

BEFORE THE OHIO POWER SITING BOARD

- - -

In the Matter of the :
Application of Firelands :
Wind, LLC, for a :
Certificate of :
Environmental :
Compatibility and Public : Case No. 18-1607-EL-BGN
Need to Construct a :
Wind-Powered Electric :
Generation Facility in :
Huron and Erie Counties, :
Ohio. :

- - -

PROCEEDINGS

before Mr. Jay S. Agranoff and Mr. Michael Williams,
Attorney Examiners, Ohio Power Siting Board,
conducted via Webex, called at 9:07 a.m. on Tuesday,
October 6, 2020.

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VOLUME II

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Tuesday Morning Session,
October 6, 2020.

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ALJ WILLIAMS: Let's get back on the
record.

At this time we will entertain
Applicant's next witness.

MR. SECREST: Thank you, your Honor. May
the Applicant call Rhett Good to the stand.

ALJ WILLIAMS: Good morning, Mr. Good.
Good morning, Mr. Good. You are a smaller box.
Hopefully it will become larger but I will work on my
settings. I can see I now have visual. You are
still -- there you are. Can you hear me just fine?

THE WITNESS: I can hear you.

ALJ WILLIAMS: Fantastic. If you would
raise your right hand and I am going to swear you in.

(Witness sworn.)

ALJ WILLIAMS: All right. Please
proceed.

MR. SECREST: Thank you, your Honor.

(EXHIBIT MARKED FOR IDENTIFICATION.)

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RHETT GOOD

being first duly sworn, as prescribed by law, was
examined and testified as follows:

DIRECT EXAMINATION

By Mr. Secrest:

Q. Would you please state your full name for
the record.

A. My name is Rhett Good.

Q. By whom are you employed and what is your
business address?

A. I'm employed by Western EcoSystems
Technologies, Incorporated. Our address is 408 West
6th Street, Bloomington, Indiana 47403.

Q. Do you have in front of you what's been
marked as Exhibit 32 -- Applicant's Exhibit 32, your
prefiled direct testimony?

A. I do.

Q. And is that a true and accurate copy of
your direct testimony that was prefiled in this case?

A. It is, although I have one change.

Q. So what change do you have?

A. Yes. On page 24, line 17, through
page 25, line 1, I would like to change that -- the
paragraph there and replace it with the following:

1 "The Project has obtained a Technical
2 Assistance Letter from the U.S. Fish and Wildlife
3 Service that outlines the measures the Project will
4 use to avoid the potential take of the Indiana and
5 northern long-eared bat. These measures include
6 feathering blades of all turbines below 6.9 meters
7 per second at night during the spring and fall
8 migration periods, and during the summer maternity
9 period turbines located within 2-1/2 miles of an
10 Indiana bat roost. The Project's implementation of
11 the U.S. Fish and Wildlife Service recommended
12 measures will also reduce potential impacts of the
13 Project to other bat species. The Project may also
14 elect to develop a Habitat Conservation Plan in the
15 future and obtain an Incidental Take Permit which
16 would require measures to minimize impacts to listed
17 bat species, and mitigation for the impacts. Options
18 exist for reducing bat mortality under a Habitat
19 Conservation Plan, including feathering turbine
20 blades during low wind speeds or use of acoustic
21 deterrents, which also significantly reduces bat
22 mortality. Minimization measures within a Habitat
23 Conservation Plan would require U.S. Fish and
24 Wildlife Service review and approval, and will
25 significantly reduce mortality of other bat species."

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1 Q. Thank you, Mr. Good. Do you have any
2 other revisions to your testimony?

3 A. I do not.

4 MR. SECREST: Thank you. Your Honors, I
5 tender Mr. Good for cross-examination.

6 ALJ WILLIAMS: Thank you.

7 Mr. Van Kley.

8 MR. VAN KLEY: Thank you, your Honor, and
9 good morning, Mr. Good.

10 THE WITNESS: Good morning.

11 - - -

12 CROSS-EXAMINATION

13 By Mr. Van Kley:

14 Q. I'll be asking you some questions today
15 on behalf of the Black Swamp Bird Observatory and the
16 local resident intervenors.

17 Let's start by discussing your personal
18 involvement in the formation of the Application that
19 Firelands has filed with the Board for the Emerson
20 Creek wind project. Can you tell me which, if any,
21 of the reports included in this application were
22 prepared by you?

23 A. Yes. Give me a second. I am listed as a
24 coauthor on a few of those. I'll have to look those
25 up to make sure I get those correct. I thought I had

1 a copy of my testimony in front of me but I don't.

2 Can you hand me one of those, Chris? Thank you.

3 MR. SECREST: For the record, the witness
4 has been handed his direct testimony.

5 ALJ WILLIAMS: Thank you, Attorney
6 Secrest.

7 MR. SECREST: You're welcome, your Honor.

8 THE WITNESS: I apologize. I am having
9 trouble finding the exhibits associated with the
10 Application. Give me a second. Can I ask for some
11 help from my counsel here?

12 MR. VAN KLEY: That would be fine.

13 THE WITNESS: Sure. Chris, which one of
14 those would be the exhibit?

15 MR. SECREST: If I may direct Mr. Good to
16 Application Exhibits R, S, and T.

17 THE WITNESS: This one, thank you.

18 MR. VAN KLEY: I would note that part of
19 Exhibit 2 is in Applicant's Exhibit 6 so that
20 document should be provided to the witness as well
21 since I have some questions about it.

22 THE WITNESS: I believe I was listed as
23 coauthor on one of these and I am having trouble
24 finding it right now.

25 MR. SECREST: Attorney Van Kley, maybe we

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1 could proceed with the questions as to the exhibits
2 and then, after a break, the witness could confirm
3 that that's the entirety of the exhibits. Would that
4 help you?

5 MR. VAN KLEY: That would be fine.

6 ALJ WILLIAMS: Let's go ahead and have
7 him wait to confirm any other information outside
8 your line of questioning under oath after a break,
9 but for now we can maybe dive in and direct him as to
10 questions you have.

11 THE WITNESS: And I can say I indeed have
12 all the reports but I -- yeah, as far as which ones I
13 am listed as coauthor on, yeah, I can go back through
14 those and get back to you on that.

15 ALJ WILLIAMS: Thank you.

16 Q. (By Mr. Van Kley) Have you visited the
17 project area for the Emerson Creek wind project?

18 A. I have.

19 Q. Okay. On how many occasions?

20 A. I believe I was at the project in 2010
21 during some initial site visit with Fish and Wildlife
22 Service and ODNR, and then I was -- I also visited
23 the site in March of this year to familiarize myself
24 with the final project boundary.

25 Q. During any of these visits did you

1 conduct any bird surveys?

2 A. We -- we did look -- we did examine some
3 of the existing records of bald eagles' nests while
4 we visited the site this spring. I don't know if I
5 would call that an official survey but we did look
6 for eagle nests during our visit.

7 Q. So you were not personally involved in
8 any of the counting of bird individuals or
9 identification of bird species that were included in
10 the reports for the Application?

11 A. That's correct.

12 Q. Did you have any supervisory role over
13 the people who did conduct those activities?

14 A. For some of the reports, yes.

15 Q. What was that role?

16 A. Some of the passerine migration surveys,
17 large bird surveys, raptor nest surveys, were
18 completed by members of my team so I reviewed many of
19 the reports and I was -- they work for me as part of
20 my office.

21 Q. How long was your visit when you went to
22 the project area to meet with the U.S. Fish and
23 Wildlife Service?

24 A. I think we were there a half day or so.

25 Q. And how long was your visit when you went

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1 there in March of this year?

2 A. We visited the site over the course of
3 two days. We were on site probably a total of 8 to
4 10 hours.

5 Q. During that visit, what did you do with
6 respect to the eagle nests?

7 A. We visited the nest records that were
8 available. Within a mile or two of the project.

9 Q. Did you make observations of the
10 occupation or lack of occupation for those nests
11 during that visit?

12 A. We did, yes. Chris Farmer was leading
13 that effort. I was present. I was driving. I was
14 helping look for nests. Chris was keeping the
15 records of the nests which were occupied.

16 Q. You said Mr. Farmer. Who else was with
17 you on that visit?

18 A. Dan Kramer. He is one of our field
19 biologists that completed many of the surveys in the
20 project.

21 Q. Let's go to your written direct testimony
22 which has been identified as Applicant's Exhibit 32.

23 A. Yes, I have that one.

24 Q. And I would like to direct you to page 4
25 of that testimony.

1 A. I have that.

2 Q. Let's take a look at paragraph 7b.

3 A. Yes, I see that.

4 Q. Directing your attention to the last
5 sentence, that sentence reads as follows: "Surveys
6 were completed March 12 to 15, prior to leaf out, to
7 increase the observer's ability to find nest
8 structures." Do you see that sentence?

9 A. Yes, I see that sentence.

10 Q. Okay. And to put this in context, these
11 were surveys being conducted for raptors, correct?

12 A. That's correct.

13 Q. Now, you refer to your -- in your
14 testimony to raptors, did that -- did that term
15 include eagles?

16 A. Not -- not for the purpose of my
17 testimony but certainly eagles are a raptor and they
18 were recorded during these surveys. Chris Farmer is
19 testifying today regarding the eagle surveys
20 specifically.

21 Q. So with respect to the raptor nest
22 surveys that are referenced in this paragraph of your
23 testimony, did those raptor surveys look for eagles
24 as well as other types of raptors?

25 A. Correct.

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1 Q. It says here that the surveys were
2 completed from March 12 to 15, correct?

3 A. Yes, that's what it says, yes.

4 Q. At that time of the year, which species
5 of raptors do you expect would have been occupying
6 their nests?

7 A. By mid March definitely eagles would be
8 on the nest. You know, I would say red-tails are
9 starting to occupy nests at that time. But
10 definitely eagles would be on the nest.

11 Red-shouldered hawks are probably starting at that
12 time. Cooper's hawks and sharp-shinned hawks are
13 probably starting at that time as well.

14 Q. Now, when you say those species are
15 probably starting by that time, do you mean that some
16 of them may be incubating by that time and not others
17 or do you mean that all of them start occupying their
18 nests by that time?

19 A. I would say the majority should be
20 starting to build nests, either they've arrived at
21 their territory or will soon be. So that period
22 would overlap the majority of time when most raptors
23 would be on their nest.

24 Q. Well, during -- at that period of time,
25 which of those species would you expect to actually

1 be incubating eggs on their nest?

2 A. Bald eagles, and, again, I would say the
3 majority of red-tailed hawks, and many of the other
4 species should be -- well, yeah, they should be egg
5 laying and some will be incubating.

6 Q. Are there some species of raptors you
7 would expect in Ohio that would not be occupying a
8 nest by March 15?

9 A. It's certainly possible that some late
10 arrivers may not be on the nest at that time. The
11 majority should be.

12 Q. Going to page 5 of your testimony, the
13 first paragraph. I would like to direct your
14 attention to the last sentence of that paragraph
15 which states as follows: "Eleven active red-tailed
16 hawk nests, one active great-horned owl nest, and 21
17 unoccupied non-eagle raptor nests were found within
18 the 2018 Project area and a one mile buffer." Do you
19 see that sentence?

20 A. I do.

21 Q. Now, when this sentence refers to
22 unoccupied raptor nests, did that mean that no
23 activity -- does this mean that the activity -- that
24 the nests had not yet been occupied to any extent by
25 the raptors?

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1 A. What that means at that time we did not
2 observe signs of activity during the survey so there
3 were no birds on the nest. We didn't observe, you
4 know, feathers, birds around the nest, or signs of
5 greenery that would suggest the nest was occupied.

6 Q. So the survey found 32 non-eagle raptor
7 nests; is that correct?

8 A. Non-raptors. So there was 11 active
9 red-tailed nests, one great-horned owl nest, and 21
10 other nests that were empty but were consistent
11 structure with a raptor, but were too small, they
12 didn't have characteristics to be consistent with an
13 eagle.

14 Q. So there were 33 non-eagle raptor nests
15 found total, correct?

16 A. 11 plus 21 which would be 32, and then if
17 you count the great-horned owl, that would be 33.

18 Q. Yeah. And of that number, 21 were not
19 occupied.

20 A. Yes.

21 Q. Were there any signs that those
22 non-occupied raptor nests had deteriorated?

23 A. I would need to go back to the report.
24 We do often record condition. I don't remember off
25 the top of my head.

1 Q. Are you aware of any rule of thumb or
2 other information that would indicate what percentage
3 of raptor nests are expected to be unoccupied in an
4 area?

5 A. Yeah, I am not. In my experience it's
6 quite variable. Raptors will maintain multiple nests
7 in each of their territory so you certainly do expect
8 empty nests -- empty stick nests during a typical
9 survey.

10 Q. Would you refer down to page 5 of your
11 testimony, go to the paragraph that has the date of
12 June 13, 2018 on it. And I would like to direct your
13 attention to the second paragraph under June 13,
14 2018. And looking at the second paragraph, the
15 second paragraph, second sentence, that sentence
16 reads as follows: "Six active red-tailed hawk nests,
17 two active great-horned owl nests, and 12 unoccupied,
18 unknown raptor nests were found within the revised
19 Project area and one mile buffer." Do you see that
20 sentence?

21 A. I do.

22 Q. Okay. So here we have 12 unoccupied
23 raptor nests other than eagle nests and we have 8
24 occupied non-eagle raptor nests, correct?

25 A. Yes. We have got 8 occupied active

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1 nests, 12 unoccupied unknown.

2 Q. Now, let's go to page 6 of your
3 testimony. And I would like to direct you to the
4 bullet point paragraph that has the date of May 6,
5 2011, Spring 2011, on it.

6 A. Line 24?

7 Q. Yes, sir. And this paragraph discusses
8 the results of another raptor test -- or another
9 raptor survey included in the Application, correct?

10 A. Yes.

11 Q. Now, let's go to page 7 under the same
12 date. Going to the first full paragraph on that
13 page, I would like to direct your attention to the
14 second sentence which states: "Seven active
15 red-tailed hawk nests and nine inactive, unknown
16 species raptor nests were found within the 2011
17 Project area." Do you see that sentence?

18 A. Yes, the very last sentence of that
19 statement.

20 Q. So that survey found that 9 out of 16
21 non-eagle raptor nests were inactive at that time.
22 I'm talking about just in the project area as
23 discussed by this second sentence of that paragraph.

24 A. Right. Yes, that's correct.

25 Q. And then the third sentence of that

1 paragraph states that "Seven active red-tailed hawk
2 nests, and six inactive unknown species raptor nests
3 were found within one mile of the 2011 Project area,"
4 correct?

5 A. Correct.

6 Q. So there at that location there were 6
7 out of 13 nests were not occupied at the time,
8 correct?

9 A. Well, within the project it was 7 out of
10 16. Outside the project it was 7 out of 13 were
11 active.

12 Q. Let's go to page 10 of your testimony. I
13 would like to direct your attention to the largest
14 paragraph which is in the middle of the page and
15 specifically let's look at the second-to-the-last
16 sentence of that paragraph which discusses tundra
17 swans.

