pool as filed in their
3 petition for this proceeding?

4 THE WITNESS: Yes.

5 BY MR. ETTINGER:

6 Q. We've gone over all of that before
7 and we don't go over it again. My understanding,
8 though, is they're excellent habitat for some
9 types of fish in this system. There's not, in
10 your view, excellent habitat within the Upper Des
11 Plaines River for certain other things?

12 MS. FRANZETTI: I'm going to object
13 oversimplification of his testimony,
14 Mr. Ettinger. He answered your previous question.

15 MR. ETTINGER: And I got my
16 characterization and we'll go forward from there.

17 BY MR. ETTINGER:

18 Q. My next question is, has rotenone
19 yet been put in any area of the Lower Des Plaines
20 to control evasive species?

21 A. Not yet.

22 Q. Are you aware of any plans for
23 regular rotenone use in the lower Des Plaines?

24 A. Yes. We heard earlier testimony

1 about the planned installation of the ABS system
2 the acoustic bubbler -- what was it?

3 MS. FRANZETTI: We've been calling
4 it the ABS system.

5 BY THE WITNESS:

6 A. The ABS system. And those plans
7 specifically including trying to get to divert the
8 fish from going through the lock and going into
9 the tailwater area where the preferred method and
10 it's not just they want to divert them, they want
11 to divert and kill. They want to herd, cull and
12 kill and that would be by rotenoning. So that's
13 the Agency's planned strategy for Upper Dresden
14 Island Pool. They also in the framework --

15 MS. WILLIAMS: Excuse me. You said
16 the agency. I want to please be careful about
17 what agency you're speaking about.

18 THE WITNESS: The Asian Carp
19 Regional Control Commission.

20 MS. FRANZETTI: Not the Illinois
21 EPA, correct?

22 THE WITNESS: Correct.

23 MS. FRANZETTI: That's the
24 clarification she wants.

1 BY MR. ETTINGER:

2 Q. If that plan should fall through or
3 not be funded, are you aware of any other plans
4 for rotenoning in that system?

5 A. Yes. According to the framework and
6 the Executive Summary, they say that one of their
7 long-term actions will consist of and I'm quoting
8 directly, additional possible rotenone
9 applications where testing suggests Asian carp are
10 present, closed quote. So if Asian carp numbers
11 increase substantially in Upper Dresden Island
12 Pool I take this statement to mean that rotenone
13 will be used to reduce their numbers along with
14 any and all additional species that are present.
15 So the Executive Summary says that they're
16 prepared to use rotenone whenever they think carp
17 are getting out of control, not just in the
18 tailwater area.

19 Q. And that's in the Upper Dresden
20 Pool?

21 A. That's anywhere in Dresden. I
22 believe the context is in the system. So they
23 could do it in Brandon Pool, they could do it in
24 maybe even Marseilles Pool, but they're trying to

1 stop this leading edge. So the leading edge right
2 now is going into Dresden Pool. So I would say
3 Dresden Pool is primarily where they are referring
4 to.

5 MS. WILLIAMS: I have a follow-up
6 question. Where does it say in the Asian carp
7 control strategy where they talk about the
8 herding.

9 THE WITNESS: Well, herding,
10 directing, whatever term you want to use, I think
11 I'm not sure if I've seen that term, but that --
12 basically, that's what they're doing. They're
13 trying to redirect the carp.

14 MS. WILLIAMS: So did they use the
15 redirect in this document?

16 MS. FRANZETTI: I'm sorry, Counsel.
17 I was talking to him. I apologize.

18 MS. WILLIAMS: Do they talk about
19 redirecting in the Asian carp control strategy
20 framework or did I miss it? Are we talking about
21 the Asian carp control strategy? There's a draft.
22 I'm not sure what page we're on.

23 MS. FRANZETTI: For the strategy?

24 MS. WILLIAMS: Yes.

1 MS. FRANZETTI: The latest one, the
2 one I believe Mr. Seegert cites to generally in
3 his testimony is May 2010, but I think he was
4 trying to tell you he's not sure of the term,
5 "herding," itself is used in the framework
6 documents. If you mind, can I ask a follow-up
7 question?

8 MS. WILLIAMS: Yeah.

9 MS. FRANZETTI: To bring that up,
10 Mr. Seegert, did you discuss with Ms. Wozniak
11 before preparing your testimony what the
12 representatives of the Army Corps of Engineers had
13 said to her at the committee meetings in
14 discussing the ABS system, how it was going to
15 work in terms of herding of fish into the
16 tailwater area?

17 THE WITNESS: Yes. Because
18 Ms. Wozniak has been more involved in sort of
19 forefront of that particular activity because as
20 we've heard before that would be immediately
21 adjacent to their property.

22 MS. FRANZETTI: So is that the
23 source of your reference to the intention being to
24 heard the fish into the tailwater area and cull

1 them out from there, is the source of that what
2 Ms. Wozniak relayed to her -- to you from her
3 personal communications with representatives of
4 the Army Corps of Engineers?

5 THE WITNESS: That's correct.

6 BY MR. ETTINGER:

7 Q. I'm sorry. Where specifically does
8 the framework discuss the plans for rotenoning in
9 the Upper Des Plaines River?

10 A. I didn't say it specifically
11 addressed Upper Dresden Island Pool. It really
12 didn't have or wouldn't have. I mean, Upper
13 Dresden Island Pool is a -- I call it a regulatory
14 construct. I mean, it not like there's a stop
15 sign on I-55 and carp say, well, this is Upper
16 Dresden Island Pool and this is Lower Dresden
17 Island Pool, carp, and I think everyone other than
18 those involved in this rulemaking just think of it
19 as Dresden Pool.

20 Q. Well, without --

21 MS. FRANZETTI: He gave you the page
22 number, but he's going to give it again.

23 MR. ETTINGER: Yes, please do.

24 THE WITNESS: It's in the Executive

1 Summary under long-term action. Item two
2 chemical: It says, additional possible rotenone
3 applications where testing suggests Asian carp
4 presence as necessary.

5 BY MR. ETTINGER:

6 Q. And we can all read that document
7 and if that's the basis of your opinion we can all
8 interpret it for ourselves. Okay. Are you aware
9 of any studies regarding the affect of increased
10 water temperature on the growth or reproduction of
11 big head or silver tarp?

12 MS. FRANZETTI: That's your
13 pre-filed question number seven?

14 MR. ETTINGER: It is.

15 BY THE WITNESS:

16 A. I'm not aware of I guess what I'll
17 call detailed studies, however, noted by
18 Mr. Chapman in his affidavit the development rate
19 of Asian carp eggs and larvae is strongly
20 dependant on temperature. I'd also expect this to
21 be true for juvenile and adult carp because the
22 growth rate of basically all fishes increases with
23 temperature until you get very close to upper
24 lethal temperatures. So, in general, the fish --

1 the warmer it is the more they eat and the more
2 they grow and I don't know any reason to not
3 expect Asian carp to be different; but, again, I'm
4 not aware of specific studies that have looked at
5 the growth rate under controlled conditions.

6 BY MR. ETTINGER:

7 Q. Are you aware of any studies of the
8 upper lethal temperature of Asian carp?

9 A. Yes.

10 Q. What would those studies be?

11 A. They were -- you mean the original
12 studies?

13 Q. Yeah?

14 A. My recollection is those numbers
15 were cited in this book on big headed carps where
16 American Fishes Society Special Publication 33.

17 Q. And what was the upper lethal
18 temperature that they found?

19 MS. FRANZETTI: Take your time and
20 find it. These could have been pre-filed
21 questions.

22 MS. TIPSORD: You know what. Why
23 don't we take ten minutes while he looks for that
24 answer.

1 MS. FRANZETTI: Actually, he is
2 going to need a break. So I mean --

3 MS. TIPSORD: That's all right.

4 THE WITNESS: Actually, I do have it
5 here.

6 MS. FRANZETTI: You found it.

7 THE WITNESS: For silver carp, this
8 is for larval silver carp, the upper lethal was
9 reported as 43.5 to 46.5 Centigrade.

10 MS. FRANZETTI: Do you want the
11 citation, Mr. Etinger?

12 MR. ETTINGER: Yes.

13 MS. FRANZETTI: Before he leaves
14 that page, is that enough or do you need the
15 specific citation to what study that's from?

16 MR. ETTINGER: This.

17 MS. FRANZETTI: That is one of them.
18 Now he is going to move on.

19 MR. ETTINGER: I'm sorry. Did he
20 give the page?

21 MS. FRANZETTI: Page 76 under
22 temperature and salinity tolerance.

23 THE WITNESS: And, by the way, those
24 are essentially the same numbers, 43 to 46, is

1 also part of -- is this an exhibit?