18 A. I see that.

19 Q. All right. It states there that "100
20 tundra swans were recorded on one occasion during the
21 spring, and likely occurred in the Project
22 periodically during the spring migration period." Do
23 you see that sentence?

24 A. I do.

25 Q. Have you done any investigation to

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1 determine whether tundra swans are present in the
2 project area at times of the year other than spring?

3 A. We have. There were a couple of
4 year-long surveys in which tundra swans were observed
5 during winter. So they are certainly migrant but
6 they also occur here during migration -- or during
7 winter.

8 Q. Uh-huh. Were the report -- were the
9 results of the winter survey included in the
10 Application?

11 A. They're included in my testimony. I'm
12 not sure if they are included in the Application or
13 not. I can go back through and check if you would
14 like.

15 Q. Yeah. Well, let's first ask a few
16 introductory questions to see where you might find
17 that information in the Application. During what
18 year or years were those winter surveys conducted?

19 A. You have to give me a second to look that
20 up. 2018 and 2019.

21 Q. And can you identify the report in which
22 the results of these winter surveys were contained?

23 A. There is a report that was cited in my
24 testimony and I believe it's included as an
25 attachment in Chris Farmer's testimony that describes

1 those February 2018 to April 23, 2019, surveys.

2 Q. Okay. Would you give me the dates of
3 those surveys again, please.

4 A. Yeah. My testimony says surveys were
5 completed February 8, 2018 to April 23, 2019 -- 2019.

6 Q. And where do you see that in your
7 testimony?

8 A. It's Question 9, line 13.

9 Q. What page of the testimony?

10 A. Page 18.

11 Q. So going to page 18 of the testimony,
12 Answer 9, it appears that the surveys that you have
13 been referring to were surveys for large birds and
14 eagles, correct?

15 A. Correct.

16 Q. Did Firelands do any winter surveys for
17 other types of birds?

18 A. Firelands did, I believe, some passerine
19 migration and bird surveys.

20 Q. They didn't do those during the winter,
21 did they?

22 A. No. I'm sorry I didn't know -- I thought
23 you were referring in general.

24 Q. No. My question was, has Firelands
25 conducted any bird surveys during the winter for

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1 species other than the large birds and eagles that
2 were surveyed and described in Answer 9 of your
3 testimony.

4 A. So your question is did they do any --
5 any surveys, other than large bird or raptor surveys,
6 did Firelands, in winter.

7 Q. During the winter, yes.

8 A. Are you referring to the previous surveys
9 by other consultants or are you referring to
10 more-recent surveys we did within the current
11 boundary which did include Firelands?

12 Q. I'm -- I'm asking about any surveys that
13 were included in the Application regardless of which
14 consultants did them.

15 A. I believe Firelands did complete some
16 year-long surveys for eagles that did include the
17 winter. I think that's part of Chris Farmer's
18 testimony.

19 Q. Yeah. Well, my question was whether --
20 whether, other than the large birds and eagles that
21 were surveyed during the winter as stated in Answer 9
22 in your testimony, were there any surveys done of
23 other bird species during the winter?

24 A. Yes. Well, the owl surveys were part of
25 the breeding season; they were probably on the edge

1 of winter. Otherwise, no, I'm not aware of any.

2 Q. With respect to the owls that were
3 surveyed for this project, the species that were
4 surveyed were limited to just three species of owls,
5 correct?

6 A. Yes. That's all the ODNR requested
7 surveys for.

8 Q. And those surveys were done for the
9 screech owl, correct?

10 A. Yes.

11 Q. And the great-horned owl?

12 A. Correct.

13 Q. And the barn owl?

14 A. Correct.

15 Q. Now, are you aware that there are other
16 species of owls present in this area of Ohio besides
17 those three species during the winter?

18 MR. SECREST: Objection, vague as to
19 "area of Ohio."

20 MR. VAN KLEY: Oh, I can rephrase it.

21 ALJ WILLIAMS: Thank you.

22 Q. (By Mr. Van Kley) Are you aware there are
23 other species of owls present in the counties in --
24 in which the project area is located, besides the
25 three species of owls that were surveyed?

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1 A. Yeah, I would expect northern saw-whet
2 potentially to be present. I wouldn't be surprised
3 if there are records in the project.

4 Q. What about short-eared owls, would you
5 expect those to be present in that area?

6 A. Short-eared and snowy could occur
7 irregularly during the winter. I suppose you could
8 rarely have observations of something like northern
9 hawk-owl. Those are three others that could be
10 present.

11 Q. Would you expect the long-eared owl to be
12 present?

13 A. Yeah, that one could potentially be
14 present.

15 Q. But there were no surveys done during the
16 winter to try to find the owls that might be present
17 in the project area other than the three species that
18 you've already indicated were surveyed, correct?

19 A. That's right. There were no targeted owl
20 surveys. Now, we did do general large bird surveys
21 so if one of those species was flying during the day,
22 we would have seen it if it occurred in our point
23 counts during the time we did surveys, but no
24 targeted owl surveys.

25 Q. Uh-huh. During those large bird surveys

1 that were conducted during the winter, was there any
2 efforts made to specifically look for owls that were
3 visiting from up north?

4 A. That's one of the general purposes of the
5 general large bird survey is to get a sample of the
6 use of all large birds flying during the day. So
7 something like a snowy owl would certainly be
8 visible. Short-eared owl less so. They're probably
9 more active in the very late, early morning periods.

10 Q. And the northern -- or the saw-whet owl
11 doesn't usually fly during the daytime, does it?

12 A. Correct.

13 Q. And the long-eared owl doesn't usually
14 fly during the daytime?

15 A. Yeah, you're right, usually not.

16 Q. Are you aware that there are species of
17 passerines that may be present in the project area
18 during the winter that would not be found there
19 during the other seasons of the year?

20 A. Certainly there could be -- there are a
21 few species that come down in winter, yes.

22 Q. It's more than a few species, isn't it?

23 A. Yeah. I don't have the number off the
24 top of my head but there's a few that come to mind.

25 Q. Isn't it common for some species of birds

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1 that breed in Canada to then migrate to Northern Ohio
2 during the wintertime?

3 A. Yeah, certainly some of those species do.

4 Q. For example, some species of finches will
5 come down to Northern Ohio from Canada during the
6 winter?

7 A. Yes, that's correct.

8 Q. Let's go to page 11 of your testimony.
9 Actually we'll start on page 9 to set the context of
10 these questions. And I would like to direct your
11 attention to the bullet point before the July 20,
12 2012, Avian Survey Report, prepared by Tetra Tech.

13 A. I see that.

14 Q. Okay. Now, let's go to page 11. On the
15 top of the page, the paragraph starting with the word
16 "Twelve." That paragraph contains information from
17 the July 20, 2012, Avian Survey Report by Tetra Tech,
18 correct?

19 A. Yes.

20 Q. I would like to direct your attention to
21 the last two sentences of that paragraph which states
22 as follows: "The authors concluded that the project
23 does not appear to be of great importance to special
24 status or migratory birds. The Project does receive
25 use by migrant -- migrating and nesting birds; I

1 agree with the conclusion that the Project does not
2 appear to be located in a concentrated migration
3 corridor based on the survey results." Do you see
4 those two sentences of your testimony?

5 A. I do.

6 Q. Okay. Would you go to this Tetra Tech
7 report in the Application because I have a few
8 questions about it.

9 A. Okay. Exhibit S?

10 Q. Yes. It should be in Exhibit S. For
11 those of you who are using an online version of
12 Exhibit S, you will find this report starting at PDF
13 page 186.

14 ALJ WILLIAMS: Mr. Van Kley, I'm sorry.
15 I have got S1, 2, 3, and 4. S4 for the 2011 --
16 July 20, 2012, Tetra Tech report?

17 MR. VAN KLEY: Yes. It's the July 20,
18 2012.

19 ALJ WILLIAMS: Okay. Report to Jennifer
20 Norris of ODNR. It's S4 in whatever I just opened
21 electronically.

22 THE WITNESS: Yeah, I have that now.

23 Q. (By Mr. Van Kley) Mr. Good, have you
24 found that report in your packet?

25 A. Yes, I have it now.

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1 Q. Okay. Great. All right. Can you point
2 out to me where in this report you found the
3 conclusion that the project does not appear to be
4 located in a concentrated migration corridor based on
5 the survey reports?

6 A. They referred to migration when they
7 address raptor -- raptor migration rates during the
8 raptor migration surveys. And then they refer to
9 areas of -- what was the term -- of great importance
10 to special status or migratory birds. I don't see
11 the term "concentrated migration corridor" in here.
12 I believe that might be my term.

13 Q. Yeah. All right. Well, let's start with
14 your observation about what the report states about
15 raptor migration. Where do you find that information
16 in the Tetra Tech report?

17 A. Well, let's see here, I'll find the page
18 for you. If you go to section 4.2, page 13. They
19 describe the Diurnal Raptor and Bird Migration
20 Survey.

21 ALJ WILLIAMS: That's 5.2, correct?

22 THE WITNESS: Page 13, section 4.2 is
23 where -- it begins with the survey results.

24 ALJ WILLIAMS: All right. Thank you.

25 Q. Which language in section 4.2 of the

1 Tetra Tech report provide you with any information
2 concerning your conclusion that the project does not
3 appear to be located in a concentrated migration
4 corridor?

5 A. Section 4.2.3 describes encounter rates
6 and raptor species abundance.

7 Section 4.2.4 describes the raptor
8 species encounter rates. Those encounter rates are
9 quite low compared to the number of raptors typically
10 observed at well-known hawk migration count stations
11 which are located in concentrated migratory
12 corridors.

13 Q. With respect to bird species other than
14 the raptors, what, if any, information were you
15 relying on from the Tetra Tech report of July 2012 to
16 form your conclusion that the project does not appear
17 to be located in a concentrated migration corridor?

18 A. So the Greater Sandhill Crane Migration
19 Survey is another one that was focused on sandhill
20 crane and the observed sandhill crane use.

21 And if you -- the other section, 4.2.7,
22 where they address other large birds.

23 Q. Did you rely on any other information
24 from the Tetra Tech report to make your conclusion
25 that the project does not appear to be located in a

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1 concentration -- in a concentrated migration
2 corridor?

3 A. Those are the main areas where we -- I
4 reviewed and came to the same conclusion the authors
5 did.

6 Q. So the information that you relied on for
7 the conclusion was limited to the survey on large
8 birds or surveys on large birds.

9 MR. SECREST: Objection to the extent it
10 mischaracterizes his testimony.

11 ALJ WILLIAMS: Sustain the objection. If
12 you could please rephrase.

13 MR. VAN KLEY: I am asking him whether
14 that is true or not. I am not characterizing his
15 testimony.

16 THE WITNESS: Am I supposed to answer
17 that one?

18 MR. VAN KLEY: Yes.

19 ALJ WILLIAMS: Can we have the question
20 reread?

21 THE WITNESS: Can you repeat the
22 question, please?

23 MR. VAN KLEY: Yeah. I can repeat the
24 question.

25 Q. (By Mr. Van Kley) So the information that

1 you used -- that you relied on for your conclusion
2 that the project does not appear to be located in a
3 concentrated migration corridor was limited to
4 information that you had about large birds.

5 A. That's correct. Yeah, yes, that's
6 correct. If you are just referring to this report,
7 yes. Now, if you are talking about the overall
8 conclusion for the risk assessment for the entire
9 project, that's a different question.

10 Q. Let's go to page 5 of this report. That
11 is the Tetra Tech report that we've been discussing.

12 A. Yeah. Go ahead.

13 Q. All right. I would like to refer you to
14 section 3.2 which is entitled "Diurnal Raptor & Bird
15 Migration Survey."

16 A. Yes, I see that.

17 Q. All right. Now, this pair -- this
18 section identifies the dates in which the Diurnal
19 Raptor and Bird Migration Survey was performed as
20 reflected in the first paragraph under the heading or
21 section 3.2, correct?

22 A. If your question is does this paragraph
23 describe when the survey was completed, it does.

24 Q. Yes. Thank you. The survey was
25 performed from March 15 to April 28, 2011, and from

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1 September 1 to October 28, 2011, correct?

2 A. Yes, that's correct.

3 Q. There were no days of that survey that
4 were performed in May of the year?

5 A. Not according to this paragraph. For
6 that survey.

7 Q. Yeah. Are you aware of any other
8 information in the Tetra Tech report that we're
9 looking at that indicates that any surveys were done
10 for the purpose of evaluating bird migration during
11 May of any year?

12 A. Not in this report. I believe they did
13 some breeding bird surveys. They did refer to some
14 bald eagle specific surveys that would have included
15 May. But those results aren't presented here.

16 Q. In the area of Ohio in which the project
17 is located, what is the peak time of migration for
18 passerines? Meaning you would expect to find the
19 most species of passerines.

20 A. Is that related to this large bird
21 question or were you on a separate line here?

22 Q. No, it's not related to large birds. Let
23 me reask the question.

24 You are aware, are you not, that
25 passerines -- that many passerines migrate through

1 the counties in which the project area is located
2 during the month of May?

3 A. Yes.

4 Q. And, in fact, during May is the time
5 period in which there are more species of passerines
6 migrating through that area than any other time of
7 the spring?

8 A. There is a large number that come through
9 in May. You know, again, if you are referring to
10 this diurnal raptor survey, that was targeted at a
11 different group of birds that are largely done by
12 May. So I don't know -- are you referring to this or
13 just in general passerine migration rates?

14 Q. Well, I'm referring to what is
15 characterized in section 3.2 as the "bird migration
16 survey efforts."

17 A. Right. Okay. So in 3.2, the Diurnal
18 Raptor and Bird Migration Survey, that is a survey
19 targeted largely for raptors which have a different
20 migration period generally than passerines.

21 Q. Just to make sure that the record
22 contains this information, let me ask you to provide
23 us with a definition of what a passerine is.

24 A. A passerine is a small, generally
25 considered a small songbird. It does include a wide

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1 variety of species.

2 Q. It includes the family of birds known as
3 the wood warblers?

4 A. Yes.

5 Q. Are you aware of the reputation of Erie
6 County for the presence of wood warblers during the
7 spring migration?

8 A. I am aware of -- yeah, I am aware that
9 the shoreline along Lake Erie is a well-known
10 bird-watching area where a large number of migrating
11 songbirds will concentrate at times or migrate around
12 the lake or concentrate before they cross the lake.

13 Q. Are you aware of what counties those
14 areas are found in?

15 A. I would say the entire lake shore of Lake
16 Erie is a good spot to go watch warblers if you want
17 to watch.

18 Q. And that includes areas in Erie County?

19 A. Certainly, yeah.

20 Q. Have you heard of a wildlife area known
21 as Marsh?

22 A. I have heard of Magee Marsh.

23 Q. Have you --

24 ALJ WILLIAMS: I'm sorry. We are
25 breaking up a little bit on the question. Is it wet

1 marsh?

2 MR. VAN KLEY: Magee, M-a-g-e-e.

3 ALJ WILLIAMS: Thank you. I wanted to
4 make sure that was on the record.

5 Q. Have you ever visited Magee Marsh?

6 A. I have not.

7 Q. Are you aware of the reputation of Magee
8 Marsh in bird-watching circles?

9 A. I am aware of it, yes.

10 Q. And what have you heard about it?

11 A. Like I said previously, it's a -- it's a
12 spot where a lot of bird watchers go. They can watch
13 migrating songbirds, passerines, that are stopping
14 over. It's a place for them to get their eyes on
15 them pretty easily. It sounds like it is a pretty
16 neat experience.

17 Q. Do you know how -- what the distance
18 between Magee Marsh and the closest part of the
19 project area is?

20 A. Oh, I want to say it's 10 to 20 miles.
21 It might be further. I think it's over 10. I think
22 it's 15 to 20 plus.

23 Q. How long does it take a passerine to fly
24 15 to 20 miles?

25 A. That depends on wind speeds. 15 to

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1 20 miles. Oh, if they are flying 5 to 15 miles an
2 hour, you know, it could take an hour at the
3 quickest.

4 Q. Let's talk a little bit more about
5 migration for passerines. During the migration
6 periods of the year, do passerines fly through a
7 particular area of migration on a steady basis or
8 does migration usually occur in spurts or pulses?

9 A. I would say generally for -- are you
10 referring to passerines?

11 Q. Yes.

12 A. Pulses.

13 Q. And what is a pulse?

14 A. A pulse is a time period when conditions
15 are favorable and a larger number of passerines will
16 migrate.

17 Q. During a typical migration period, how
18 many pulses of passerines would you expect to occur?

19 A. Good question. Roughly, you know, it
20 will depend on the year and the weather conditions.
21 You know, if you have got a long spate of bad weather
22 that's holding up birds, it could occur in a few
23 pulses. If you have got more favorable conditions of
24 the year, it will occur more frequently.

25 Off-the-cuff, 20 percent of the days, 25, but, again,

1 that's quite variable.

2 Q. So if a -- if bird surveys during the
3 migration period are not conducted during any of the
4 pulses, then those surveys wouldn't list the majority
5 of the passerines going through the surveyed area,
6 correct?

7 A. Correct.

8 Q. With respect to the migratory bird
9 surveys for passerines contained in the
10 Application -- were those surveys conducted
11 continuously through the migration period or were
12 they less than continuous?

13 THE COURT REPORTER: Mr. Van Kley.
14 Mr. Van Kley. Wait, wait. Wait.

15 ALJ WILLIAMS: Hold on a second.

16 THE COURT REPORTER: Mr. Van Kley, I
17 didn't --

18 ALJ WILLIAMS: Ms. Gibson, I think you
19 lost part of the question?

20 THE COURT REPORTER: Yes.

21 ALJ WILLIAMS: Mr. Van Kley, would you
22 reask it?

23 MR. VAN KLEY: Sure.

24 ALJ WILLIAMS: While you are searching
25 for it, Mr. Van Kley, there is a little bit of a lag

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1 in the pickup when you start to ask questions when it
2 transitions back from the witness to you, so I don't
3 know, it's fine, it's very workable, but just so you
4 know that when we missed "Magee Marsh" there was like
5 a half-second lag in the microphone going back to
6 you.

7 Q. (By Mr. Van Kley) With respect to the
8 migratory bird surveys for passerines contained in
9 the Application for Emerson Creek wind, were those
10 surveys conducted for the entirety of the migration
11 season or were they conducted for less than
12 100 percent of the migration season?

13 A. So the survey period does cover the vast
14 majority of the migration period. Within that
15 migration period, the protocol is to sample days
16 which are prescribed as once weekly.

17 Q. So if I'm understanding your answer
18 correctly, the surveys were done once per week during
19 the migratory bird season for passerines?

20 A. Correct. It is a common technique in the
21 wildlife field to sample and so many times you don't
22 survey every single day a certain species could be
23 present. So the ODNr protocol, like virtually every
24 wildlife protocol out there, is set up to sample a
25 portion of those days when those species are present.

1 Q. And during the day of the week in which
2 the passerine migration was surveyed, how much of
3 that day was used for the surveys?

4 A. So the protocol is set up to sample birds
5 during the day for 10 minutes at each point that are
6 surveyed once per week and they're designed to sample
7 those birds that are stopping over and obtain a
8 relative estimate of species-use of those birds that
9 are stopping over.

10 Q. And during how many hours of that day was
11 the survey conducted?

12 A. You were cutting out there again.

13 MR. VAN KLEY: Yeah. There is a noise
14 that -- that I am hearing continually through these
15 discussions which I think may be causing the problem.
16 It's kind of a scraping noise, it sounds like --

17 ALJ WILLIAMS: It sounds like that right
18 there. Like jet engines. Yeah, I mean, it seems to
19 correlate with the microphone transfer as you begin
20 to ask the next question. It bleeds through a little
21 bit. I'm certainly by no means an IT expert being
22 able to diagnose or repair. It's very workable
23 absent the transitions but we can certainly try to
24 work through logging on, re-logging on, or taking a
25 break if you would like, Mr. Van Kley, but it appears

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1 to be really limited to when you start to ask the
2 next question.

3 MR. VAN KLEY: Yeah. I was noticing it
4 yesterday at other times as well. And I was not
5 talking and other people were talking and sometimes
6 even when nobody was talking.

7 ALJ WILLIAMS: Yeah, I'm not sure.
8 Again, the Bench is certainly able to follow along.
9 We've been running lockstep with the questions and
10 answers. If we want to try to have the witness and
11 yourself log off and re-log back on during the break,
12 we can try that.

13 MR. VAN KLEY: Yeah. I don't think
14 that's going to make any difference, but let's just
15 proceed.

16 ALJ WILLIAMS: Thank you, sir.

17 Q. (By Mr. Van Kley) Yeah, I think where I
18 was at was asking you during how -- to tell me how
19 many hours a day that the passerine bird migration
20 survey was performed during the days that it was
21 performed.

22 ALJ WILLIAMS: I'm sorry. I have lost
23 all volume. I'm sorry. Heather, are we still -- I
24 see lips moving but I cannot hear anything right now.

25 MS. CHILCOTE: Mike, I can hear you okay.

1 Can you hear me at all?

2 ALJ AGRANOFF: I can hear both of you.

3 ALJ WILLIAMS: You can hear? I've lost.
4 Please hold while I try to figure out why I'm not --
5 do you want to try to demote and re-elevate me?

6 MR. VAN KLEY: I just heard that scraping
7 noise again too.

8 ALJ WILLIAMS: Jay, you still hear them?

9 ALJ AGRANOFF: Yeah. I'm good.

10 ALJ WILLIAMS: Heather, can they hear me?
11 Can they hear me through their microphones?

12 ALJ AGRANOFF: Yes, I do.

13 ALJ WILLIAMS: Heather, you are on mute
14 still. Can you hear me?

15 MS. CHILCOTE: I can hear you, Mike. Can
16 you hear me? You can't hear me. Jay, can you let
17 him know I am coming down to check his settings.

18 ALJ WILLIAMS: Okay. Why don't we take a
19 10-minute break.

20 ALJ AGRANOFF: Thank you. Why don't we
21 take a 10-minute break and see whether or not we can
22 resolve Judge Williams's technical difficulties and
23 it's probably a decent breaking point anyway so.
24 We'll come back at about 10:40, 10:45. Thank you.

25 (Recess taken.)

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1 ALJ WILLIAMS: Let's go back on the
2 record.

3 MR. VAN KLEY: All right. Mr. Good, can
4 you hear me okay now?

5 THE WITNESS: Yes, I got you.

6 ALJ WILLIAMS: A lot of echo.

7 Q. (By Mr. Van Kley) Let's go back to our
8 discussion about the raptor nests and pick up a loose
9 end there before I resume my discussion about
10 passerine migration.

11 We had been talking about a number of
12 unoccupied non-eagle raptor nests during our
13 discussion with you this morning and I wanted to ask
14 you to explain the significance of the term
15 "unoccupied" as used in the reports concerning the
16 raptor nests.

17 A. Can you tell me more about what you mean
18 by significance of that? Are you referring to the
19 significance to the risk assessment or are you
20 referring to the significance of -- what the
21 definition is? Can you tell me more about that?

22 Q. I'm simply asking you what the definition
23 is.

24 A. Okay. Yeah. So the definition of an
25 unoccupied nest is there were no birds on the nest or

1 we didn't observe any other signs of activity during
2 the survey such as like, you know, the nest didn't
3 look like it had been well maintained. There was no
4 birds in the vicinity. There was no decoration on
5 the nest.

6 Q. Does the fact that a nest was unoccupied
7 at the time the survey was done mean that the nest
8 would no longer be used in the future?

9 A. If your definition of "future" is future
10 years, no. Certainly nests could be occupied in the
11 future or become unoccupied in the future. They will
12 reuse nests from previous years.

13 Q. All right. So let's resume our
14 discussion about passerine migration. If I recall,
15 the question that was on the table when we took our
16 break was this: Can you tell me the number of hours
17 during the day that the passerine migration surveys
18 were conducted on the day -- on the one day per week
19 that those surveys occurred?

20 A. So that would depend on the number of
21 counts or surveys that day given that we have got a
22 four-hour window. If you do 3 points per hour, 2 or
23 3 points per hour, 12, up to 10, 12 points at the
24 maximum per day. 12 times 10 is 120 minutes so
25 that's two hours max. That's on a single day.

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1 I was -- I was curious so I went back and
2 reviewed all of the survey work that had been done
3 and tallied up the total number of hours across all
4 the surveys, you know, this is not just passerines
5 but all the breeding bird, all of the large bird, all
6 of the passerine surveys, and the totals of hours for
7 all of that effort was, I was impressed, it was over
8 2,300 hours, over 2,300 hours of survey effort that
9 went into the Application.

10 Q. And that includes surveys of every type
11 of bird that was surveyed in the reports included in
12 the Application.

13 A. Yeah, that's inclusive of all types of
14 surveys; that's not just passerine. All types of
15 surveys except the eagle nests.

16 Q. So with respect to the surveys of
17 passerine migration, those surveys were conducted
18 during no more than 120 minutes per day on the one
19 day per week of the migratory period covered by the
20 surveys.

21 A. No. That's the max that it could be
22 surveyed in a day by a single observer. So the total
23 number of hours in a week would depend on the number
24 of surveys and so I believe there were upwards of
25 50-some points that were surveyed in different years

1 so it depends on the number of points surveyed in a
2 given year.

3 THE COURT REPORTER: I don't know why but
4 Mr. Good is cutting out. He's cutting in and out.

5 ALJ WILLIAMS: I'm hearing that as well,
6 Ms. Gibson.

7 If you could amplify your microphone or
8 talk more directly into it.

9 THE WITNESS: Is this better if I scoot
10 closer to the microphone?

11 ALJ WILLIAMS: It seems to be, yes.

12 THE WITNESS: Okay. Well, if you don't
13 mind a very close facial view for the next hour and a
14 half, I will scoot closer.

15 ALJ WILLIAMS: Okay.

16 Q. (By Mr. Van Kley) The majority of
17 passerine birds migrate during the night; is that
18 correct?

19 A. Yes. For most species, yes.

20 Q. There were no bird surveys conducted at
21 night for passerine migration; is that correct?

22 A. Correct. Yeah. So, you know, this
23 project falls within an area the ODNR felt was low
24 enough risk that it didn't merit nocturnal surveys
25 for migrating passerines. The ODNR has gone to great

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1 effort to map areas in this state they feel are
2 higher survey effort areas. This project falls
3 outside of that area; therefore, the Fish and
4 Wildlife Service, the ODNR, and the various
5 consultants that have been involved didn't conduct
6 any nocturnal surveys because of that low -- lower
7 risk determination.

8 Q. And what was the -- that determination of
9 lower risk based on?

10 A. So the ODNR, I believe, has, you know,
11 mapped -- yeah, they use their collective knowledge
12 to map areas they feel like were potentially higher
13 risk. I think a lot of it factored into was based on
14 presence of topography, water -- things like the lake
15 shore, forest underpinning corridors, presence of
16 species records. There's a number of different
17 factors ODNR used to map that effort.

18 Q. Are you familiar with the term "stopover"
19 as related to bird migration?

20 A. Yes, I am.

21 Q. Okay. And how would you define that
22 term?

23 A. It's a -- stopover is a term used to
24 describe when a bird stops migrating, descends an
25 elevation, you know, feeds or rests the habitat on

1 the ground.

2 Q. Uh-huh. To put it simply, it means the
3 bird stops flying, comes to the ground, and feeds and
4 rests, right?

5 A. That's correct.

6 Q. And is there any tendency by migrating
7 birds to stop over in a particular type of habitat?

8 MR. SECREST: Objection, vague. Birds in
9 general?

10 MR. VAN KLEY: Yes.

11 ALJ WILLIAMS: I'll let him answer.

12 A. Well, it depends on the species, so are
13 there certain species you are interested in knowing
14 more about? Are you referring to passerines?

15 Q. Well, we can break it down and talk about
16 passerines. Is there a particular type of habitat
17 that a passerine is more likely to use in a stopover?

18 A. Yeah, the ODNR guidance did address this,
19 and so they recommend we survey forested areas or
20 shrubbery areas, areas with woody structure basically
21 for -- for -- to measure stopover use by migrating
22 passerines.

23 Q. And relatively speaking, how much of the
24 project area contains habitats or contains habitat
25 features that are more than likely to be used by

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1 passerines for stopovers?

2 A. I would -- well, based on turbine
3 location, zero, so all turbines will be located
4 outside of a forest, but I am assuming you are
5 referring to kind of the official project boundary
6 that was submitted as part of the Application, and I
7 believe the forest covers roughly 7 percent in that
8 boundary.

9 Q. Uh-huh. All right. So given -- given
10 the amount of habitat conducive for stopover by
11 passerines, would you expect most of the passerines
12 to fly over the project area instead of using it for
13 a stopover?

14 A. No. I mean, certainly it depends on the
15 time of night where that bird is in its migration.
16 If it's over the project and the sun is coming up,
17 it's going to try and find suitable stopover habitat
18 in the project area. So, yeah, it depends on the
19 time when that bird -- whenever the sun is coming up.

20 Q. Uh-huh. If the bird is flying during the
21 night before the sun is coming up, is it more likely
22 to fly through the project area instead of stopping
23 over in the project area?

24 A. So I think you are asking -- could you
25 repeat that question? I'm sorry, I didn't quite

1 follow you there.

2 Q. If a passerine is flying through the
3 project area at night before the sun starts to arise,
4 is it more likely to keep flying, rather than
5 stopping in the project area?

6 A. Correct.

7 Q. How far do passerines typically fly
8 between stopovers?

9 A. You know, it depends on wind speed and
10 where they are at as far as their migration occurs.
11 I don't know the exact number off the top of my head.
12 I would guess it's, you know, if they are flying 15
13 to 20 miles an hour and you've got, you know, four to
14 five hours, or seven or eight hours, again, it could
15 be 20, it could be a hundred miles. It really
16 depends on the species. It depends on the wind
17 direction, the wind speed. They will fly even
18 further, you know, if they are crossing large bodies
19 of water.