2 MS. FRANZETTI: Yes, it was just
3 made an exhibit this morning.

4 MS. WILLIAMS: Exhibit 423, is that
5 it?

6 MS. FRANZETTI: The Tetra Tech
7 study? Exhibit 421.

8 THE WITNESS: Exhibit 421 and table
9 7-1 it, again, repeats the upper lethal limit for
10 silver carp. In this case, it rounds it off. It
11 says 43 to 46 and if they're big head carp 36.8
12 Centigrade.

13 MS. TIPSORD: Before we go any
14 further, you're looking at a book and Mr. Ettinger
15 is looking at a book at minimum I need the full
16 citation for the book you're looking at.

17 MR. ETTINGER: His testimony is he
18 gives the full citation to the book in his
19 testimony.

20 MS. TIPSORD: Yeah, but let's go
21 ahead and put it on the record here in the
22 transcript as well, please.

23 MS. FRANZETTI: With respect to the
24 answers that Mr. Seegert has just been giving with

1 respect to the upper lethal temperatures for Asian
2 carp, or at least studies that have suggested what
3 those are, he was referring to page 76 of a book
4 entitled *Bigheaded Carps, a Biological Synopsis*
5 *and Environmental Risk Assessment* by Cindy S.
6 Kolar, et al. There are approximately seven
7 authors of this book, which has been published by
8 the American Fisheries Society Special Publication
9 33.

10 MS. WILLIAMS: Can you repeat what
11 page of Exhibit 421 that is referenced on?

12 MR. RAO: It's 7-2.

13 MS. FRANZETTI: We had it. Give us
14 a moment, please. It's page 7-2, Table 7-1, but
15 the page number is 7-2.

16 MR. ETTINGER: Are we taking a break
17 now?

18 MS. FRANZETTI: Why don't we try to
19 finish your -- is that okay? Can we try to finish
20 yours?

21 MS. TIPSORD: I was going to try to
22 finish Albert's as a natural breaking point.

23 BY MR. ETTINGER:

24 Q. Is it your understanding that the

1 existing temperature limits in the -- Strike that.
2 Do you believe -- what is the distance from the
3 Brandon Road Lock and Dam to the Dresden Lock and
4 Dam?

5 A. From Brandon, 14.5 miles.

6 Q. Fourteen point five miles. Are you
7 aware of any system in the world in which Asian
8 carp have been able to successfully spawn with
9 that short of distance of flowing water?

10 A. Yes.

11 Q. Where?

12 A. There's one place. The Kara Kum
13 Canal. This is going to take -- wait. I'm
14 getting lucky here. Yes, it's the Kara, K-A-R-A,
15 Kum, K-U-M, Canal in Turkmenistan. Please don't
16 ask me where Turkmenistan is and in that case that
17 was -- it was a Canal. It was a manmade canal and
18 spawning was documented as occurring there. That
19 was a free flowing section of about 80 kilometers
20 and there's also a report from a reservoir in
21 Taiwan that had only tributaries to it and there
22 was a reproducing population of Asian carp in that
23 familiar reservoir. Also, I should note that --

24 Q. Eighty kilometers is what compared

1 to 14 point whatever miles?

2 A. It's less. But like I just said
3 there's also a reservoir that's got a -- it had a
4 very short -- the tributary was very short.
5 Probably in the order of 14 miles. Also, if you
6 look at the literature, that value that's
7 regularly cited, a hundred kilometers, is not at
8 all well supported. As best I can tell, there's
9 one paper published somewhere in Asia somebody
10 said I saw a carp doing pretty well and they were
11 doing it in rivers where the distance was at, or
12 more than 100 kilometers, but I've just given you
13 two citations where people have observed them
14 spawning in shorter distances.

15 My interpretation of all this is
16 no one is really sure and in any case what they
17 needed when they were in Asia to spawn doesn't
18 necessarily translate to what they need when
19 they've been moved, whatever it is 5,000, 6,000,
20 7,000 miles, into a completely new system and a
21 with a whole change in environment and
22 competitors. So it might be a hundred kilometers,
23 but it might be five kilometers.

24 Q. Well, maybe over a break or in the

1 time afterwards you can find us that second system
2 in which you say --

3 A. I just cited that.

4 Q. Which one was that?

5 A. That was the reservoir in Taiwan and
6 the --

7 Q. What page was that on, sir?

8 A. Fifty five. It's cited a couple
9 other places in here because of the fact that it
10 goes against the more frequently cited 10
11 kilometers.

12 Q. I'll look that up. You say that's
13 on page 55 of the book we've been referring to?

14 MS. FRANZETTI: Yes, for the third
15 time.

16 MR. ETTINGER: Thanks. We're done.

17 MS. FRANZETTI: Thank you.

18 MS. TIPSORD: Let's take about ten
19 minutes before we start with Stepan Company.

20 (Whereupon, a break was taken
21 after which the following
22 proceedings were had.)

23 MS. TIPSORD: Let's go ahead and
24 begin with questions from Stepan, Mr. Diamond.

1 MR. DIAMOND: Thank you, Madam
2 Hearing Officer.

3 BY MR. DIAMOND:

4 Q. Mr. Seegert, the first of my
5 pre-filed questions is, will the ABS system and
6 the associated Asian carp killing and collection
7 activities impact the ability of all fish, not
8 just Asian carp, to spawn in the Brandon Road Dam
9 tailwater?

10 A. Yes, and that's because the methods
11 for Asian carp control are nondiscriminatory. In
12 other words, they're going to affect all the
13 species of fish. So because those methods are
14 going to reduce fish populations in general that's
15 going to adversely affect the size of the spawning
16 stock and certainly if they get killed while
17 they're in the tailwater before they spawn it's
18 going directly reduce spawning, or if they're able
19 to spawn, but then shortly thereafter rotenone is
20 applied then it's going to kill the eggs and
21 larvae. So, yes, I would expect other species of
22 fish that utilize that area to be as adversely
23 effected by those control activities.

24 Q. Second question. If the Brandon

1 Road Dam tailwater is utilized for the herding,
2 killing and collection of Asian carp, would these
3 new ways of using the tailwater area change your
4 opinion as to its ability to provide the only area
5 of better than average habitat for aquatic life in
6 the Upper Dresden Island Pool and, if so, how?

7 A. The habitat is still going to be
8 there. The habitat physically isn't going to
9 change, but the benefit that potentially could be
10 attained by the fish community from the existence
11 of that good habitat are going to be reduced.
12 Basically, this area potentially could become a
13 death trap or you might think of it as an
14 attractive nuisance, an area where they're going
15 to be either physically herded or, just as I
16 mentioned before, they're going to be wanting to
17 move upstream. They can't go up through the canal
18 that leads up to the Brandon Lock. They're going
19 to naturally want to go in the tailwater area and
20 they're going to congregate there. So when they
21 congregate in that area then, again, they're going
22 to be adversely effected. So, effectively, the
23 benefits associated with that habitat have been
24 reduced. The habitat is still there.

1 Q. Okay. My question number three,
2 which I will revise slightly in light of your
3 answer to number two; if the benefits of the
4 habitat that exists in the tailwater will be
5 diminished by actions taken to combat Asian carp
6 migration, how does that impact the use
7 attainability analysis of the Upper Dresden Island
8 Pool conducted and protected by the Illinois
9 Environmental Protection Agency?

10 A. Again, I think the Asian carp --
11 their presence in Upper Dresden Island Pool and
12 the control efforts to try to deter them from
13 reaching Lake Michigan that's going to effectively
14 be an additional stressor on the system. We've
15 talked about all the stressors associated with
16 habitat sediment, both sediment. Sediment as
17 sediment, sediment in terms of the quality of that
18 sediment and this is going to be another negative
19 affect due to this, I guess, call it culling of
20 the herd. And for the tailwater area this, to me,
21 is particularly important. We've heard testimony
22 from several witnesses, not just myself,
23 indicating that the Brandon tailwater provides a
24 unique habitat within Dresden Pool. It's the only

1 place you have hard substrates and fast water. So
2 there's a certain, I'll call it, group or
3 contingent of fishes that can successively spawn
4 only in that kind of habitat. So some examples of
5 that would be certain of the darter, some minnows,
6 most of the red horse species. So to the extent
7 that they can spawn that's where they're going to
8 come to spawn. So now they're going to come to
9 that area, try to spawn, and now periodically
10 they're going to get knocked off by this culling
11 of the herd that either could be true for rotenone
12 or even if the Agency says, well, we don't want to
13 rotenone, but let's use netting. Well, that
14 netting is also going to catch the adults spawning
15 stock of these other species of fish and even if
16 they try to release them a lot of them are still
17 going to die.

18 So, again, you're going to
19 diminish it either directly from the rotenone or
20 indirectly from some of the netting. So all of
21 this is going to diminish that habitat and make it
22 just much more difficult to attain an upgraded use
23 as the Agency has proposed -- the Illinois EPA has
24 proposed.

1 Q. Question number four. Will the
2 application or repeated application of rotenone in
3 the Brandon Road Dam tailwater impact the fish
4 community downstream of the application area and,
5 if so, in what way?