20 Q. A stopover can occur sooner if the bird
21 is flying during bad weather than otherwise would
22 occur during nice weather?

23 A. Yes. During certain unfavorable
24 conditions, birds will choose not to migrate.

25 Q. Would you agree that the majority of bird

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1 fatalities are nocturnal migrants? That is -- let me
2 start over. I didn't ask that very well.

3 Would you agree that the majority of bird
4 fatalities from collisions with wind turbines are
5 nocturnal migrants?

6 A. Yeah, I believe most studies have
7 documented that. I would say over half of the
8 species and mortalities of the birds that you find
9 are likely migrants.

10 Q. Let's go back to your testimony which was
11 identified as Applicant Exhibit 32. I would like --
12 okay. I would like you to go to page 18. And we are
13 going to look at the last paragraph on that page.

14 A. I have that.

15 Q. All right. I would like to refer you to
16 the second-to-the-last sentence on that page which
17 reads: "Raptor use was low relative to many
18 wind-energy facilities." Do you see that sentence?

19 A. I do see that sentence.

20 Q. Can you tell us the number of other
21 wind-energy facilities you reviewed for the purpose
22 of making this statement?

23 A. I can bring up that report if you would
24 like a very specific number. It will take me a few
25 minutes.

1 Q. Why don't you give me a general number
2 first and then we can decide whether we want
3 specifics.

4 A. I believe -- I would guess there's
5 over -- across the nation, I believe that graph
6 probably has over 20 to 30 plus facilities in that
7 graph.

8 Q. Okay. And can you tell me how many of
9 those facilities have raptor use that was higher than
10 the figure you are using for Emerson Creek wind?

11 A. I will need to pull up that report to
12 give you a very specific number, but I can say that
13 compared to facilities across the nation, most
14 facilities have low -- or higher raptor rates of use,
15 especially those facilities in the western U.S. where
16 raptor mortality is highest, you know, the raptor use
17 recorded at the site was quite -- quite lower than
18 those facilities that had higher mortality.

19 Q. Why don't we go to that report and take a
20 look. If you could tell us where -- where to find
21 that report, I would appreciate it.

22 MR. SECREST: Your Honor, may I hand the
23 witness a copy of Dr. Farmer's testimony?

24 ALJ WILLIAMS: Yes, please.

25 MR. SECREST: Thank you.

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1 THE WITNESS: Okay. I have that report
2 up.

3 ALJ WILLIAMS: Can you list which
4 attachment you are looking at?

5 THE WITNESS: Attachment CF-4 of Chris
6 Farmer's testimony.

7 ALJ WILLIAMS: So I've got the
8 electronic. It's on page 56 of 116; is that correct?

9 THE WITNESS: I don't have the PDF in
10 front of me. I can't answer that one.

11 ALJ WILLIAMS: I'm reasonably confident
12 it's Attachment CF-4 to Mr. Farmer's testimony.

13 THE WITNESS: The report is dated
14 April 3. It covers the survey period I referenced.

15 ALJ WILLIAMS: Okay. Attorney Van Kley.

16 Q. (By Mr. Van Kley) All right. Mr. Good, I
17 have that in front of me. Could you point out where
18 in that document we can find the information about
19 raptor use at other wind projects that we've been
20 discussing?

21 A. Yes. Give me a minute.

22 Yeah, 48 other publicly-available wind
23 energy facilities compared to this one.

24 Q. Okay. Do you find that in the report?

25 A. See page 15.

1 ALJ WILLIAMS: So we are on PDF page 78
2 of 116.

3 Q. All right. I believe I see the reference
4 that you have identified. That would be contained in
5 the second paragraph under the heading "Diurnal
6 Raptors" on page 15 of the report.

7 A. That's correct. And you can find it in
8 graphical form in Appendix D.

9 ALJ WILLIAMS: Appendix D?

10 THE WITNESS: Yeah, D as in dog.

11 ALJ WILLIAMS: Okay.

12 Q. (By Mr. Van Kley) All right. Let's go to
13 that appendix then. And it looks like that appendix
14 starts on PDF page 103.

15 ALJ WILLIAMS: Got it. Thank you.

16 MR. VAN KLEY: I don't see a report page
17 number there.

18 THE WITNESS: That's right. It doesn't
19 have a report page number.

20 Q. (By Mr. Van Kley) All right. So
21 Appendix D is a graphic portrayal of the other wind
22 farms that you consulted in order to come up with the
23 statement that raptor use was low in the Emerson
24 Creek wind project area compared to many other wind
25 energy facilities, correct?

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1 A. Yes, that's correct.

2 Q. Do you know approximately how many wind
3 farms exist in the United States?

4 A. I would guess over 300, but I don't
5 know -- I don't know the exact number.

6 Q. If there were 300 wind farms --

7 A. So this is a graph of the publicly
8 available -- all of the publicly-available data we
9 can get our hands on are the actual pre-construction
10 use estimates and so many of the midwestern and
11 eastern facilities, while that data hasn't -- isn't
12 available publicly, and I think one of the main
13 reasons is initially there was a large focus on
14 raptor mortality, much of that occurred in the
15 western U.S.

16 As, you know, as researchers and others
17 started looking at raptor fatalities in the midwest
18 and east, those fatalities rates are very low so most
19 people stopped reporting them because, you know, most
20 of the fatality rates are very low in the midwest and
21 eastern U.S.

22 But the interesting part you can see when
23 you look at this graph, those facilities with the
24 highest raptor fatality rates are generally here on
25 the far left here, High Winds, Diablo, Altamont Pass,

1 and many of those western projects out west, they
2 have much higher raptor fatality rates than projects
3 in the midwest and eastern U.S. So from that
4 perspective we can look at this figure and say all
5 right, compared to those facilities where we know
6 raptor mortality rates are very high, our use rate
7 here was very low.

8 Q. So the raptor fatality rates -- let me
9 start over.

10 So the raptor mortality rates for wind
11 farms that have the lower such rates are less likely
12 to be reported publicly.

13 A. I think we are -- what was happening was
14 those, you know, a lot of those researchers stopped
15 putting those estimates in the post-construction
16 monitoring reports because it became -- it wasn't a
17 focus. It's not a real issue for the midwest or
18 eastern U.S. Raptor mortality rates are just
19 generally low, so most researchers stopped really
20 focusing on that question.

21 Q. Let's go to page 24 of your written
22 testimony identified as Applicant's Exhibit 32. And
23 we are going to talk about bats for a little while.
24 With regard to page 24 of your written testimony, I
25 would like to refer you to the sentence starting at

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1 line 9. And that sentence reads as follows:

2 "Mortalities of all of these species have been
3 documented at wind-energy facilities, although
4 typically in much lower numbers than eastern red,
5 hoary bat, and silver-haired bat." Do you see that
6 sentence?

7 A. I do.

8 Q. Are the three species of bats named in
9 this sentence larger than the species of bats listed
10 in or referenced in the prior sentence of this
11 testimony?

12 A. Yes. They are larger in size.

13 Q. If a bat is larger, is its carcass easier
14 to find during post-construction mortality surveys?

15 MR. SECREST: Objection, speculation.

16 ALJ WILLIAMS: I will let him answer and
17 explain.

18 A. So the answer is it depends, and so it
19 depends on the substrate you're searching and the
20 type of search you are doing, and so yeah, the answer
21 is it depends.

22 Q. Okay. So let's break that down a little
23 bit. What do you mean by substrate that's being
24 searched?

25 A. Yeah. So many searches in the midwest

1 and the eastern U.S. occur on the gravel road and pad
2 around the turbine. The rock is very white and so
3 any bat carcass that shows up is highly visible.

4 Searcher-efficiency rates on roads and
5 pads are typically 90, close to 100 percent. On
6 roads and pads there, you know, should -- you know, I
7 would not expect any sort of detection difference
8 between those three species you mentioned and a
9 Myotis or a tricolored bat. Tricolored bat is a bit
10 smaller. It's probably closer in size to eastern
11 red. They are fairly close but the little browns
12 are -- they are smaller.

13 If you do a dog base search -- so I guess
14 I'll back up there.

15 In my experience, when they do road and
16 pad surveys, I find the same pattern. And there's
17 been road and pad surveys completed at 1,500
18 different projects. I see the same pattern. The
19 Myotis are rare fatalities at most projects.

20 If we want to break that down further,
21 you know, in a cleared plot situation where you are
22 searching for carcasses in a corn and soybean field
23 that's been cleared, it increases searcher
24 efficiency.

25 You know, there's a -- there is a --

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1 there is -- a very large hoary bat probably is easier
2 to detect than a little brown bat. However, most --
3 I would say, you know, most of the carcass
4 searcher-efficiency trials that are completed they
5 don't use a hoary bat. In fact, it's kind of rare to
6 use a hoary bat. Most of those carcasses are, you
7 know, anymore, are saved for research purposes.

8 So it's a mix. It's a mix of the
9 silver-haired and eastern-reds which are quite a bit
10 smaller than the hoary bat so in those situations you
11 would expect a difference. I would not expect a huge
12 difference.

13 And so, you know, if you are driving at
14 the idea that *Myotis* is a common fatality is just
15 not -- I think the road and pad data make that clear.
16 The surveys that have completed carcass surveys with
17 dogs are also bearing that out. You know, a dog has
18 more of a scent-based detection and, you know,
19 carcass size will -- will have an effect, you know,
20 there should be a bigger scent and all, but probably
21 less on a visual basis.

22 So just based on the sheer, you know,
23 numbers, it's clear that, you know, *Myotis* are killed
24 less often but they certainly do occur.

25 ALJ WILLIAMS: You are cutting out a

1 little bit. I don't know if there is a way to
2 increase your amplification or just try to focus on
3 projecting.

4 THE WITNESS: Okay. Yeah, I'll project
5 better. Sorry about that.

6 ALJ WILLIAMS: Thank you.

7 A. So based on the raw numbers found, as
8 well as, you know, the detection rates I cited for
9 different substrates, you know, Myotis certainly do
10 occur as fatalities at projects but in lower numbers.

11 Q. How far from the base of the turbine
12 tower do you expect a bat to travel before hitting
13 the ground after it has collided with a turbine?

14 A. Unlike birds, bats -- the majority of
15 bats fall closer to turbines. You know, most of the
16 studies are finding that 70, 80 percent are falling,
17 you know, 40 to 60 meters depending on the size of
18 the project curtailment that's happening at the
19 project. The size of the turbine, not the project.
20 The size of the turbine.

21 Q. Does the size of the bat cause the bat to
22 fall any closer to the turbine than it otherwise
23 would if it was a larger species of bat?

24 MR. SECREST: Objection, vague.

25 ALJ WILLIAMS: I will let him answer.

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1 A. I think what you are trying to ask is
2 Myotis, because they are smaller, do they fall
3 further or closer.

4 Q. Yes.

5 A. That's a physics-based question. I don't
6 believe there's any empirical -- I know that people
7 have completed some modeling how far carcasses will
8 fall based on the size of the carcass. I can't
9 remember off the top of my head what those values
10 were for different values of small versus large bats.
11 I can say based on the empirical data that I have
12 looked at with Myotis fall distributions, it's --
13 it's definitely similar, I would say, but that
14 dataset is smaller than the bat fatalities because
15 Myotis is the rarest fatality.

16 Q. What is the size of the Indiana bat?

17 A. Oh, roughly a couple, 3, 4 inches in
18 length. It depends on what you mean by "size." You
19 know, I don't know the weights off the top of my head
20 but I will say that 3 to 4 inches is probably the
21 body length. If their wings are out, they are going
22 to be longer width -- width-wise.

23 Q. Are you familiar with the Fowler Ridge
24 wind project in Indiana?

25 A. I am familiar with that project.

1 Q. How did you become familiar with that
2 project?

3 A. I -- I completed most of the monitoring
4 at Fowler Ridge -- I won't say I completed. I -- I
5 served as project manager for much of the monitoring
6 that was completed. I did some of the field work
7 supported by the --

8 ALJ WILLIAMS: You're trailing off,
9 Mr. Good.

10 THE WITNESS: Yeah. I was just saying
11 yeah, I was -- I served as project manager for many
12 of the monitoring studies that have been completed at
13 Fowler Ridge.

14 Q. And do those monitoring studies include
15 the study of bat mortalities?

16 A. Yes.

17 Q. During those surveys did you find or did
18 your crew find dead Indiana bats?

19 A. Yes.

20 Q. How many have been found there to your
21 knowledge?

22 A. So I believe it was 2 or 3 total relative
23 to thousands and thousands of other bat carcasses
24 that have been picked up over the years.

25 Q. Now, did you come to any conclusions as

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1 to the number of Indiana bat mortalities that were
2 estimated per year based on the number of Indiana bat
3 mortalities that were found during the searches?

4 A. We -- my study, I did not, no. We -- the
5 Fowler Ridge Habitat Conservation Plan did come up
6 with -- well, I guess we did. So in my studies we
7 have estimated mortality rates for the Indiana bats
8 based on the level of overall bat mortality and the
9 relative species composition that Indiana bats
10 comprise of the total mortality.

11 Q. And what was the result of those
12 estimates?

13 A. Off the top of my head, I think it was
14 like 9 to 12 per year depending on -- I mean, I can't
15 remember the exact number.

16 Q. Okay.

17 A. It was in that ballpark for the year.

18 Q. And that's for Indiana bats.

19 A. Yes. That's for Indiana bats, that's
20 right.

21 MR. VAN KLEY: All right. I have no
22 further questions at this time.

23 ALJ WILLIAMS: Thank you, Attorney Van
24 Kley.

25 Any redirect?

1 MR. SECREST: I do, your Honor. However,
2 may I request about a 10-minute break or so in order
3 to get my documents together?

4 ALJ WILLIAMS: That would be fine. We
5 will reconvene at 11:45.

6 MR. SECREST: Great. Thank you, your
7 Honor.

8 ALJ WILLIAMS: Thank you.

9 (Recess taken.)

10 ALJ WILLIAMS: Let's go back on the
11 record.

12 MR. SECREST: Thank you, your Honor.
13 Prior to examining Mr. Good, I did have a question
14 that was raised yesterday. There are a couple
15 exhibits I would like to introduce on Mr. Good's
16 redirect. Those are referenced in his direct
17 testimony; however, they were not previously
18 circulated to the Bench and counsel.

19 ALJ WILLIAMS: Can you distribute those
20 via e-mail so that all the parties will have access
21 to them as part of the redirect?

22 MR. SECREST: Yes, your Honor. Let me
23 confer with my co-counsel as to how long that may
24 take. One moment, your Honor.

25 ALJ WILLIAMS: Okay.

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1 MR. SECREST: Thank you.

2 Apologies, your Honor. I know we just
3 came back from a break. However, it wasn't
4 determined until that break that we would actually
5 use some of these exhibits, and I do think it's going
6 to take 10 minutes or so to distribute those to
7 everybody.