6 A. That's kind of the other side of the
7 same coin. The -- I mean, to some extent all
8 these areas are interconnected. It's not like if
9 a fish is in the tailwater today that's where he
10 is going to be all the rest of the year and vice
11 versa. So there's periodically an exchange going
12 on, but, again, the groups that I think would be
13 most affected would be those that really depend on
14 this fast water and hard substrate for spawning
15 and so if they're not able to spawn successfully
16 or the number of larvae they produce is reduced.
17 Then that's going to be that many less that are
18 going to be able to comprise the populations
19 further downstream because a lot of fish they
20 spawn in a certain area, but then their natural
21 behavior is then the larvae and Asian carp -- what
22 the Asian carp are doing.

23 They spawn in place A, but then
24 the eggs just start drifting downstream and then

1 they drop out periodically and then that area
2 downstream gets repopulated, and the same kind of
3 thing goes on with other fish. Logperch would be
4 an example as one of our native darters. So if
5 you culled a lot of logperch out from the
6 tailwater area, you're ultimately going to have an
7 affect on the populations of these species
8 downstream, further down the pool.

9 Q. Question number five. Does any
10 action that makes the waters in Upper Dresden
11 Island Pool more attractive to Asian carp increase
12 the risk that Asian carp will pass through the
13 electrical barriers, the ABS system and other
14 actions intended to retard Asian carp migration
15 towards like Michigan?

16 A. You know, the barrier presumably has
17 some level of effectiveness whatever level that
18 is. We'll say it's 99.9 percent effective. That
19 means, you know, if one fish out of a thousand
20 gets through and there's only ten fish challenging
21 the barrier, then probably none are going to get
22 through. If there's a hundred fish, it's only
23 going to be one. Still probably few, if any. But
24 as more and more fish start challenging the

1 barrier even though the percentage that makes it
2 through is very small, if 10,000 fish are trying
3 to get through and that's a very -- it sounds like
4 a big number, but for Asian carp it's not, and
5 even if 0.1 percent get through that's a
6 significant number. So it's going to increase the
7 risk just because more fish are able to be there
8 and challenging the barrier.

9 MR. ETTINGER: Can I follow-up on
10 that? Are you aware of any action that anybody is
11 proposing in connection with this proceeding or
12 others that would actually improve the water
13 quality or habitat conditions for Asian carp in
14 that pool?

15 MR. DIAMOND: In what pool?

16 MR. ETTINGER: The Upper Dresden
17 Island Pool.

18 MR. DIAMOND: I'm not sure I
19 understand the question. Are you saying
20 specifically for Asian carp or anything?

21 MR. ETTINGER: Anything. Is there
22 anything that is being proposed that you believe
23 would help Asian carp up there?

24 THE WITNESS: In terms of habitat, I

1 don't know what might or might not be done in
2 terms of habitat improvement and, frankly, I don't
3 know whether any of that would benefit Asian carp,
4 but I do know some of the water quality parameters
5 are being proposed to be more stringent and I
6 don't know what -- what any of those changes would
7 do to carp, but they may make conditions more
8 favorable for Asian carp and I think I mentioned
9 before, why take that chance. I don't know for
10 sure it's going to make it better, but why take
11 that chance.

12 MR. ETTINGER: Is there any chemical
13 present in the system now that you think may be
14 inhibiting the population of Asian carp?

15 THE WITNESS: None that I can
16 specifically point to, but, I mean, there could
17 be.

18 MR. ETTINGER: Yes, there could be.
19 Are you aware of any other factors that would be
20 affected potentially by these regulations that you
21 think are inhibiting the current population of
22 Asian carp?

23 THE WITNESS: Well, the way I look
24 at it is, first of all, other than their feeding

1 habits, are Asian carp demonstratively different
2 than other fish? My answer to that is no.
3 They're a fish. They have what we call a broad
4 pass spawn or they have somewhat buoyant eggs.
5 They're basically a fish. Now, the Agency must
6 think that changing these water quality standards
7 is going to improve things for fish, and this is a
8 fish. So if it improves -- if they think its
9 necessary for these other fish, why wouldn't they
10 also think it's going to improve things for Asian
11 carp? It seems to me it's a basic exercise in
12 logic.

13 MR. ETTINGER: Well, Mr. Seeger,
14 you've testified that there are different
15 requirements for different kinds of fish and
16 obviously there are things that you could do that
17 would improve the habitat or the water quality
18 conditions for some fish and not others. Is there
19 anything that's being proposed that you know of
20 that would improve it for Asian carp as opposed to
21 walleye or any other fish?

22 MS. FRANZETTI: I think he's
23 answered that question.

24 MR. ETTINGER: I don't think he has.

1 He has told me than that all fish are alike and
2 that doesn't sound to me like what he said before.

3 THE WITNESS: What I said is in the
4 absence of other information, we're going to
5 assume that Asian carp fall within the spectrum,
6 the tolerance range of other species of fish.
7 Now, exactly where they fall, I don't know and as
8 far as I know no one else has looked at things
9 like their tolerance to copper and chlorides and
10 all these other things. I'm just saying it seems
11 to me the safe and prudent thing is to say we
12 don't know. So I'm willing to admit I don't know
13 how those other things -- how changing those are
14 going to affect carp, but why in this case -- why
15 mess with the status quo? I don't see you get any
16 great benefit by doing this. It just doesn't seem
17 to be worth the potential risk.

18 MR. ETTINGER: Thank you.

19 BY MR. DIAMOND:

20 Q. Number six. Would the change in use
21 designation for the Upper Dresden Island Pool
22 proposed by Illinois EPA and the associated
23 proposed general decrease in water temperature
24 standards for the Upper Dresden Island Pool make

1 the waters of the Upper Dresden Island Pool more
2 attractive to Asian carp?

3 A. That kind of follows up with what
4 Mr. Ettinger was just asking. Is it going to make
5 it better? Well, based on what I've seen in
6 reading the literature, it appears that within
7 their native range Asian carp prefer water
8 temperature that are somewhat cooler than we see
9 in Upper Dresden Island Pool.

10 So I would say it's probably
11 going to make it somewhat more attractive and I
12 did look at some of the data that's been collected
13 by the District in the lower pools and we know
14 carp are thriving down in the lower pools and in
15 the lower pools on average during the non-winter
16 months which is when the District was doing its
17 surveys, they show that on average water
18 temperatures down there were about two to three
19 degrees C cooler than on average in Dresden Pool.

20 So it would appear that Asian
21 carp do like it somewhat cooler than it currently
22 is. I can't say that they would -- that that
23 would measurably change their population, but,
24 again, my response then is, but why do something

1 that might push it in a direction where it allows
2 them? I mean, in this case, I think you need to
3 err on the side of caution.

4 Q. Number seven. When the Asian carp
5 establish themselves in the Upper Dresden Island
6 Pool, how will they impact the RAS species
7 identified by Illinois EPA in setting thermal
8 standard for the Upper Dresden Island Pool?

9 A. Well, we kind of talked about in
10 this some sense before, but not specifically with
11 regards to the RAS species. One of the species
12 that's been identified as a RAS and for those of
13 you who weren't here for the previous meetings
14 that's representative aquatic species and gizzard
15 shad was one of those so identified.

16 The study by Irons that we
17 talked about before specifically shows that the
18 condition of gizzard shad is adversely effected in
19 the lower Illinois River after Asian carp have
20 come in and I also testified a little bit earlier
21 on a lot of the RAS species there's not a direct
22 competition in terms of the adults, but there is
23 in the early life stages.

24 So I would expect that a number

1 of the other RAS species would also be in
2 competition, not as adults, but as larvae or
3 juveniles, but then to be fair there would be some
4 species like stonerollers where there would be
5 little or no interaction, but quite a few of the
6 RAS species at some life stage would be in direct
7 competition with the Asian carp.

8 MS. FRANZETTI: Just a quick
9 follow-up here for the record. You keep using the
10 phrase RAS species, capital RAS, correct? That's
11 what you're referring to?

12 THE WITNESS: Yes.

13 MS. FRANZETTI: And what does that
14 acronym stand for?

15 MS. TIPSORD: He did say that.

16 MS. FRANZETTI: Sorry.

17 THE WITNESS: I thought you were
18 going to correct me by saying RAS species, but
19 RAS --

20 MS. FRANZETTI: It's redundant.

21 THE WITNESS: It's redundant.
22 That's what I thought you were going to say.

23 MR. ETTINGER: Excuse me. Do you
24 believe now that zooplankton or the quantities of

1 zooplankton or phytoplankton is limiting for any
2 species there now?

3 THE WITNESS: I don't know.

4 MR. ETTINGER: How do the intakes of
5 power plants affect zooplankton and phytoplankton?

6 THE WITNESS: That's been studied
7 quite a bit and I've never seen -- let me strike
8 that.

9 I don't recall seeing any
10 situations where power plants have had an effect.
11 Again, just because of the fact that you are
12 dealing with something that is pretty prolific.

13 MR. ETTINGER: What is pretty
14 prolific?

15 THE WITNESS: The zooplankton and
16 phytoplankton. So, typically, a power plant takes
17 in a relatively -- the numbers might -- the
18 absolute numbers might be large, but on a
19 percentage basis, they're small compared to the
20 size of the population so they do drop off -- just
21 hypothetical five percent. Now, that might be 10
22 million zooplankters, but if there's 50 bazillion
23 out there, it doesn't make any difference and
24 that's usually what the case is.

1 MR. ETTINGER: Do you have any
2 percent estimate as to what the carp would take
3 off of the zooplankton and the phytoplankton, more
4 than five percent?

5 THE WITNESS: Yes. I would guess it
6 would be very, very high. It might be, you know,
7 crossing off 50, 75 percent. Something like that.

8 MR. ETTINGER: And what is your
9 basis for that guess?

10 THE WITNESS: Just based on the
11 sheer numbers of carp when they get to be high
12 densities when you're talking thousands of fish
13 per acre, you know, thousands of big fish per
14 acre.

15 MS. FRANZETTI: And what is it --
16 are you also thinking about what amount of
17 plankton they typically eat per day?

18 THE WITNESS: Yes. That would be
19 because the estimates depending on which source
20 you read Asian carp are considered to eat
21 somewhere between 5 and 40 percent of their body
22 weight per day. So if you've got a ten-pound
23 Asian carp that's going -- that would mean taking
24 an intermediary -- at ten percent, that would mean

1 he'd be eating ten pounds of zooplankton. There's
2 a lot of, lot of zooplankton in ten pounds.

3 Q. Number eight. Page three of your
4 testimony states that the Asian carp prefer to be
5 located in off channel areas that are high in
6 plankton population. Is this also habitat
7 referred by many of the RAS species identified by
8 Illinois EPA?

9 A. Yes. I took a look at the list of
10 the 49 RAS species that were proposed for Upper
11 Dresden Island Pool and roughly half of those I
12 would say prefer backwater areas at least during
13 some portion of their life cycle. Of course,
14 obviously the other half don't.

15 Q. Number nine. What areas downstream
16 of the Brandon Road Lock and Dam have been
17 designated for commercial fishing operations? Are
18 any of those areas in the Upper Dresden Island
19 Pool and what affect on the fish community in the
20 Upper Dresden Island Pool would you expect those
21 operations to have?

22 A. Based on the information I received,
23 there's been netting in Dresden Pool, including
24 Upper Dresden Island Pool, the Marseilles Pool and

1 Starved Rock Pool and I think I mentioned earlier
2 I would expect that repeated netting would have an
3 adverse effect, gill netting or trammel netting is
4 a standard research activity, but it's not
5 designed to be repeated and repeated and repeated.

6 I mean, the level of intensity
7 when you go to the Asian Carp Regional Control
8 Committee website they talk about the miles like
9 they say in this last round of sampling in such
10 and such a pool we set 16.5 miles of netting. So
11 there's this huge amount of netting that's going
12 on and that's only during one particular effort.
13 They're repeating this multiple times and even if
14 you try to release, we'll call them the -- in
15 commercial fishing terms, they call this the
16 by-catch. Fishermen set nets to catch tuna, but
17 they get other things and they're supposed to
18 release the other things. So this by-catch, even
19 if you try to release it, there's a considerable
20 amount of mortality associated with this. One
21 time not a big deal, but you keep doing this time,
22 after time, after time it's going to take its toll
23 on the fish population.

24 MS. FRANZETTI: You mentioned in

1 your answer that based on the information you
2 received, who did you receive that information
3 from with regard to where the commercial netting
4 has been going on?

5 THE WITNESS: I had a personal
6 communication from Vic Santucci with the Illinois
7 DNR and also periodically like maybe once a month
8 check the ACRCC website where they note their
9 activities that have gone on in the past months.
10 So I try to stay abreast and all these miles of
11 net and in some of the cases, they've actually
12 listed what they caught.

13 MS. DEXTER: Jessica Dexter at ELPC.
14 Do they typically use a large mesh gill net for
15 those operations?

16 THE WITNESS: They have not -- I'm
17 assuming -- I would imagine they do because of the
18 kind of fish that they're targeting. I haven't
19 seen anything that actually says we used the two
20 inch stretch or a four inch stretch. I would
21 expect it's a fair large mesh.

22 MS. DEXTER: And would a larger mesh
23 gill net have a different affect on the sort of
24 nontarget species you talked about like sunfish

1 and bass than a smaller mesh net?

2 THE WITNESS: Gill nets tend to be
3 somewhat size specific. So if you have mesh,
4 we'll say, it's a two-inch stretch that's going to
5 catch smaller fish than if you use a four-inch
6 stretch and a four inch is going to catch fish
7 that are smaller than if you use a six inch, but
8 you would -- in some cases, you won't necessarily
9 get different species, but you'll get different
10 sized individuals of those species.

11 MS. DEXTER: Is it typical that
12 Asian -- are sunfish, for example, typically
13 smaller than the types of -- I know Asian carp
14 vary in size a lot, but are they typically smaller
15 than Asian carp?

16 THE WITNESS: Typically, but adult
17 blue gills because they're what we call laterally
18 compressed they don't weigh a lot, but they have a
19 high body profile. So, no, they're not as big on
20 average as an Asian carp.

21 MS. DEXTER: Thanks.

22 BY MR. DIAMOND:

23 Q. Question number ten I'm going to
24 skip because I think it's been asked and answered.

1 Number 11. With the addition of
2 Asian carp as a stressor to the Upper Dresden
3 Island Pool fish community on top of the existing
4 stressors such as poor habitat, poor quality
5 sediments and barge traffic impacts, will the
6 decrease in water temperatures and increases in
7 dissolved oxygen proposed by Illinois EPA make any
8 material difference in the Upper Dresden Island
9 Pool fish community?

10 A. I don't think the change in those
11 two parameters will have a material affect and
12 that's because right now the fish community is not
13 limited by temperature and I've studied it less,
14 but it doesn't appear that it's limited by
15 dissolved oxygen. It's limited by all those other
16 things that we talked about, the impoundment, the
17 poor habitat, the poor sediment quality, the
18 amount of sedimentation. So it's just like I
19 talked about before on nutrients. If something
20 isn't limiting, changing the standard whether
21 increasing or decreasing it, isn't going to make
22 any difference because that's not a limiting
23 factor right now.

24 Q. And number 12, is it reasonable to

1 expect the Upper Dresden Island Pool to attain the
2 Clean Water Act goal of being fishable in light of
3 the existing stressors on the Upper Dresden Island
4 Pool and the inevitable impact of the Asian carp
5 stressor?

6 A. Not in my opinion.

7 MR. ETTINGER: Is it your belief
8 that it's inevitable the Upper Dresden Pool is
9 going to be taken over by Asian carp?

10 THE WITNESS: It's not inevitable it
11 will be taken over as I mentioned before. If -- I
12 think the number will continue to increase to some
13 extent if the agencies continue to have the will
14 power. And just as importantly or more
15 importantly, the funding, they'll be able to keep
16 the carp under control or at least keep the
17 numbers reduced, but as I also said that will also
18 have an adverse affect on the fish community. No
19 matter how you do it, there's going to be an
20 effect, either native fish are going to be
21 effected by increased numbers of Asian carp or are
22 all these control measures to keep the Asian carp
23 in check.

24 MR. ETTINGER: Okay. So -- but it's

1 your view that if we did nothing, just maintained
2 the water quality the way it is right now and
3 didn't do anything to control Asian carp that it
4 would be then overrun by Asian carp as are the
5 lower three pools in the Illinois River?

6 THE WITNESS: Yes, for Dresden Pool.
7 I'm not saying that for Brandon or Lockport
8 because I think they're other factors like food
9 supply definitely could come into play, but I
10 think there's enough good habitat in Dresden Pool
11 to allow a very sizable population of Asian carp
12 to develop.

13 MR. ETTINGER: And that's based
14 on -- in reading in the Brandon Road spillway, the
15 Brandon Road Dam area that you -- the only area
16 you identified that was suitable for spawning and
17 then having habitat in these other areas around
18 Treats Island?

19 THE WITNESS: No, not necessarily.
20 As I said, I believe that they will be able to
21 spawn in that area and then they may or may not be
22 able to spawn successfully, but as part of your
23 hypothetical, you said you're going to stop the
24 control of Asian carp. You're going to -- is that

1 correct?

2 MR. ETTINGER: Right. If we don't
3 do anything, leave it as it is now --

4 THE WITNESS: What is going to keep
5 happening is more and more and more carp are going
6 to come from this limitless supply in the lower
7 river.