8 ALJ WILLIAMS: Attorney Van Kley, are you
9 okay if we go ahead and take lunch now and we will
10 come back and finish?

11 MR. VAN KLEY: Yes. I would suggest that
12 so we can take a look at the exhibits during the
13 break and that will speed up the -- our recross
14 certainly when we come back.

15 ALJ WILLIAMS: Attorney Secrest, if you
16 could send those before you get your lunch, that
17 would be great. If you do have exhibits that are
18 going to be used on redirect, that would be the plan,
19 distribute those electronically maybe after a short
20 break but before redirect. So, and then obviously
21 follow up with the court reporter as appropriate at
22 the end of the day's business.

23 MR. SECREST: Very well, your Honor.
24 Thank you.

25 One other question, at least from our

1 end, I have not heard any of the feedback that I was
2 previously hearing, so is anybody else hearing it
3 now?

4 ALJ WILLIAMS: The feedback is gone. I
5 got to tell, it is very faint, so if you guys are
6 able at lunch to find a way to get the microphone
7 closer, to amplify the microphone. Attorney Van Kley
8 was loud and clear. I had him about as loud as I
9 could handle on my headset. I could barely hear the
10 witness. So just really focus on trying to -- and I
11 could tell he was trying to amplify so try to get him
12 closer to the microphone or try to further amplify.

13 MR. SECREST: Okay. We will do that.

14 ALJ WILLIAMS: The screeching now is
15 definitely gone. And I think before we break I know
16 we had tasked -- I don't want your question to be
17 lost, Attorney Van Kley, the number of articles that
18 might have been coauthored by the witness, so I think
19 you are still entitled to that question. So if we
20 could spend some time in the break to get that
21 information as well, that would be appreciated,
22 Attorney Secrest.

23 MR. SECREST: Certainly. Thank you, your
24 Honor.

25 ALJ WILLIAMS: Okay. It's 12:51 now.

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1 Why don't we go ahead and reconvene -- we'll just
2 reconvene at 1 o'clock.

3 Thank you. We are off the record. Thank
4 you.

5 (Thereupon, at 11:51 a.m., a lunch recess
6 was taken.)

7 - - -

1 Tuesday Afternoon Session,
2 October 6, 2020.

3 - - -

4 ALJ WILLIAMS: Let's go back on the
5 record.

6 Before we took our lunch break, there was
7 discussion regarding distributing some information
8 before redirect. I received an e-mail from Attorney
9 Pirik at 12:07, so I wanted to make sure once we got
10 back on the record everybody has received that. If
11 you didn't receive an e-mail on or about 12:07, shake
12 your head, raise your hand. Attorney Margard, no?
13 Anybody else not get it?

14 Ms. Pirik, can you confirm you sent that
15 to Attorney Margard or direct it to him now?

16 MR. SECREST: I believe Ms. Walker raised
17 her hand as well, your Honor.

18 MR. MARGARD: I will say Ms. Pirik has
19 had some difficulty e-mailing me before. I don't
20 know if it is me or not, but we've had some issues.
21 I don't doubt she sent it, but it didn't arrive so if
22 you would resend it.

23 ALJ WILLIAMS: I see you talking, but I
24 can't hear you. Can you hear him? I didn't sit on
25 my speaker this time so.

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1 MR. MARGARD: Try again. Testing, one
2 two.

3 ALJ WILLIAMS: Jay, you can hear
4 everybody?

5 ALJ AGRANOFF: I can.

6 ALJ WILLIAMS: I am going to plug my
7 microphone back in and see if I can get a better
8 connection.

9 MR. VAN KLEY: Does the State have a
10 limit on the amount of size you can receive in an
11 e-mail, Vern?

12 MR. MARGARD: It does. Yeah, it does.

13 ALJ AGRANOFF: Both Judge Williams and I
14 received the copy.

15 MR. MARGARD: Yeah. My office probably
16 has different limits than yours.

17 ALJ AGRANOFF: That's true.

18 MR. VAN KLEY: It's 15 megabytes.

19 MR. MARGARD: Mr. Williams, can you hear
20 me now?

21 ALJ WILLIAMS: I can. Yes, it's the old
22 school, turn it off, turn it back on. I unplugged my
23 cord and plugged it back in, and you are all loud and
24 clear now.

25 MR. MARGARD: Figure out which button you

1 leaned on this time. I was saying that the Company
2 has e-mailed things to me before that I have not
3 received. I know that, and the problem may well be
4 on my end. And I would just ask if they would please
5 resend it so.

6 MR. SECREST: Ms. Pirik did just resend.

7 MR. MARGARD: Thank you, sir.

8 MR. SECREST: Certainly.

9 ALJ AGRANOFF: I believe, Ms. Walker, you
10 indicated as well you didn't receive it?

11 MS. WALKER: That's right. I did not
12 receive it.

13 ALJ AGRANOFF: Okay.

14 ALJ WILLIAMS: Ms. Pirik, can you send it
15 to her as well?

16 MR. SECREST: It already has been. Thank
17 you.

18 ALJ WILLIAMS: Okay. I am going to
19 forward the one I got on the chance it will survive
20 spam from me, as well from Applicant.

21 MR. SECREST: Mr. Margard's just bounced
22 back.

23 ALJ AGRANOFF: Which e-mail address do
24 you have for Mr. Margard? I've had problems with
25 Mr. Eubanks where there are two different e-mails

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1 that were being used. Which one should he be using,
2 Vern?

3 MR. MARGARD: It's Werner, W-E-R-N-E-R
4 dot Margard, M-A-R-G-A-R-D, at Ohio Attorney General,
5 all one word, dot gov. That's the e-mail the Company
6 has been using. I have no reason to believe it's not
7 an issue on my end. I certainly don't want to hold
8 up the proceedings. I am sure we can arrange for
9 delivery of those exhibits later if there's an issue,
10 perhaps we can deal with it as a one-off, but I don't
11 anticipate there being an issue.

12 ALJ WILLIAMS: Okay. If it becomes an
13 issue as redirect or recross is occurring, let us
14 know.

15 Karen, are we on the record?

16 To clarify on the record, I did forward
17 only to Attorneys Margard and Walker, the message is
18 simply forwarded, so that was Ms. Pirik's e-mail
19 along with instructions, verbiage from the Bench, was
20 forwarded, so you may receive it as well.

21 So again, unless we hear objections from
22 counsel Margard or Walker, we'll proceed through
23 redirect, recross, and so on. So there are no
24 objections to what's going on, okay? Head nods from
25 both counsel.

1 With that, we will redirect. Attorney
2 Secrest.

3 MR. SECREST: Thank you, your Honor.

4 - - -

5 RHETT GOOD

6 being previously duly sworn, as prescribed by law,
7 was examined and further testified as follows:

8 REDIRECT EXAMINATION

9 By Mr. Secrest:

10 Q. Good afternoon, Mr. Good.

11 A. Good afternoon.

12 Q. How many Ohio wind projects have you
13 worked on?

14 ALJ WILLIAMS: You're muted, Mr. Good.

15 THE WITNESS: Can you hear me now?

16 ALJ WILLIAMS: We can.

17 A. Okay. Great. I think -- the total
18 number is over 10, but those that have been filed
19 through OPSB are, I believe, five different ones.
20 Timber Road, Hog Creek, Blue Creek, Icebreaker,
21 Hardin.

22 Q. And in what year was the first project
23 that you worked on in Ohio?

24 A. That would have been the Blue Creek
25 project which I believe was 2009, '10ish. In that

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1 time frame.

2 Q. Thank you, Mr. Good. Based on your
3 experience in Ohio, you're familiar with the Ohio
4 Department of Natural Resources pre- and
5 post-construction monitoring protocols?

6 A. Yes. I've implemented those protocols on
7 a number of different projects in Ohio.

8 Q. And for the projects that you worked on
9 in Ohio, have you worked with ODNR?

10 A. Yes. Every project I'm involved with, I
11 recommend to the clients that we include the U.S.
12 Fish and Wildlife Service and the ODNR on the survey
13 protocols and survey results.

14 Q. Great. Thank you.

15 MR. SECREST: Your Honor, I had -- we had
16 previously identified the ODNR On-Shore Bird and Bat
17 Pre- and Post-Construction Monitoring Protocols as
18 Applicant's Exhibit 47. May I have it marked as
19 such?

20 ALJ WILLIAMS: So marked.

21 (EXHIBIT MARKED FOR IDENTIFICATION.)

22 MR. SECREST: Thank you, your Honor.

23 ALJ AGRANOFF: Mr. Secrest, you are
24 getting some feedback on your end.

25 MR. SECREST: Okay. Thank you.

1 Q. (By Mr. Secrest) Mr. Good, did you
2 testify you're familiar with these protocols?

3 A. Yes, yes, I'm familiar with those.

4 Q. And do you see on the first page of
5 Applicant's Exhibit 47 there is two bullet points,
6 Minimum and Moderate?

7 A. Yes, I see those.

8 Q. What do those refer to?

9 A. Those refer to the level of survey effort
10 that the ODNR recommends that the project proponents
11 use to assess the risk at projects. Minimum and
12 moderate -- and they're cumulative. So certain
13 surveys require for minimum and moderate and
14 extensive.

15 Q. And did you testify on cross-examination
16 that the level of survey for the Emerson Creek
17 project was moderate?

18 A. I did, yes, so the -- the moderate
19 category includes a number of different surveys that
20 were completed at this project. Passerine migration
21 surveys, bat acoustic and bat mist nest surveys,
22 raptor migration surveys, breeding bird surveys,
23 those were all completed at this site.

24 Q. Thank you, Mr. Good.

25 And you referenced the survey effort

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1 being cumulative. By that do you mean that the
2 Applicant, because it was classified as moderate, had
3 to complete the minimum survey efforts as well?

4 A. Correct.

5 Q. And based upon your familiarity with the
6 project, did the Applicant, in fact, complete all
7 surveys set forth in the ODNR protocols under the
8 minimum survey effort and moderate survey effort?

9 A. Yes. In fact, they completed more than
10 what was recommended by the ODNR. So in addition to
11 the surveys within the protocol they recommended for
12 the moderate category, they also completed three
13 different years of large bird use surveys that also
14 included a winter period which are not included in
15 the ODNR protocols.

16 They also exceeded the protocols in a
17 number of different ways including the total number
18 of survey points that are recommended by the ODNR
19 within the project were exceeded for a number of
20 different survey categories, surveys were conducted
21 under multiple years and -- yes, those are the two
22 ways in which the surveys were exceeded, the guidance
23 were exceeded.

24 Q. Thank you, Mr. Good.

25 And if you would please refer to page 8

1 of Applicant's Exhibit 47.

2 A. Okay.

3 Q. Is radar monitoring included as a survey
4 necessary for the moderate level?

5 A. It is not. And so, you know, some of the
6 original correspondence on the project did recommend
7 that the project complete radar monitoring. There
8 were some initial forested and riparian areas within
9 the initial versions of the project that were -- were
10 slated within the protocol for completing radar
11 monitoring.

12 However, during a site visit and further
13 review of the project with both ODNR and the Fish and
14 Wildlife Service, we visited those sites and came to
15 agreement, you know, the Fish and Wildlife Service
16 and ODNR looked at the area and indicated this is not
17 the type of area we're concerned about as far as
18 passerine migration goes and, therefore, radar
19 monitoring was not recommended at this site.

20 Q. Thank you, Mr. Good.

21 May I direct your attention to
22 Applicant's Exhibit 1, specifically K, Attachment K
23 to the Application.

24 A. Which Exhibit is K? Are you referring to
25 a certain type of report?

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1 MR. SECREST: May I present the witness
2 with the exhibit, your Honor?

3 ALJ WILLIAMS: Please.

4 MR. SECREST: Thank you.

5 THE WITNESS: Thank you.

6 ALJ WILLIAMS: Mr. Secrest, I have K1
7 through 12. Are you in a certain segment?

8 MR. SECREST: I am, your Honor. I'm in
9 K6.

10 ALJ WILLIAMS: Thank you.

11 Q. (By Mr. Secrest) Mr. Good --

12 A. Okay.

13 Q. -- once you are on K6, will you please go
14 to the thirteenth page.

15 A. K, are you referring to the December 19,
16 '17 survey recommendations? I'm not sure if I am on
17 the right page.

18 Q. I am not. We are on Exhibit K,
19 Attachment 6.

20 A. Attachment 6.

21 Q. There's a June 9, 2010, letter, from the
22 Ohio Department of Natural Resources.

23 A. No. 6. Give me a second.

24 ALJ WILLIAMS: For those who are
25 following along electronically, it's PDF page 14.

1 MR. VAN KLEY: What was that PDF number
2 again?

3 ALJ WILLIAMS: Page 14 of 18.

4 MR. VAN KLEY: Page 14 of 18.

5 ALJ WILLIAMS: Within K6.

6 MR. VAN KLEY: I must be in the wrong
7 document. Exhibit K of the Application.

8 ALJ WILLIAMS: K should be separated into
9 12 different subparts. We're in K6.

10 MR. VAN KLEY: All right. I better find
11 it online then.

12 MR. SECREST: In the exhibits we
13 circulated, the Section K was broken out into 6 -- or
14 12 different attachments, I believe all labeled as
15 such.

16 THE WITNESS: I do have the June 9, 2010,
17 letter, is that what you are referring to?

18 MR. SECREST: That is.

19 Mr. Van Kley, do you want us to wait a
20 moment?

21 MR. VAN KLEY: Yeah, if you could. I am
22 trying to find that document.

23 ALJ WILLIAMS: Mr. Secrest, is there any
24 way -- there's a bit of reverb. I don't know if
25 there is a way to back further away from the

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1 microphone or lower your volume.

2 MR. SECREST: Mr. Good, will you mute
3 when not speaking. Is that better, your Honor?

4 ALJ WILLIAMS: It is.

5 MR. SECREST: Thank you.

6 MR. VAN KLEY: In the copies of the
7 Application that were distributed as exhibits, which
8 folder or which page?

9 ALJ WILLIAMS: K6.

10 MR. SECREST: Mr. Van Kley, if you look
11 under -- it's Exhibit 1 to Nate Pedder's testimony
12 and then you should see it broken up by Exhibit
13 letter and number.

14 MR. VAN KLEY: Yes. Okay. Yes, I see
15 that. Thank you.

16 MR. SECREST: Certainly.

17 MR. VAN KLEY: Okay. And which PDF page
18 on K6 are we looking at?

19 ALJ WILLIAMS: 14 of 18.

20 MR. VAN KLEY: Okay. I'm there. Thank
21 you.

22 MR. SECREST: Certainly.

23 Q. (By Mr. Secrest) Mr. Good, may I direct
24 your attention to the second paragraph of this letter
25 in which it states "Though this project area

1 encompasses portions of Slate Run, which has
2 previously been identified as a potential migratory
3 corridor (Figure 1), the habitat within the proposed
4 project would not be what the DOW considers high
5 quality stopover habitat." Do you see that,
6 Mr. Good?

7 A. I do.

8 Q. Mr. Good, despite the project boundary
9 having moved since 2010, based upon your experience
10 and your review of the project area, is it still your
11 opinion that it does not present high quality
12 stopover habitat?