8 MR. ETTINGER: Through the locks?

9 THE WITNESS: Through the lock as
10 they've done in every other lock. There's nothing
11 unique about the Brandon Lock. So when they came
12 they came through the Marseilles Lock, the Peoria
13 Lock, the Alton Lock. They're just -- you have an
14 endless apply and then below the Illinois River,
15 you have the Mississippi River and they're just
16 going to keep coming, coming, coming because
17 that's what they do. They move upstream. And,
18 again, it doesn't have anything to do with food
19 supply. They would keep -- there could be nothing
20 up there, but they don't know that.

21 MS. FRANZETTI: Until they get
22 there?

23 THE WITNESS: They don't know. The
24 analogy is neotropical birds. Everybody said it's

1 been a cool spring in Illinois. Do you think the
2 neotropical birds are going to be delayed in
3 getting here. They're down in Costa Rica. They
4 have no idea what the weather is like here in
5 Illinois. They move on behavioral cues. You
6 know, daylight. Hey, it's spring. I can look up
7 at the sun. The daylight is getting longer. I'm
8 going north. Well, these guys are moving
9 upstream, period.

10 MS. FRANZETTI: I just want to
11 clarify one thing. When you were answering the
12 question as to whether or not they will get here,
13 the "here" was the entire Dresden Pool, correct?

14 THE WITNESS: Correct.

15 MS. FRANZETTI: Then in
16 Mr. Ettinger's follow-up question he was just
17 asking you about the suitable habitat in Upper
18 Dresden Island Pool with respect to the tailwater
19 and then in terms of where they like to hang out,
20 which you had said was around Treats Island, but
21 for purposes of Asian carp populating Dresden Pool
22 they don't recognize the difference either, do
23 they, between Lower Dresden Island Pool, i.e.,
24 below the I-55 bridge and Upper Dresden Island

1 Pool in terms of getting into and established in
2 Dresden Pool, they're going to use the areas below
3 the I-55 bridge where they can survive, correct?

4 THE WITNESS: And I'm sure they can
5 survive in Upper Dresden Island Pool. They
6 might -- the population in that part might not be
7 as large as in lower, but they'll be able to
8 survive and I would expect they would have a large
9 population and I did understand -- I think I
10 understood Mr. Ettinger's question. That's why
11 I'm saying even if the spawning isn't successful
12 the population will still build up because there's
13 a continued river of carp that's going to keep
14 moving up from the lower pools.

15 MS. FRANZETTI: And that has been
16 the pattern to date that they keep moving up from
17 the lower pools.

18 THE WITNESS: And there's nothing
19 unique about -- this is going to be going on on
20 the Mississippi River, the Missouri River.
21 They've been expanding their range basically in a
22 northward pattern ever since they were released
23 from Arkansas. Again, that's just what they do.

24 MS. FRANZETTI: I think everyone's

1 done?

2 MR. DIAMOND: My questions are
3 concluded. Thank you.

4 MS. TIPSORD: Are there any other
5 questions for Mr. Seegert?

6 MS. FRANZETTI: I actually had a
7 few.

8 MS. TIPSORD: Okay.

9 BY MS. FRANZETTI:

10 Q. Mr. Seegert, it was brought to my
11 question that there's a sentence in your pre-filed
12 testimony that may be being misunderstood and it
13 is at page nine, or at least in my hardcopy
14 printout, it is page nine, and the sentence is,
15 "During my most recent visit (8/2/10, September
16 2010) to the Chicago Sanitary and Ship Canal and
17 the Lower Des Plaines River duckweed was, again,
18 common to abundant."

19 With respect to the areas where
20 you were referring to duckweed being common to
21 abundant, would you please be more specific in
22 identifying those areas?

23 A. Duckweed was common to abundant in
24 Dresden Pool and moderately common in Brandon

1 Pool, but it was uncommon or rare in Lockport
2 Pool.

3 Q. Was there any other -- with regard
4 to your reference to the Chicago Sanitary and Sip
5 Canal, any other areas that you visited other than
6 what you've just stated?

7 A. No.

8 Q. Okay. All right. It was asked
9 earlier today whether Ms. Garibay had reviewed the
10 Illinois DNR comments that were filed in this
11 proceeding. I believe filed after the date of
12 your pre-filed testimony whether she had reviewed
13 them and she had not. Have you reviewed those
14 comments?

15 A. Yes, I have.

16 Q. Do you have the -- the IDNR spoke
17 about in its comments species, richness and
18 abundance that they found as they called it
19 unexpected given historical information with
20 respect to the collection of dead fish that was
21 attained after the -- or as a result of the
22 rotenone application in December 2009.

23 Based on your review of the data
24 that the IDNR included in its comments filed in

1 this rulemaking, did you find the results with
2 regard to species, richness and abundance
3 unexpected?

4 A. No.

5 Q. And could you please explain the
6 basis for your answer?

7 A. Okay. There are three parts to this
8 answer. The first part is that they started by
9 doing what everybody would call the classic apples
10 and oranges comparison. They said we took a
11 rotenone sample and I mentioned this before, but
12 this rotenone sample comprised an area that was
13 5.5 miles and they killed or at least tried to
14 kill every fish in that area and then they
15 compared against their electrofishing results and
16 they typically would make one hour runs through
17 this area and I did a few calculations. I tried
18 to be conservative. But based on the amount of --
19 I'm talking now surface area that they would have
20 sampled as part of the rotenone sample, they would
21 have sampled about seven million square feet.

22 A one-hour electrofishing sample
23 would cover roughly 80,000 square feet. So we're
24 talking about a difference of two orders of

1 magnitude. So most of the differences when
2 they're talking about they got a lot more fish in
3 the rotenone sample and they got more species in
4 the rotenone sample, my response was, of course,
5 you did. You sampled a hundred times harder. You
6 did -- the effort you expended was a hundred times
7 more. So, of course, you got more fish and, of
8 course, you got more species. So that was the
9 first reason I wasn't at all surprised.

10 Second, previous
11 characterizations of these areas and I'll confine
12 my remarks to the Ship Canal since that's the area
13 I'm more familiar with have been based on we'll
14 call them standardized sampling methods. We
15 talked a little bit about electrofishing, but
16 there are other methods like gill netting and we
17 talked a little bit about that. So you come up
18 with a set of expectations based on sampling in a
19 normal fashion.

20 Now, somebody comes along and
21 does a totally atypical method, a method that is
22 not at all standardized. So you can't say, well,
23 if somebody does a standard electrofishing effort
24 we heard testimony previously from Mr. Yoder and

1 he had crews out and they were electrofishing and
2 they caught certain numbers of fishes. You can't
3 compare those numbers of fishes or that abundance
4 with a rotenone sample, which is a totally
5 nonstandardized -- and, furthermore, now you have
6 no basis for comparison.

7 If the state went to 50 other
8 places in the state of Illinois and did a rotenone
9 sample, you could look at the Lockport sample and
10 compare it to these other 50 and say, oh, yeah.
11 This is very much in line or it's out of line, but
12 we don't have that comparison and then lastly, I'm
13 not sure what the DNR used as their frame of
14 reference for species richness, but EA, the
15 company I work for, has been working in this area
16 and just in Lower Lockport Pool since we started
17 sampling there, we've collected 51 species of fish
18 that compares to 34 during the rotenone effort.

19 So the finding of 34 species
20 just tells me that they don't do a very good job
21 on their homework of determining what the fish
22 community is like in Lockport Pool.

23 Q. The IDNR also described the fish
24 community as diverse and comprised of a high

1 percent substantial of moderate tolerant species.
2 Do you agree with these characterizations and, if
3 not, would you please explain why?

4 A. Well, I don't agree with this
5 conclusion. It's true that there's a moderate
6 number of species present. Now 34, again, might
7 sound fairly high, but for a fairly large river
8 and for this amount of effort, it's really not
9 very high. So it's not diverse and then their
10 contention that there's a high percentage of
11 moderately tolerant species is just wrong. That
12 based on how Illinois EPA classifies the tolerance
13 of fish, I determined that 63.5 percent of the
14 fish were collected as part of that rotenone
15 effort were tolerant fish. They weren't
16 moderately tolerant. They weren't intolerant.
17 They were tolerant. Well, if two-thirds of the
18 fish are tolerant, then how can the community be
19 composed of a high percentage of moderately
20 tolerant?

21 Q. If I can interpret you, you made a
22 passing reference there to by the way the Illinois
23 EPA rates fish, that isn't exactly the words you
24 used, but you can you, again, just for clarity --

1 what were you referring to there?

2 A. Illinois EPA, as part of their index
3 of biotic integrity, I'll call it methodology, one
4 of the ways in which they measure fish community
5 is by looking at what percent certain either
6 intolerant species or tolerant species make up of
7 the fish community. So in order to do that, they
8 classify the various fishes in Illinois and put
9 them in cubby holes. They say this is an
10 intolerant. This one is tolerant. And there's a
11 lot of them in between that they don't classify at
12 all, but I use and in Illinois EPA, in this
13 document, they use that same classification.

14 Q. What document?

15 A. In the -- I'm sorry. The DNR. The
16 DNR. There's too many agencies. There's
17 acronyms. The Illinois DNR in their report used
18 the same classification system. So, apparently,
19 they just didn't do the math or they would have
20 realized that over 63 percent were tolerant, but
21 they said a high percentage was moderately
22 intolerant and they're not.

23 Q. What percentage of the rotenone
24 catch, let's call it, that the IDNR is addressing

1 in their comments was comprised of common carp?

2 A. That was nearly 50 percent. I was,
3 like, 40 something percent were common carp and
4 that's another thing. Any time you find a fish
5 sample where nearly half of the number of
6 individuals are compared -- comprised of common
7 carp right off the bat, this tells you this is not
8 a good place.

9 Q. And approximately what percentage of
10 the rotenone catch was made up of exotic species?

11 A. Here, I should define exotic is kind
12 of like invasive, but invasive tends to imply that
13 the fish are bad. As an ecologist, I don't like
14 to look at fish this way. They're all kind of
15 fish to me, but exotic just means it came from
16 somewhere else.

17 So this would be things like
18 common carp. It would as be things like rainbow
19 trout and brown trout and como salmon and it
20 turned out in this case 49 percent, nearly 50
21 percent of the catch, was made up of exotic
22 species.

23 Q. And why is -- how is that relevant
24 to determining what the quality is of the fish

1 community? Why does it matter if something is an
2 exotic or not?

3 A. Again, what it tells me as a fish
4 biologist is this area is highly disturbed. That
5 if you have a natural setting you have few, if
6 any, exotic species, but the more and more
7 disturbed a system is the more exotic that you
8 have and it also turns out that many of the
9 exotics are also tolerant fishes. Not all, but
10 many of them are.

11 Q. Okay.

12 MR. GIRARD: Can I ask a clarifying
13 questions at this point?

14 MS. FRANZETTI: Absolutely.

15 MR. GIRARD: The percentages you
16 keep referring to, are you talking about the
17 number of individuals that were caught or are you
18 talking about biomass or are you talking about
19 number of species or are they all being mixed
20 together?

21 THE WITNESS: Good question. I'm
22 not talking about species right now. I've been
23 talking about numbers. If we did this on --

24 MR. GIRARD: Numbers of individuals?

1 THE WITNESS: Of individuals.

2 MR. GIRARD: Okay.

3 THE WITNESS: So the total rotenone
4 catch was in round numbers 17,000 rounded off.

5 MR. GIRARD: That's 17,000
6 individual fish were collected?

7 THE WITNESS: And thrown in the
8 dumpster. They actually call it the dumpster
9 count.

10 MR. GIRARD: Did they present the
11 data in terms of biomass? I mean, certainly 50
12 percent of the catch they could all be very small
13 carp.

14 THE WITNESS: They could be, but
15 they weren't. If you did this on biomass instead
16 of the catch being -- so by number the watch was
17 roughly I said 63.5 percent tolerant. If you said
18 what percent did the biomass or what percent on a
19 biomass basis were tolerant fishes, it would be
20 like 90 or 95 percent because for reasons none of
21 us as biologists understand very well you don't
22 have many little common carp. Your typical common
23 carp is five pounds.

24 They sort of just spontaneously

1 generate and become five pounders overnight. I
2 can't explain that, but that's what seemingly
3 happens. So you had a lot of big carp and good
4 size and good size goby fish. So on a biomass, it
5 would be even more supported of the point I'm
6 making.

7 MR. GIRARD: Well, also the time of
8 year this rotenone kills in December. When do
9 carp spawn?

10 THE WITNESS: Carp spawn primarily
11 in May and June.

12 MR. GIRARD: So would that explain
13 maybe the large size of the carp?

14 THE WITNESS: No. Because carp live
15 20 years. So in any given year only a small
16 percentage of the fish is going to be
17 young-of-the-year. You have one age class that's
18 young-of-the-year and you have 19 other age
19 classes from 2 up through 20.

20 MR. GIRARD: Okay.

21 MS. DEXTER: Can I ask a follow-up?
22 Again, this is Jessica Dexter at ELPC.

23 MS. FRANZETTI: I'm just going to
24 continue to note my objection. I let it go for a

1 few questions the last time, but we have now had
2 Mr. Seegert being questioned by not one, but two
3 ELPC attorneys and --

4 MS. DEXTER: I'm just following up.

5 MS. FRANZETTI: It doesn't have to
6 do with following up.

7 MS. WILLIAMS: Jessica wasn't here
8 earlier.

9 MS. FRANZETTI: You are representing
10 the ELPC, aren't you?

11 MR. ETTINGER: Scratch that off.
12 I'm not any more. She is representing ELPC. I'm
13 here for Sierra Club and Prairie Rivers Network.

14 MS. FRANZETTI: I maintain my
15 continuing objection to the tag team on
16 Mr. Seegert by the ELPC.

17 MS. TIPSORD: Go ahead and ask your
18 question, but we do need to watch that. We've
19 been slipping.

20 MS. DEXTER: This is not in material
21 that was supposed to be in the set of hearings.

22 MS. TIPSORD: I understand that, but
23 I'm saying we've been getting a little lax about
24 that overall in the prior hearings as well.

1 MS. WILLIAMS: I just want to ask a
2 question -- I mean, if I have follow-ups on this
3 document. Debbie didn't prepare this document.
4 We didn't know this witness was going to talk
5 about this document. So I was going to request
6 leave to file a couple of follow-up questions on
7 this particular document only.

8 MS. TIPSORD: Which particular
9 document?

10 MS. WILLIAMS: The DNR comment that
11 she brought up just now.

12 MS. TIPSORD: Okay. Within reason,
13 go ahead, Ms. Dexter.

14 MS. DEXTER: I think I heard you say
15 a few times when you were explaining the findings
16 of this DNR study to begin with -- I thought I
17 heard you say 34 species, you referred to 34
18 species, I don't see a reference in this document
19 to 34 species. Is it possible that you were
20 mistaken or am I misunderstanding?

21 THE WITNESS: No, I wasn't mistaken.
22 In Table 2, the title of which -- and this is from
23 the DNR report US Army Corps of Engineers fish
24 counts from the Chicago Sanitary and Ship Canal

1 disposal dumpsters for Asian carp rotenone project
2 December 2009 and they list 34 species. So that's
3 how many species they threw in the dumpster.

4 MS. DEXTER: Does it say on page two
5 that 39 species were found, do you agree that's
6 what the DNR claims?

7 THE WITNESS: They also got a few
8 species in their electrofishing -- apparently, in
9 their electrofishing effort. That's in -- I think
10 in table 1, but all they say is observations. I
11 don't know what that means. They don't really
12 clarify it. They said these fish species were
13 observed during recovery observations, which then
14 to my mind, brings up the question if you observed
15 it, why didn't you recover it?

16 So there's a few additional
17 species that they say that they observed. So if
18 you add tables 1 and 3 together you get slightly
19 more than the 34.

20 MS. DEXTER: I just have one other
21 question. You were talking about the value of a
22 rotenone study. Is there any reason to believe
23 that the rotenone is producing a false positive
24 result, for instance, it is showing species that

1 don't really exist there?

2 THE WITNESS: No. They exist there.

3 MS. DEXTER: Thank you.

4 MS. FRANZETTI: In what kind of
5 numbers do they exist?

6 THE WITNESS: Well, if you look to
7 this data, what you would see and actually this is
8 very characteristic of a place like this, the Ship
9 Canal, you get an extreme dominance by a few fish,
10 a few fish species, mostly tolerant although not
11 all and then just a smattering of other things so
12 what they got were lots of carp, lots of blunt
13 nose minnows, quite a few blue gills and then a
14 couple of these, a couple of those. Those things
15 aren't really contributing much, if anything, to
16 the overall fish community. They just happen to
17 be there and are in very small number. So that's
18 why they do tend to get picked up in a rotenone
19 collection because it is so thorough, but they
20 don't get picked up as part of a standard
21 collection and in order to do an assessment, any
22 assessment that Illinois EPA presumably did as
23 part of this rulemaking they'd looked at
24 standardized results and said we expect there to

1 be 20 species or expect there to be 10, well, that
2 could be from a standardized effort. It wouldn't
3 be from a rotenone effort.

4 MR. GIRARD: Can I ask a rotenone
5 follow-up here? I have read that study. So maybe
6 it's an ignorant question, but how do we know the
7 rotenone mixed over that 5.5 miles from top to
8 bottom in the water column, from side to side, so
9 that it would actually kill every fish down there?
10 Did they do any sort of -- I mean, any sort of
11 testing to know that the rotenone actually got all
12 the way down to the bottom of the river.

13 THE WITNESS: Good questions. First
14 of all, when you do a rotenone effort and you're
15 dealing with a fairly wide area and deep area in
16 order to apply it properly you do have to, you
17 know, ensure proper mixing. I can't -- I wasn't
18 there so I can't address how they did that, but
19 what they did do is they put out cages with what
20 they call sentinel carp and they used common carp
21 for that.