13 A. Yes, that is my opinion. I believe it's
14 also the opinion of both wildlife agencies as well.
15 They reviewed all the studies and came to the
16 conclusion no further studies are needed for this
17 project.

18 Q. Thank you, Mr. Good.

19 Reaching that conclusion that no
20 additional studies were necessary for this project,
21 are you aware whether ODNR concluded that the level
22 of survey or the survey effort was sufficient for
23 this project to establish risk for the wildlife that
24 was surveyed?

25 A. Yes, I am. So all the surveys completed

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1 to date were reviewed with the ODNR in various
2 meetings, and the ODNR agreed no further surveys were
3 needed for this project.

4 Q. Thank you, Mr. Good.

5 While we are on the topic of surveys, you
6 were asked on cross-examination to identify any
7 surveys for which you were the author or the coauthor
8 that accompanied the Application. Have you now done
9 so?

10 A. I have, and I apologize there are a
11 number of reports there and I was having trouble
12 locating those initially. So I was listed as a
13 coauthor on Exhibit S, No. 3; Exhibit R, No. 4;
14 Exhibit V, No. 2; and Exhibit X, No. 2.

15 Q. Thank you.

16 On cross-examination you were asked
17 questions related to bats and carcass surveys.
18 Please tell us, what are bias trials?

19 A. Bias trials are surveys completed during
20 post-construction monitoring surveys to estimate how
21 many carcasses are missed because a searcher just
22 didn't detect them, and also how many are either
23 removed by scavengers before someone could have a
24 chance to detect it or were otherwise rendered
25 undetectable by, say, farming activities or

1 decomposition.

2 Q. With regard to carcass persistence rates,
3 do those differ by region?

4 A. They certainly do. And they can be quite
5 variable. I have been involved in projects where the
6 persistence rate for bats was 15 to 30 days. I've
7 been involved in projects where bats were removed
8 within a couple of days of being placed. Similar for
9 birds. I would say the one area where it's less
10 variable would be for raptors. Raptors tend to
11 remain on the landscape quite a long time.

12 Q. And with regard to -- will you mute,
13 please. Thank you.

14 With regard to bias trials and searcher
15 efficiency and scavenger rate, is it standard
16 practice in the industry to apply adjustment factors
17 to post-construction monitoring to account for missed
18 carcasses and scavenged carcasses?

19 A. Yes. In fact, that's a requirement for
20 most post-construction monitoring protocols. It's --
21 it's very important to have an estimate not only of
22 how many you found but how many you missed. So that
23 is the standard for virtually every study I've been
24 involved in.

25 Q. And with regard to these

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1 post-construction monitoring surveys, are there
2 conservative estimates associated with them as well?

3 A. Yes, there are. There are some
4 conservative assumptions built into post-construction
5 monitoring surveys. A couple of those include, one
6 we do, every carcass we find within the search plot
7 died due to collision with turbines and so we know
8 that's an overestimate because, you know, especially
9 in the case of birds, you know, bird mortality occurs
10 in nature through predation, disease, various
11 factors. The few studies that have measured
12 background mortality have estimated upwards of 20,
13 30 percent of birds found on the landscape could be a
14 result of background mortality.

15 You know, for a number of our surveys
16 we -- we will also find a feather spot and so
17 especially with a feather spot in which we find a
18 pile of feathers, we have no idea if that bird died
19 due to collision, if it was killed by a raptor or
20 a -- or a fox or -- we just don't know but those are
21 conservatively included in those fatality estimates.

22 Some of the other -- other conservative,
23 I think, methods that are included in a lot of these
24 analyses would be, you know, I think a lot of times
25 whenever humans are checking the status of a -- of a

1 carcass during a persistence trial, sometimes the
2 carcass can be moved within the plot but not removed
3 from the plot. So this came to light when we started
4 using dogs for carcass searches and the dogs are able
5 to detect that it had moved but a human would not,
6 and so for the vast majority of studies that have
7 been conducted we're probably estimating carcass
8 persistence would be quicker than it really is based
9 on some of those results.

10 ALJ WILLIAMS: I am afraid -- I am the
11 tech police here. It looks like your microphone is
12 now probably hanging off of your shirt collar and
13 it's kind of bouncing around on your shirt collar
14 there to the left. So try to keep that steady, that
15 would help us.

16 THE WITNESS: Thank you.

17 MR. SECREST: Thank you, your Honor.

18 Q. (By Mr. Secrest) Mr. Good, you were asked
19 some questions on cross-examination about tundra
20 swans. Do you recall those?

21 A. I do.

22 Q. And have you reviewed mortality studies
23 or literature related to the susceptibility of
24 waterfowl, including swans, to wind turbine
25 fatalities?

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1 A. Yes. I'm familiar with those and I have
2 completed a few of those as well.

3 Q. And what do those studies tell you about
4 waterfowl susceptibility to wind turbine fatalities?

5 A. Yes. The waterfowl are interesting.
6 They are often one of the most commonly-observed
7 species at most wind energy projects in the midwest
8 and east.

9 For example, Canada geese are often
10 observed in large numbers flying right at the same
11 height as turbine blades, yet waterfowl and
12 waterbirds are rarely found as fatalities at wind
13 projects. They comprise a very, very small number
14 relative to their abundance at wind projects.

15 Top of Iowa was a case where a master's
16 student did a study. There's a wind project located
17 in the middle of three wildlife management areas and
18 those -- those wildlife management areas held tens of
19 thousands of geese, yet not a single fatality of
20 Canada geese occurred at that project.

21 Tundra swans are closely related to
22 geese. One particular example involving tundra swans
23 involves, I believe, some of the testimony cited by
24 Dr. Smallwood. That's a project, the study he is
25 referring to is called the Wolfe Island project.

1 There's a series of post-construction monitoring
2 reports in his testimony that illustrate how tundra
3 swans are not susceptible to wind turbine mortality.

4 At Wolfe Island there is thousands of
5 tundra swans that winter and fly through that project
6 area and as well as during migration. Yet, I believe
7 there might have been close to 500 carcasses picked
8 up and not a single tundra swan fatality occurred
9 which further illustrates the low susceptibility of
10 waterfowl to mortality and this -- it's a common
11 finding among all post-construction monitoring
12 projects.

13 Now, that's not to say a few waterfowl
14 don't incur fatalities so the risk isn't zero but the
15 numbers found are very, very small relative to
16 waterfowl abundance at wind projects.

17 Q. Thank you, Mr. Good.

18 MR. SECREST: Your Honor, may I present
19 Mr. Good with one of the exhibits we circulated --
20 will you mute, please? It was cited from his
21 testimony. It's titled "A Comprehensive Analysis of
22 Small-Passerine Fatalities from Collision with
23 Turbines at Wind Energy Facilities."

24 ALJ WILLIAMS: You may.

25 MR. SECREST: Thank you, your Honor. May

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1 I also have that marked as Applicant's Exhibit 84.

2 ALJ WILLIAMS: So marked.

3 (EXHIBIT MARKED FOR IDENTIFICATION.)

4 MR. SECREST: Thank you.

5 Q. (By Mr. Secrest) Mr. Good, do you have
6 the document I'm referencing in front of you?

7 A. I do.

8 Q. Please tell me a little bit about this
9 study.

10 A. Yes. This is a study that was basically
11 a meta-analysis that reviewed all the existing wind
12 energy post-construction monitoring reports that were
13 publicly available at the time. The purpose was to
14 estimate passerine mortality across all those
15 facilities and compare the level of mortality
16 occurring to population sizes of passerines and other
17 sources of bird mortality.

18 So the -- you know, the project involved
19 adjustments to some of the estimates from existing
20 facilities. There was efforts to try to make the
21 estimates more comparable particularly through making
22 adjustments for the type of statistical analysis that
23 was completed at each of the studies in order to make
24 sure those estimates were comparable. They also only
25 included projects that, you know, were monitored

1 during spring and fall migration periods which are
2 the highest periods of risk for migrating passerines.

3 The survey -- or the estimate found that,
4 you know, at the time the estimated overall passerine
5 mortality, the cumulative mortality of all wind
6 projects in the U.S. was estimated to be within
7 134- to 230,000 at the time. Those estimates ended
8 up being pretty close to some other estimates that
9 were calculated later by Dr. Loss which are used now
10 by the Fish and Wildlife Service and other agencies
11 to compare sources of mortality for birds, and direct
12 conservation efforts.

13 The study found that, you know, for
14 basically almost all the passerines involved, the
15 mortality occurring was less than .01 percent, I
16 believe, of the total population size and that's from
17 the cumulative mortality of all wind projects at the
18 time.

19 You know, wind energy development has
20 increased since that time but, you know, since 2013,
21 the number of installed capacity has probably
22 increased 30 to 50 percent, but even if you double
23 some of these estimates, you would come to the same
24 conclusion, the level of mortality occurring at
25 this -- at -- the cumulative mortality occurring from

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1 wind energy to passerines is very, very low, orders
2 of magnitude lower, than other sources of bird
3 mortality.

4 Q. Thank you, Mr. Good.

5 If I can direct you to page 5. Under the
6 "Results" heading, there is a "Fatality Rate
7 Estimates for Small Birds" and a "Bias-Corrected
8 Estimates of Fatality Rates for Small Birds." Do you
9 see that?

10 A. Which section on page 5 are you at?

11 Q. Under the "Results" section.

12 A. Yes, I see that.

13 Q. Good. Thank you.

14 With regard to the results and the
15 estimates of bird fatalities per megawatt per year,
16 are those consistent with what your studies have
17 determined and your general understanding of small
18 bird fatality?

19 A. Yes. Those values are similar to what I
20 see at even newer wind generation projects in the
21 midwest. Generally, most fatal -- most projects are
22 in the range of 2 to 4 birds per megawatt per year
23 with, you know, some being lower and higher. That's
24 certainly consistent with my experience as well.

25 Q. And is that what you would anticipate for

1 the Emerson Creek wind project?

2 A. Yes. You know, based on 2,300 hours of
3 surveys that have been completed at the project, as
4 well as over 300 post-construction monitoring studies
5 at wind energy facilities across the nation, and the
6 fact that this project is located in a tilled,
7 agriculture-dominated landscape, located outside
8 known migration corridors, located outside of IBAs, I
9 would anticipate the bird mortality rate to be within
10 the range of other midwest projects here.

11 Q. Thank you. Excuse me.

12 Also under the "Results" section,
13 specifically the heading "Composition of Fatalities
14 by Bird Type, Passerine Family, and Small-passerine
15 Species," it states: "Small passerines accounted for
16 62.5 percent of the 4,975 observed fatalities at wind
17 energy facilities; this included birds found
18 incidentally, outside of standardized surveys.
19 Upland game birds (8.2 percent) and diurnal raptors
20 (7.8 percent) were the next most commonly found bird
21 types."

22 With regard to diurnal raptors making up
23 7.8 percent of the fatalities, is that consistent
24 with your research as well and the studies you have
25 performed on wind projects?

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1 A. Yes, although I would say it's probably a
2 bit high. These are raw numbers compared to basic
3 raw numbers of raptors found which are quite large
4 and much more easily detected than a passerine would
5 be. So I think those are probably on the high side
6 but definitely within the range of what I viewed.

7 Q. And you had -- in your testimony you
8 referenced the overall continent-wide effects on
9 small bird populations. Does this report address
10 those effects on pages 8 and 9?

11 A. Yes. Page 8 is a summary of the
12 composition of fatalities at projects. As well as
13 page 9. Page -- page 10 and 11 -- page 11 is the
14 beginning of the summary of how those nationwide
15 estimates compare to the pop -- population sizes.

16 Q. Great. Thank you, Mr. Good. You may put
17 that aside.

18 MR. SECREST: Your Honor, may I direct
19 Mr. Good's attention to what we have premarked and
20 what I will ask formally be marked as Exhibit 85.
21 It's titled "Issues in Ecology."

22 ALJ WILLIAMS: You may.

23 (EXHIBIT MARKED FOR IDENTIFICATION.)

24 MR. SECREST: Thank you, your Honor.

25 ALJ WILLIAMS: We will mark it

1 accordingly.

2 MR. SECREST: Thank you.

3 Q. (By Mr. Secrest) Mr. Good, are you
4 familiar with this document?

5 A. I am.

6 Q. What is it?

7 A. This is a summary of the -- you know, the
8 latest in what's known regarding wind energy impacts
9 to birds and bats. It was published in fall of 2019
10 by some of the leading researchers in the field of
11 wind and wildlife interactions from University
12 professors to consultants to USGS.

13 Q. If I may direct you to page 6.
14 Specifically looking at the first sentence in the
15 second column. It states: "National average adjusted
16 fatality rates (as defined in Box 2) reported in
17 recent peer-reviewed national reviews vary from
18 approximately three to six birds and four to seven
19 bats per megawatt of installed wind energy capacity
20 per year." Do you see that?

21 A. I do.

22 Q. Are those numbers and figures consistent
23 with your research as well as your studies you
24 performed?

25 A. Yes. Those numbers are accurate and

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1 consistent with all the post-construction monitoring
2 studies I have been a part of. Yes, for birds. The
3 bat numbers, those are -- bat numbers are more
4 variable but for the bird numbers those numbers are
5 quite consistently in that range.

6 Q. If I may direct you to page 8 of
7 Applicant's Exhibit 85. Under the heading "Birds," I
8 am looking at the third sentence. It states:
9 "Diurnal raptors constitute about 9 percent of total
10 observed fatalities, and these percentages are higher
11 in the western U.S. where these species are more
12 abundant." Is that consistent with your
13 understanding and research?

14 A. Yes, that's correct. So there is a
15 number of studies that I have been a part of where no
16 raptor fatalities are found or just a handful. So,
17 yes, that is -- that is consistent with my
18 understanding as well.

19 Q. Mr. Good, if we could, just quickly back
20 to the bias trial issues. We had discussed carcass
21 persistence rates being site specific. Are bias
22 trial estimates, in general, project or site
23 specific?

24 A. They should be for a good study. So a
25 standard recommendation for most wildlife agencies

1 and the USGS, so searcher efficiency can vary
2 depending on the substrate or the type of search you
3 are completing, as well as scavenging rates, so it's
4 really important when you got a fatality rate that
5 they use site-specific estimates of those biases.
6 Otherwise you could run the risk of greatly
7 underestimating or overestimating the fatality rate.

8 Q. Thank you, Mr. Good.

9 What specific measures has this project
10 used to reduce potential mortality to both birds and
11 bats?

12 A. Yeah. So there have been a number of
13 characteristics of this project that I think minimize
14 impacts to both species or both types of animals.

15 For birds, you know, a couple of the
16 larger ones are: It's not located within a known
17 migration corridor; the project is not located in any
18 known important bird areas; it's located in tilled
19 agriculture. And, you know, that's a consistent
20 recommendation from the Fish and Wildlife Service and
21 the ODNR. They're like, when possible, if it's at
22 all possible, site wind turbines in tilled
23 agriculture. These are disturbed landscapes,
24 disturbed habitats.