22 So at different places they
23 strategically put down cages of common carp and
24 then when they came back after the rotenone effort

1 they checked all those cages and all the carp that
2 were in all these cages, some near the surface,
3 some near the bottom, some near the shore, some
4 near the center, all those fish were dead.

5 MR. GIRARD: One question that comes
6 to mind is how do they find out the carp in the
7 bottom cage is dead before they pull it off
8 through the rotenone?

9 THE WITNESS: This is after it all
10 took place. Plus like a lot of toxicants rotenone
11 is time dependant. Rotenone doesn't act in
12 seconds. Rotenone takes minutes or under fairly
13 cool conditions more like hours. So if you've got
14 a cage about 20 feet, I mean, it's only going to
15 take you a few seconds to raise that cage. Even
16 if they had been alive and even if the rotenone
17 still was around, that would not be enough
18 exposure time to kill carp.

19 MR. GIRARD: Is it usual to have
20 rotenone kill over an area this large?

21 THE WITNESS: As rotenone studies
22 go, this is actually pretty small. You can use
23 rotenone as a sampling technique -- for years,
24 this was done -- still is done in large reservoirs

1 in the southeast -- mainly in the southeastern
2 United States. There's just no way to get a good
3 sample in a huge area.

4 So they block off a cove and
5 rotenone it to see what's there, but, again, in
6 order to get any frame of reference you'd have to
7 do this multiple times, which is what biologists
8 in the southeast did over years. So they could --
9 they went to a lot of coves and a lot of
10 reservoirs, but as this is -- in terms of surface
11 area, this is not big. It really isn't.

12 MR. GIRARD: Is it usually done in
13 flowing water systems?

14 THE WITNESS: Quite often, yes. I
15 mean, I've personally used rotenone as a sampling
16 technique in streams. To some extent, it's easier
17 because you have for the most part a unit
18 directional flow. If it's flowing this way, you
19 add it here. You know where it's going. Then
20 that other issue you brought up about the mixing
21 is much more difficult. You have to go to a lot
22 of different places in a large bay. Some people
23 actually then use their outboard motors and go
24 roaring up and down to try to get additional

1 mixing of the rotenone.

2 MR. GIRARD: How do you explain the
3 statement that we heard earlier that, I guess,
4 it's fish and wildlife folks feel that some of the
5 fish never floated up so we never collected them?
6 How do you know they're dead fish down there?

7 THE WITNESS: What causes the fish
8 to float up eventually after it's been dead a
9 certain amount of time, it's air bladder fills
10 with gas and that floats it to the surface. When
11 it's real cold, that process takes a lot longer.
12 So we know that when we do a rotenone application,
13 a certain number of fish sink. Eventually,
14 they're all going to come up, but -- again, I
15 wasn't part of this effort, but I assume somebody
16 said -- we spent I think it was four days or four
17 to seven days. We spent enough time. We're not
18 going to keep waiting around here to have more
19 carp keep surfacing. We've got a good enough
20 handle on what's there and they verified that it
21 was effective from top to bottom and side to side.
22 So whether the actual number was the 17,000
23 reported here or let's say it was four times
24 higher than that, maybe it was 60,000, from their

1 perspective, presumably, it wasn't worth all that
2 extra time, effort and money to stay around and
3 watch a lot more common carp float to the surface.

4 MR. GIRARD: Could there be a
5 differential in terms of individual species and
6 how soon they float up, could that explain missing
7 some species?

8 THE WITNESS: I'm again -- and
9 there's some fish that don't have swim bladders.
10 Darters don't have swim bladders. Eventually, if
11 they get -- we'll call it ripe enough, they would
12 float up. I don't know if this would happen in
13 winter conditions. All I can say is this was run
14 by trained people with agencies like Fish and
15 Wildlife and Illinois DNR who have run rotenone
16 operations as ever before. It's not a standard
17 technique, especially in the north, but it's
18 something that is done on a fairly regular basis
19 mainly for what they call lake or river
20 rehabilitation. They want to kill all the fish in
21 a certain lake. So they know how to do it. I'm
22 presuming that they did it correctly.

23 MR. GIRARD: On your list there, do
24 you -- are there any darter species that they

1 collected?

2 THE WITNESS: No, but we haven't --
3 I don't have it immediately in front of me, but I
4 compiled a list of fish that EA collected that was
5 the 51 species I was referring to. I don't think
6 we've ever collected a darter up there. I mean,
7 it's not even remotely darter habitat up there.
8 So other than one drifting in from some place or
9 another, I can't see any reason why a darter would
10 want to be up there.

11 MR. GIRARD: Thank you.

12 MS. FRANZETTI: I was also going to
13 ask you about the DELT's issue that the IDNR
14 mentioned in their comments and, again, I believe
15 that on the DELT's statistics they really didn't
16 provide any back up, they just said based on their
17 observation they saw few DELTS's and what is your
18 reaction to the IDNR's statements with respect to
19 the issue of DELT's and maybe you might start
20 with --

21 THE WITNESS: What a dealt is?

22 MS. FRANZETTI: Just briefly.

23 THE WITNESS: A DELT -- I think that
24 term was introduced by perhaps Mr. Yoder and that

1 stand for deformities, erosions, lesions and
2 tumors and it's basically looking at the outside
3 of fish and saying does it have any of these
4 characteristics? They didn't provide any data to
5 support their observation that most of the fish
6 didn't have DELT's, but my first reaction is you
7 have to look for DELT's. So we had a bunch of
8 people.

9 As I said, overall, we're
10 well-trained, but I'd be very surprised if they
11 had been given instruction saying you've got to go
12 out and look for DELT's. They had literally
13 thousands of fish to process and to look for
14 DELT's, you have to pick up the fish, look at it
15 from all angles and does it have any lesions, does
16 it have any fin erosion and I kind of know this
17 from personal experience because when I went out
18 in September. It had been a while since I was in
19 the field and I'm identifying the first couple of
20 fish and I realize, hey, I have to be looking for
21 DELT's. I'm not doing this. So I had to slow
22 myself down, look at each fish carefully and then
23 on the data sheet, we have a thing where each of
24 these -- there's a category. You can check off

1 tumors and each one.

2 Well, I would be very surprised
3 if they had done that and I imagine probably what
4 they saw was, well, this fish isn't grossly
5 deformed or this fish it's fins are intact and
6 they're not missing and they might -- I didn't see
7 a lot of this. Hey, Joe. Did you see a lot of
8 deformed fish? Joe didn't see a lot of them
9 either. So they concluded that not a lot were.

10 Well, it turns out that what you
11 expect in a good population is about two percent.
12 That's not a lot. That's not even close to a lot.
13 So unless you're looking and carefully calculating
14 it they not -- maybe they didn't see a lot, but
15 maybe there were five percent or ten percent.
16 These are really high numbers for DELT's. They
17 put them in the poorest category on any IBI
18 assessment situation. So they didn't present any
19 information and I would very much be surprised if
20 they systematically had even looked for DELT's in
21 order to get the information they would need.

22 MS. FRANZETTI: And just finally any
23 other problems or disagreements that you
24 identified based on your review of the IDNR

1 comments?

2 THE WITNESS: Okay. Two. One is
3 they also mention that body condition was good to
4 excellent. Well, again, this is something that
5 you can't just eyeball, that it's a calculated
6 value. There's what they call a K-factor and
7 relative weight and these are calculated values.
8 You weigh the fish. You measure the fish. You do
9 a calculation. You get a value. Well, there's no
10 evidence that they did any of this.

11 Again, it seems to me it was
12 most likely antidotal. They said, "This looks
13 like a pretty good fish. That looks like a
14 healthy fish," but unless you actually crunch the
15 data, you don't know. So you don't really know
16 whether or not the fish were in good condition or
17 weren't in good condition.

18 And then the last thing they had
19 mentioned that as part of this overall assessment
20 they noted the presence of an intolerant species
21 small mouth bass. In this case, small mouth bass
22 is correctly characterized as intolerant, but if
23 you look at table two in the report you don't see
24 small mouth bass. The only place it was reported

1 was apparently from their electrofishing efforts
2 where they got one.

3 So despite all this rotenoning
4 and the electrofishing that proceeded it, they got
5 one small mouth bass, and I would maintain that
6 the presence of one small mouth bass or one of any
7 other intolerant species is not very informative
8 of what the overall quality -- in fact, if
9 anything it's probably informative in the other
10 direction. In other words, the fact that there's
11 only one of any intolerant species tells me that
12 this isn't a good place to be an intolerant
13 species.

14 MS. FRANZETTI: That's all the
15 questions I have.

16 MS. WILLIAMS: I just have one
17 follow-up on this line. When Ms. Franzetti began
18 her questioning, she asked you if you were
19 surprised by the results in the DNR comments.
20 Have we --

21 MS. FRANZETTI: That wasn't quite
22 what I asked.

23 MS. WILLIAMS: I want to actually
24 get --

1 MS. FRANZETTI: I understand.

2 That's why -- I'm sorry if I'm interrupting you.

3 The IDNR said their results were unexpected. They

4 characterized the results. So I was asking him do

5 you agree that the results are unexpected with

6 respect to the nature of the fish community.

7 MS. WILLIAMS: And you said no?

8 THE WITNESS: No.

9 MS. WILLIAMS: So I found two things

10 in here that I found unexpected that I would like

11 to ask more specifically about.

12 THE WITNESS: Okay.

13 MS. WILLIAMS: One is on page

14 three -- page two. Do we have a comment number?

15 Have we figured out what number it was?

16 MS. TIPSORD: No. But it's the

17 public comment from the Department of Natural

18 Resources, IDNR.

19 MS. FRANZETTI: We're being told

20 it's Comment 505.

21 MR. TESHER: Part of the document

22 has handwriting on it, but I presume is yours.

23 MS. TIPSORD: Actually, it's the

24 clerks.

1 MS. WILLIAMS: On page two of Public
2 Comment 505 near the bottom of the page under CSSC
3 December 2009, it says, in the second sentence,
4 "Approximately 500 dead sauger, which represent at
5 least three size classes, were observed just
6 downstream of the Lockport Lock in the CSSC.' Did
7 you find that surprising? Would you have expected
8 that they were there? Unexpected. I'm sorry.
9 Was that a result you would have expected?

10 THE WITNESS: I'd be somewhat
11 surprised by the number, but, you know, I knew
12 that they were stocking sauger in the -- we should
13 call it the Upper Des Plaines River. So we've
14 been -- this rulemaking is devoted to Lower Des
15 Plaines River. Well, these fish weren't stocked
16 there. They were stocked in up the Upper Des
17 Plaines River and it's not particularly -- that's
18 overall a pretty shallow system. So I suspect in
19 this case that the Agency is right that these fish
20 decided to overwinter in the deeper water below
21 the Lockport Dam.

22 MS. WILLIAMS: The deeper water,
23 that's what you think brought them in, the deeper
24 water?

1 THE WITNESS: Yes.

2 MS. WILLIAMS: Could it also be the
3 warmer water that brought them in?

4 THE WITNESS: No.

5 MS. WILLIAMS: Why not?

6 THE WITNESS: Well, the water there
7 isn't that much warmer. A number of fish species
8 when it gets to be wintertime, they go out and
9 seek the deepest water they can. So I think that
10 that's what they're looking for and even the
11 Agency's comment is the area --

12 MS. WILLIAMS: By Agency, can we --
13 the Department's comments, is that all right?

14 THE WITNESS: The Department.
15 They're a department. You're an agency. They're
16 a department.

17 MS. WILLIAMS: Thank you.

18 THE WITNESS: There we go. The area
19 of the Chicago Sanitary and Ship Canal and the
20 Lower Des Plaines River below Lockport Lock where
21 deep flowing water is present may have been an
22 important overwintering area. So they
23 specifically refer to deep. They didn't say --
24 they said deep and flowing. They didn't say warm.

1 So I think they had the same conclusion I did.

2 MS. WILLIAMS: Would you -- I don't
3 know that we talked about that in this proceeding.
4 Particularly would you just explain to the Board
5 whether sauger or tolerant or intolerant species?

6 THE WITNESS: They're none of the
7 above. Mr. Smogor would probably know better than
8 I. I don't recall them being classified one way
9 or the other.

10 MR. SMOGOR: For the IBI
11 classification?

12 THE WITNESS: Yes.

13 THE COURT REPORTER: Name, please.

14 MS. TIPSORD: Hang on. Identify
15 yourself and then we're going to swear you in.

16 MR. SMOGOR: I'm Roy Smogor with
17 Illinois EPA.

18 (Whereupon, the witness was
19 sworn.)

20 MS. TIPSORD: Go ahead.

21 MR. SMOGOR: For Illinois current
22 fish IBI classification sauger are neither
23 classified as intolerant or tolerant. So they're
24 somewhere in between those two extremes.

1 MS. WILLIAMS: What can you tell us
2 about their temperature preferences?

3 THE WITNESS: Can you be more
4 specific?

5 MS. WILLIAMS: What can you tell us
6 about what their optimum temperature is or their
7 upper lethal temperature is?

8 MS. FRANZETTI: Any of those
9 temperature things. If you can off the top of
10 your head.

11 THE WITNESS: Sauger are actually
12 pretty temperature tolerant. They're definitely a
13 warm water species. They tend to be --
14 Mr. Smogor, I believe, is correct in putting them
15 in between, but if I put them towards one or the
16 other end I put them more towards the tolerant end
17 because they tend to be oftentimes in quite turbid
18 waters compared to walleye for example. They tend
19 to be in more turbid systems than walleye are.
20 Their range -- their native range extends well
21 into the south. My recollection is their upper
22 lethal temperature is probably 34 or 35 degrees C.
23 So they're quite temperature tolerant. As far as
24 optimal, they're various kinds of optimal. Do you

1 want to clarify?

2 MS. WILLIAMS: No. If you can
3 answer.

4 MS. FRANZETTI: Is that answer
5 sufficient for your purposes?

6 MS. WILLIAMS: I think that's
7 probably okay.

8 MS. FRANZETTI: Okay.

9 MS. WILLIAMS: I just had one other
10 unexpected --

11 MS. TIPSORD: One second. Off the
12 record.

13 (Whereupon, a discussion was had
14 off the record.)

15 MS. WILLIAMS: The only other
16 finding that was unexpected to me personally, not
17 being a biologist, but I want to ask you on page
18 two of Public Comment 505 -- no. Page three.
19 They look the same, but, again, we're looking at
20 the bottom of page three, also under CSSC December
21 2009. This is referring to the Chicago Sanitary
22 and Ship Canal and it says, quote, one of the most
23 significant observations from the December 2009
24 operation was the very high abundance of

1 young-of-the-year channel catfish. Can you
2 explain why this result was not unexpected to you?

3 THE WITNESS: Because we had done
4 larval fish work in the upper part of the Ship
5 Canal. We have seen larval fish.

6 MS. WILLIAMS: So do you believe
7 channel catfish are spawning in the Chicago
8 Sanitary and Ship Canal.

9 THE WITNESS: I want to try to be as
10 responsive as I can. In a -- catfish larvae are
11 actually, by standard techniques, difficult to
12 collect. Again, we talk about some fish are hard
13 to electrofish. Well, catfish larvae are
14 relatively speaking difficult to collect, the
15 standard years designed to collect. So I don't
16 recall that we've gotten that many with the
17 standard years, but given the number of catfish
18 that are present up there I'm not at all surprised
19 by a fair number of larval catfish being present.
20 I did not find that surprising.

21 MS. WILLIAMS: Okay. That's all I
22 have. Thank you.

23 MS. TIPSORD: Is there anything else
24 for Mr. Seegert?

1 MS. DEXTER: One more follow-up?
2 What kind of habitat do catfish require to spawn?

3 THE WITNESS: Catfish -- channel
4 catfish are cavity spawners. So what they're
5 looking for is an area -- a lot of times, it's a
6 hollow log that they can get into. They actually
7 go into that area, but it can also be an area
8 where there's some riffraff and the area between
9 boulders. They can get in there and then they lay
10 eggs and then actually as opposed to Asian carp
11 which are broadcast spawners and just say, hey,
12 good luck, guys, and let all their kids go.
13 Catfish are very good parents. They guard their
14 nest. They have a nest and the adult male guards
15 it and we've done a lot of work with channel
16 catfish in a reservoir in Indiana and to be honest
17 I didn't think catfish would be able to reproduce
18 down there and they're reproducing like crazy. So
19 they must be able to find some real small cavities
20 or there's more underwater cover than I'm aware
21 of, but they're cavity nesters. So any place
22 there's a hole big enough for an adult size
23 channel catfish to get into, that's what they
24 would use for spawning.

1 MS. DEXTER: Thank you.

2 MS. TIPSORD: Anything else for
3 Mr. Seegert? Thank you very much, Mr. Seegert.
4 It's been a pleasure again and, with that, we're
5 adjourned for the day.

6 (Whereupon, the proceedings in
7 the above-entitled cause were
8 adjourned to 9:00 a.m.,
9 November 9th, 2010.)

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1 STATE OF ILLINOIS)

2) SS.

3 COUNTY OF COOK)

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5 I, Steven Brickey, Certified Shorthand
6 Reporter, do hereby certify that I reported in
7 shorthand the proceedings had at the trial
8 aforesaid, and that the foregoing is a true,
9 complete and correct transcript of the proceedings
10 of said trial as appears from my stenographic
11 notes so taken and transcribed under my personal
12 direction.

13 Witness my official signature in and for
14 Cook County, Illinois, on this 18th day of
15 November, A.D., 2010.


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