25 The largest source of bird population

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1 declines in the U.S. is loss of habitat, so siting a
2 project in tilled agriculture is one of the most
3 important aspects of reducing potential impacts to
4 birds.

5 The project has also avoided -- as we've
6 discussed earlier, there is some forest in the
7 project. All turbines have been sited outside of
8 forest for this project. Further reducing potential
9 risks to birds.

10 The project has also minimized impacts to
11 wetlands, another important bird habitat.

12 For bats, you know, siting turbines in
13 tilled agriculture is not necessarily a minimization
14 measure for bats. Bat mortality rates can be higher
15 in projects with or without forests.

16 However, there are some tried-and-true
17 measures that have been proposed for this project to
18 reduce mortality that are recommended by both the
19 ODNR and the Fish and Wildlife Service and that
20 includes operating the project at 6.9 meters per
21 second in an effort to avoid the take of listed bats
22 which will also greatly reduce potential mortality
23 rates for tree bats during the spring and fall
24 migration periods.

25 The project has also gone to great

1 lengths to site turbines outside of known foraging
2 ranges of Indiana and northern long-eared bats.

3 And the project has proposed not clearing
4 any trees during the winter -- or during the summer
5 period when bats could be present.

6 So those are the primary means by which
7 the project has reduced its impact to both birds and
8 bats.

9 Q. Thank you, Mr. Good.

10 How has the total survey effort for this
11 project, how does that compare with other projects
12 for which you worked on?

13 A. The total amount of survey effort at this
14 project greatly exceeds just about any project I've
15 been involved with. And so I would say for a typical
16 project you might have one to two years of
17 pre-construction surveys probably in the neighborhood
18 of four -- 200 to 400 plus hours of survey effort
19 depending on -- of course, it really depends on the
20 characteristics of the site, you could have a lot
21 more but a typical Midwest ag project is probably in
22 that range.

23 I totaled up the total survey effort for
24 this project and I was kind of surprised to see there
25 has been over 2,300 hours of different bird surveys

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1 at this project so it's more than a full year of
2 someone standing on-site, all day, every day, looking
3 for birds. That's a lot. There's surveys over
4 multiple years.

5 The total survey effort, again, was
6 exceeded over what the ODNR recommended for the
7 project in both the number of points and the types of
8 surveys for this project. So there is a -- there's
9 plenty of information here to assess risk.

10 MR. SECREST: Thank you, Mr. Good.

11 Your Honor, may I have just a minute to
12 confer with my counsel?

13 ALJ WILLIAMS: You may.

14 MR. SECREST: Thank you, your Honor.

15 Thank you, your Honor, and thank you,
16 Mr. Good. I have no further questions.

17 ALJ WILLIAMS: Thank you.

18 Mr. Van Kley, any recross?

19 MR. VAN KLEY: Yes, your Honor. Could
20 you give me about 5 minutes or so to organize my
21 notes to make it an efficient cross-examination?

22 ALJ WILLIAMS: I will. Why don't we go
23 ahead and take 10 minutes. Give you ample time. We
24 want to come back on at 1:55.

25 Karen, we are off the record. Thank you.

1 (Recess taken.)

2 ALJ WILLIAMS: Attorney Van Kley, if you
3 could proceed with your recross. Back on the record.

4 - - -

5 RECROSS-EXAMINATION

6 By Mr. Van Kley:

7 Q. Mr. Good, why don't we talk about the new
8 exhibits you have sponsored through your redirect
9 testimony. Starting with Exhibit 85 entitled
10 "Impacts to Wildlife of Wind Energy Siting and
11 Operation in the United States." Let's look first at
12 the identity of the authors of this paper. Were any
13 of the authors employed, at the time of the
14 preparation of this paper, employees of -- employed
15 by -- let me start that over. I can be much better.

16 Were any of the authors of this paper
17 employed at the time of its preparation by U.S. Fish
18 and Wildlife Service?

19 ALJ WILLIAMS: Mr. Good, you are on mute.

20 THE WITNESS: Can you hear me?

21 ALJ WILLIAMS: I can.

22 THE WITNESS: Okay. Great. So yes. I
23 am looking at the list of authors. I don't recognize
24 any of the names as Fish and Wildlife Service --

25 ALJ WILLIAMS: It looks like you might

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1 have two different forms of microphone coming
2 through.

3 THE WITNESS: There we go. Sorry about
4 that.

5 ALJ WILLIAMS: Okay.

6 THE WITNESS: I am not sure if they work
7 for service or not, but I don't believe the others
8 do.

9 ALJ WILLIAMS: I lost part of your
10 answer. Can you repeat the answer?

11 THE WITNESS: Yeah. So I am looking at
12 the author list, I don't recognize any Service
13 personnel on there but there are a few people on
14 there that I don't know who they work for.

15 ALJ WILLIAMS: Thank you.

16 THE WITNESS: I can't say for certain
17 none of them work for Fish and Wildlife.

18 Q. (By Mr. Van Kley) What's the origin of
19 the mortality data that was used in the preparation
20 of Applicant's Exhibit 85?

21 A. Okay. Remind me, Exhibit 85, is this the
22 "Issues in Ecology"?

23 Q. Yes.

24 MR. SECREST: Mr. Good is trying to
25 reestablish audio.

1 THE WITNESS: Can you guys hear me now?

2 ALJ WILLIAMS: We can. Any response to
3 that last question?

4 A. Okay. So the sources of the
5 post-construction monitoring data in this report was
6 your question. I believe that the source of that
7 information are post-construction monitoring studies
8 that are required by state and federal agencies
9 largely that are completed at wind energy projects.

10 Q. So these studies producing the data used
11 in this paper were conducted by wind energy
12 companies?

13 A. No. Hardly any of these studies are
14 completed by wind energy companies.

15 Q. All right. Maybe you misunderstood my
16 question. I better reask it. The mortality data
17 used in Applicant's Exhibit 85, was it produced by
18 the wind companies?

19 A. No. Those are post-construction
20 monitoring -- I think you're referencing like what is
21 the source of information that was used in this
22 report to talk about levels of mortality. I think
23 that's what you are trying to ask, correct?

24 Q. I believe so.

25 A. Okay. I am just trying to make sure I

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1 have the question correct. And then you asked these
2 are all studies completed by wind energy companies
3 and that's false. So these are -- almost all of
4 these are studies that are completed by third
5 parties, they are often paid for by the wind
6 industry, required by state and federal wildlife
7 agencies, following protocols that are typically
8 reviewed and approved by state and federal wildlife
9 agencies.

10 Q. Okay. I think you've perceived the
11 reason for our confusion. The mortality data
12 collected that ultimately made its -- ultimately was
13 considered in the preparation of Applicant's
14 Exhibit 85 was all collected by wind companies,
15 correct?

16 A. No. So wind companies don't collect
17 mortality data. They often hire consultants,
18 sometimes universities, sometimes USGS and outside
19 research organizations to collect the data and
20 complete the studies.

21 Q. Okay. So the mortality monitoring that
22 constitutes the basis for Applicant Exhibit 85 was
23 conducted by people who contracted with the wind
24 companies to collect the mortality data, correct?

25 A. That's right, including universities and

1 other third parties and consultants.

2 Q. How much of the mortality data utilized
3 in Applicant's Exhibit 85 was collected by WEST?

4 A. I -- you know, I don't have a good -- a
5 good estimate for you on that. If I looked through
6 the citations here, you know, based on the citations
7 that I'm seeing, I see two reports with WEST lead
8 authors.

9 Q. Were any of the authors of Applicant's
10 Exhibit 85 employees of WEST at the time this paper
11 was prepared?

12 A. Yes. Dale Strickland is a senior
13 ecologist with WEST. He is a coauthor on this
14 report.

15 Q. Any others?

16 A. Yeah. I don't -- yeah. No. I see --
17 yeah, I see -- I see Erin Baerwald, she's a
18 professor. Amanda Hale is a university research
19 professor. Cris Hein is the leader of Bat
20 Conservation International at the time of the -- or
21 one of the heads of the wind side of that
22 organization. I see USGS, and I see one WEST author.

23 Q. Do you have any idea how many wind
24 companies have been -- have contracted with WEST to
25 conduct turbine mon -- turbine mortality monitoring?

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1 A. How many wind companies?

2 Q. Yes. Or how many different wind farms
3 would be a better question.

4 MR. SECREST: Objection to relevance.

5 ALJ WILLIAMS: We'll let him answer and
6 explain if he knows.

7 A. So we -- I think we completed
8 post-construction monitoring at 2- to 300 different
9 wind energy projects.

10 Q. Okay. How --

11 A. That's not an exact number obviously but
12 it's a rough estimate.

13 Q. Okay. Have there been any projects in
14 which to your knowledge WEST has worked for people
15 opposed to wind projects?

16 MR. SECREST: Objection, outside the
17 scope of redirect.

18 MR. VAN KLEY: No, it's really not,
19 because one of the authors of the paper that we're
20 talking about is employed by WEST, so the potential
21 bias of the -- that author of the paper is in
22 question here.

23 ALJ WILLIAMS: We'll allow the question.
24 Please respond, Mr. Good.

25 A. Let me -- well, we have completed

1 contract work for the Fish and Wildlife Service,
2 state and federal agencies, and NGOs which are
3 environmental organizations. I don't -- you know, I
4 guess I don't know the breadth of all the contracts
5 we've done at WEST. So I can say I personally have
6 not done any studies for a project opponent.
7 Typically we're, you know -- yeah, no, I have not.

8 Q. Okay. And you are not aware of any other
9 WEST employees who have worked for a wind power
10 plant?

11 A. Well, I can say there are projects the
12 Fish and Wildlife Service are opposed to, and we have
13 contracts with the Fish and Wildlife Service, so if
14 you consider the -- I wouldn't consider the Service
15 an opponent in this instance that you are thinking of
16 them, but they certainly will express views that
17 generally don't recommend developing projects. So if
18 you think of them in that regard, we have done work
19 for the Fish and Wildlife Service.

20 Q. Do you know how many projects have been
21 conducted by WEST on behalf of the U.S. Fish and
22 Wildlife Service?

23 A. Well, we -- I don't know the total
24 number. I would say dozens. I know of five
25 different contracts associated with estimating golden

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1 eagle population size in the western U.S. I know
2 we've completed bat surveys for the Fish and Wildlife
3 Service. We have developed migration models for bats
4 for the Fish and Wildlife Service. We have -- I know
5 there are statisticians that work with the Fish and
6 Wildlife Service office in Alaska, analyzing data
7 that's been collected.

8 So but, yeah, the exact number I don't
9 have off the top of my head though.

10 Q. Would you go to page 3 of Exhibit 85. I
11 would like to direct your attention to the last
12 paragraph in the first column of that page. And the
13 first sentence of that paragraph reads as follows:
14 "Although some bat fatalities had been observed in
15 early studies, research related to bat-wind
16 interactions increased dramatically after 2003 when
17 1,400 to 4,000 bat fatalities were estimated to have
18 occurred in a six-week period at the Mountaineer Wind
19 Energy Center in West Virginia." Do you see that
20 sentence?

21 A. I do see that sentence.

22 Q. Are you aware of the incident that
23 occurred at the Mountaineer Wind Energy Center that
24 is described in this sentence?

25 A. Yeah, I believe they are referring to one

1 of the first studies that documented
2 higher-than-expected bat mortality rates at wind
3 energy projects. That is a true and accurate
4 statement. After that discovery, there has been a
5 lot of research regarding bat and wind interactions.

6 Q. Now, with respect to the bat mortality
7 data that was utilized in Exhibit 85, how much of
8 that mortality data was collected prior to 2003?

9 A. You know, I think most of the citations
10 in here are post-2003. So I would expect most of the
11 studies in here are post-2003.

12 Q. Were any of the statistics on bat
13 mortalities the product of averaging mortality
14 statistics for bats prior to 2003?

15 A. You know, I can't answer that with -- you
16 know, they did not list all of the studies that were
17 used in here, but if I look through the citation, I
18 guess I am going to do a quick review of the
19 citations and see what the dates are in here. Do I
20 see any before 2003? I'm not really seeing any
21 2003 -- pre-2003 citations in the literature cited.

22 Q. Let's go to page 7 of Exhibit 85. I
23 would like to refer you to the second full paragraph
24 in the first column on that page.

25 A. What? I'm sorry. I wasn't catching up

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1 with you there. What page -- are you still on the
2 same paper?

3 Q. Same paper, Exhibit 85, page 7.

4 A. Page 7. Okay. Gotcha.

5 Q. And looking at the first full paragraph
6 in the left column, starting with the word "Using."

7 A. Okay.

8 Q. And that sentence states as follows:
9 "Using adjusted fatality rate data from publicly
10 available studies, estimates of average cumulative
11 annual bird fatalities in the continental U.S.
12 published in 2013 and 2014 ranged from approximately
13 230,000 to 600,000 birds per year, estimates of
14 cumulative bat fatalities published during that same
15 period ranged from 200,000 to 800,000 bats per year."
16 Do you see that sentence?

17 A. I do.

18 Q. Okay. So with respect to the data on
19 birds referenced in this report, that data is limited
20 to bird fatalities published in 2013 and 2014,
21 correct?

22 A. No. I think that that statement refers
23 to those -- either those -- that range of estimates
24 from 230- to 630,000, but there is a number of other
25 citations throughout this report that are post-2013.

1 But regarding that statement, yeah, that's what this
2 statement says.

3 Q. Okay. And the data is limited to
4 published reports, correct?

5 A. What data are you referring to?

6 Q. The data that I referenced in this
7 sentence with regard to the estimate of approximately
8 230,000 to 600,000 birds per year.

9 A. Oh, okay. Yes, so those are references
10 for a couple of different published reports that rely
11 on several post-construction monitoring studies. So
12 they are like their cumulative reviews of several
13 different monitoring reports.

14 Q. Uh-huh. Of all of the wind farms in the
15 United States during 2013 and 2014, how many of those
16 wind farms provided bird mortality data that was
17 included in these published reports used for the
18 estimate of bird mortalities in the subject?

19 A. I don't know the answer to that off the
20 top of my head.

21 Q. Can you tell me whether it's less than
22 half of the existing wind farms at that time?

23 MR. SECREST: Objection, speculation.

24 ALJ WILLIAMS: To the extent he has any
25 information, he can then tell us what it is and

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1 explain.

2 A. You know, I don't know the exact number.
3 I can say some of the latest summaries represent
4 information from like 20 to 30 percent that were
5 cited in my testimony. So if you assume a similar
6 number of publicly -- percentage of
7 publicly-available studies that are available, that's
8 a wild guess. Again, I would have to go back to the
9 studies if you want a more concrete answer than that.

10 Q. Yeah. Do you know how many new wind
11 projects have been constructed and operated in the
12 United States since 2014?

13 A. I believe that the installed capacity
14 since 2015, I looked this up, I want to say it
15 increased by like 30 to 40 percent, in that ballpark,
16 approximately again.

17 Q. And then with regard to the statement in
18 the sentence we've been discussing about bat
19 fatalities, can you tell me the number of wind farms
20 that produce the bat mortality information used for
21 the estimated 200,000 to 800,000 bat mortalities per
22 year?

23 A. Yeah. I don't know that number off the
24 top of my head.

25 Q. Based on information you've seen on

1 studies of bat mortalities that have estimated the
2 number of bat mortalities on a national basis, can
3 you tell me how many of the wind farms in the United
4 States have been utilized for that information?

5 A. I believe that number is in the ballpark
6 of 20 to 30 percent. I will look up the exact number
7 here for you, if you would like.

8 Q. Yes, please.

9 MR. SECREST: May I ask the witness to
10 identify what he is looking at.

11 ALJ WILLIAMS: Please.

12 A. I want -- I am looking at the --

13 MR. SECREST: I am going to ask you to
14 not refer to that. That has not been introduced into
15 evidence.

16 ALJ WILLIAMS: Mr. Good, with that
17 instruction, if you could return to an estimate, if
18 you have that, per Mr. Van Kley's question.

19 A. You know, my estimate is in the
20 neighborhood of like 20 to 30 percent of facilities
21 are represented in post-construction monitoring
22 reports based on my recollection.

23 Q. Can you tell me the process by which the
24 studies on bird and bat mortalities, that you are
25 aware of, have obtained mortality data from

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1 post-construction mortality surveys at wind projects?

2 A. Yes, I can -- I can talk in general
3 terms.

4 So, you know, the typical approach is
5 first identify the question trying to be answered.
6 Are you trying to estimate bird mortality? Are you
7 trying to estimate bat mortality? Are you trying to
8 estimate the number of rare events that is currently
9 at a site?

10 So once those initial objectives are
11 outlined, then you design the methods that are
12 focused on best answering those questions. That can
13 range from searching every turbine at a project to as
14 few as 10 percent. I would say most of the studies
15 I'm involved in are typically searching 50 to
16 75 percent of turbines that is part of the sample.
17 Many are 100 percent.

18 So you do regular standardized searches
19 with either trained human technicians or, in some
20 cases, trained dog teams. You calculate the number
21 of carcasses you find, and you adjust those numbers
22 for bats that were -- based on your searcher
23 efficiency and carcass persistence trials as well as
24 bats and birds that are expected to occur within the
25 search.

1 Q. And what is the typical area covered by
2 the search plot for these mortality studies?

3 A. It depends on the -- on the question.
4 It's hard to say what a typical number is. I guess I
5 would say most have a plot radius of 60 to
6 100 meters. Some have plot radiuses lower than that.
7 Typically those are older studies. Some have plot
8 radiuses that are much bigger than that if the
9 objective is to estimate something like an eagle
10 mortality rate.

11 Q. And how large are those plot radiuses
12 typically?

13 A. Typically 90 to 100 but sometimes they
14 can be larger depending on the landscape and
15 protocol.

16 Q. What is the range of distances from the
17 turbine that carcasses from dead birds have been
18 known to travel before landing on the ground?

19 A. What is the largest distance ever
20 recorded? What's the -- that your -- is that what
21 you are asking?

22 Q. Yeah. Give me a range that would include
23 the shortest distance and longest distance recorded.

24 A. I would say -- you know, the shortest is,
25 you know, around 0 to 1 and, you know, most -- the

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1 highest densities of carcasses are close to the
2 turbines.

3 What's -- I mean that's a good question,
4 what is the longest distance a carcass has been found
5 during a carcass study? Probably 150 to 200 meters,
6 in that ballpark, would be the longest. But those
7 are kind of outliers, I would say, on the tail end of
8 things that are quite unusual. Most of the estimates
9 are, you know, most of the carcasses are falling much
10 closer than that.

11 Q. So how -- how do the authors of studies
12 on bat and bird mortalities at wind projects obtain
13 the information that has been collected during the
14 mortality surveys? In other words, how do they get
15 the information? Where do -- who do they get it
16 from? How is it made available to them?

17 A. I guess I don't know if I quite
18 understand your question. Are you asking like
19 when -- when I'm asked to do a carcass study, how do
20 I obtain the data I collect?

21 Q. No. Let me try again. The mortality
22 cup -- the mortality data collected on behalf of wind
23 companies at wind projects typically is not published
24 publicly on the internet; is that correct?

25 A. I think 20 to 30 percent of the studies

1 out there are public. And so -- and that's again --
2 so it depends on what you mean is typical. I see
3 that -- that's 20 to 30 percent of known fatalities.
4 How many of those facilities actually did a study?
5 It's less than 100 percent. So what is the actual
6 number of facilities that have publicly-reported
7 fatality data? It's higher than that. It's
8 somewhere probably -- it's somewhere north of 20 to
9 30 percent.

10 Q. And is this information published
11 publicly on a voluntary basis by these wind
12 companies, or is it required by law in some
13 instances?

14 A. Well, both. So there are a number of
15 companies that publish their work voluntarily. There
16 are organizations like the American Wind Wildlife
17 Institute who serve as a vehicle for those studies to
18 be housed and for researchers to access that data and
19 to answer questions that researchers might be
20 interested in. So, you know, I think I answered your
21 question. Or did I not hit the mark there?

22 Q. No. I think you answered the question.

23 A. And then I would say a number of those
24 studies are posted publicly based on the resource
25 agency they're submitted to.

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1 Q. So if you combine the mortality data that
2 is posted by the wind companies with the mortality
3 data that is made public by regulatory agencies,
4 approximately how many wind projects have produced
5 the data that has been made public through a
6 combination of those two means of publication?

7 MR. SECREST: Objection, speculation. We
8 are getting pretty far from the study for which
9 Mr. Good is being questioned.

10 ALJ WILLIAMS: I am going to let him go
11 ahead and answer to the extent he knows.

12 A. I believe I answered this already; but,
13 you know, the latest summaries are -- you know, have
14 publicly-available estimates, I think are in the
15 neighborhood of 20 to 30 percent, but I don't have an
16 exact number on -- in front of me.

17 Q. Okay. Let's go to page 9 of Applicant's
18 Exhibit 85.

19 A. Okay.

20 Q. I would like to bring you to the second
21 column on that page to the paragraph that starts with
22 the words "Long-lived species."

23 A. Okay. Go ahead.

24 Q. All right. First sentence of that
25 paragraph states as follows: "Long-lived species,

1 including most raptors, that have higher adult
2 survival and fewer offspring each year, may be more
3 susceptible than short-lived species to
4 population-level effects from collisions with wind
5 turbines." Do you agree with that statement?

6 A. Yeah, I guess I do agree with that
7 statement in context to the previous paragraph which
8 states that, you know, for most songbirds in the U.S.
9 for which data are available, cumulative collision
10 mortality at wind energy facilities has been
11 estimated to represent less than .01 percent of
12 population size, and those are species that also have
13 higher reproductive potential.

14 So relative to the previous paragraph in
15 context, I mean, yes, you know, wind energy would
16 have potential to be more susceptible than those
17 short-lived species regarding population-level
18 effects if the mortality rates are high enough.

19 Q. And is that also true of bald eagles?

20 A. Bald eagles are a long-lived species and
21 have higher adult survival so, yes, that would be
22 true of bald eagles with one exception. Bald eagle
23 populations are increasing dramatically, so an
24 increasing population such as bald eagles are much
25 less susceptible to any population effect.

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1 Q. The next sentence in that paragraph
2 states as follows: "Few peer-reviewed studies in the
3 U.S. have investigated population-level effects of
4 wind energy on any raptor species." Would you agree
5 with that statement?

6 A. Yes, I do. I also agree with the next
7 statement.

8 Q. All right. I just asked you about the
9 first statement. Let's go --

10 MR. SECREST: If the witness could finish
11 his answer.

12 ALJ WILLIAMS: I will allow him to finish
13 his answer. That will probably save us some time on
14 redirect anyway.

15 Go ahead and finish your answer.

16 MR. SECREST: Thank you, your Honor.

17 A. Yeah. I think it's important these
18 statements be made in context and so the next
19 statement, the sentence says "Studies of the
20 unusually high fatalities of golden eagle at the
21 Altamont wind facility in California indicated that
22 increased mortality from collisions did not cause a
23 decline of the local population although recent
24 research indicates that these fatalities are offset
25 by immigration of young eagles into the area."

1 Q. And how many studies were involved in the
2 studies that are mentioned in that sentence?

3 MR. SECREST: Objection, vague.

4 ALJ WILLIAMS: To the extent you can
5 answer.

6 A. It cites No. 16. It cites one study by
7 Todd Katzner of the USGS.

8 Q. So that sentence does not contradict the
9 prior -- the statement in the prior sentence that few
10 peer-reviewed studies in the U.S. have investigated
11 population-level effects of wind energy on any raptor
12 species, correct?

13 A. Yes, that's correct, with one caveat.
14 There have been a number of studies that have
15 estimated raptor fatality rates and have compared
16 those fatality rates to other sources of mortality,
17 and those sorts of information is used to -- by
18 wildlife agencies across the U.S.

19 Q. Would you go to page 16 of Exhibit 85.

20 A. Yes. Go ahead.

21 Q. All right. I would like to direct your
22 attention to the last paragraph above the
23 illustration in the right-hand column, starting with
24 the words "Bat scientists."

25 A. The paragraph below the picture on

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1 page 16?

2 Q. The paragraph above the picture.

3 A. Although -- got you. Got it.

4 Q. That sentence states: "Bat scientists
5 have hypothesized that broadcasting ultrasound from
6 wind turbines may 'jam' a bat's ability to perceive
7 its own echos and cause bats to avoid wind turbines."
8 Do you agree with that statement?

9 A. I do agree. Many scientists have
10 hypothesized that jamming those frequencies could
11 work.

12 Q. Are you aware of any other theories on
13 why bats collide with wind turbines?

14 MR. SECREST: Objection, outside the
15 scope of redirect.

16 MR. VAN KLEY: Yeah, you're right. I'll
17 withdraw that one.

18 MR. SECREST: Thank you.

19 Q. (By Mr. Van Kley) Let's go to Applicant
20 Exhibit 84.

21 A. And can you remind me what's the name of
22 that report?

23 Q. It's the "Issues in Ecology" paper,
24 entitled "A Comprehensive Analysis of Small-Passerine
25 Fatalities from Collision with Turbines at Wind

1 Energy Facilities."

2 A. Okay. Thank you.

3 Q. Let's start first by discussing the
4 authors of this study. Are there -- are any
5 authors -- or were any authors employees of WEST at
6 the time this paper was authored?

7 A. Yes. The first three authors are
8 scientists at WEST. Other authors on this paper
9 include Doug Johnson, a noted statistician and
10 researcher with the USGS, and Joelle Gehring, a
11 researcher with FCC.

12 Q. So none of the authors of this paper were
13 employed by U.S. Fish and Wildlife Service at the
14 time this paper was authored?

15 A. That's correct.

16 Q. Do you know how much, if any, of the
17 mortality data used to prepare this paper had been
18 obtained from WEST?

19 A. I don't know the percentage.

20 Q. Now, the date of this paper -- that is,
21 the date the paper was received by the publisher was
22 June 16, 2013; is that correct?

23 A. Yeah, that's correct.

24 Q. So there's no post-2013 mortality data
25 that was used in the preparation of this paper?

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1 A. Yeah, that's correct.

2 Q. Go to page 5 of Exhibit 84.

3 A. Go ahead.

4 Q. Go to the second column of that page
5 under the heading of "Results."

6 A. Okay. Go ahead.

7 Q. Under "Results" it states that "Most of
8 the 116 available monitoring studies that were
9 appropriate for our analyses were conducted in the
10 northern third of the contiguous United States." Do
11 you see that sentence?

12 A. I do.

13 Q. Is that the total number of studies that
14 were utilized for the preparation of Exhibit 84?

15 A. I believe they reviewed more studies than
16 this, but they only included studies that I believe
17 occurred during the migration seasons and met the
18 minimum criteria for inclusion.

19 Q. Uh-huh. And those numbered 116 studies
20 total?

21 A. That's what it says, yes.

22 Q. Go to page 12. And I would like to
23 direct you to the first column on that page under the
24 heading "Other Analyses of Collisions with Turbines
25 and Unknown Factors." Let me know when you've found

1 that.

2 A. Yeah, I'm here.

3 Q. Okay. Let's go to the first paragraph
4 under that heading. You see in the first sentence of
5 that paragraph that the authors state that they
6 calculate about 214,000 to 368,000 turbine-related
7 deaths that occur each year for all birds?

8 A. Yes, I see that.

9 Q. And then in the next sentence do you see
10 the reference to values presented by Loss which
11 averaged 234,000?

12 A. Yes, I do see that.

13 Q. Is that where you obtained your figure of
14 about 230,000 bird mortalities per year that you
15 mentioned in your redirect testimony?

16 A. Having trouble remembering, we talked a
17 lot of numbers but that very well could be it. I
18 would expect so; but, you know, I need to go back and
19 see the exact reference if you would like.

20 Q. So you see the same sentence that has the
21 reference to Loss, that there were numbers presented
22 by Smallwood and Manville, 573,093 and 440,000
23 respectively, in bird mortalities per year?

24 A. Yes, I do see that.

25 Q. And let's look at the last sentence on --

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1 in that paragraph that starts on the bottom of the
2 first column on page 12 which starts with the words
3 "Our study differs." And let me know when you have
4 found that sentence.

5 A. Yes, I see that.

6 Q. Okay. And it says there "Our study
7 differs from that of Smallwood because we used the
8 fatality rate provided in individual studies as
9 opposed to independently recalculating these rates
10 from the raw data using a single common estimator."
11 Did I read that correctly?

12 A. Yes.

13 Q. Let's go to the next column on page 12 of
14 Exhibit 84. And we'll look at the first four -- the
15 first full paragraph in that column. Let me know
16 when you have found that.

17 A. Can you help me again? I am having
18 trouble finding that.

19 Q. Yeah. Page 12, column 2, first -- first
20 full paragraph in that column starting with the words
21 "There are factors."

22 A. Correct. All right.

23 Q. Let me read the first two -- or first
24 three sentences of that paragraph and tell me if I
25 have read them correctly. "There are factors that

1 may influence any per year estimate of bird
2 fatalities. First, taller turbines may be related to
3 an increase in bird mortality, as suggested by Loss,
4 et al. We found no linear correlation between
5 turbine tower height and the fatality rates we
6 estimated, but other factors such as geographic
7 location or turbine age may confound the effect of
8 tower height." Did I read that correct?

9 A. Yeah.

10 Q. Would you agree that generally wind
11 turbines that are taller pose more risk of bird
12 fatalities?

13 MR. SECREST: Objection, vague. Birds in
14 total, regardless?

15 MR. VAN KLEY: Yes.

16 A. The answer is it depends.

17 Q. What does it depend on?

18 A. It depends on the species you are talking
19 about.

20 Q. Are there certain species that are more
21 at risk from collisions with wind turbines that are
22 taller?

23 A. I would say that, you know, taller
24 turbines tend to occur, you know, closer to the air
25 space where a lot of nocturnal migrants fly, although

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1 a lot of nocturnal migrants fly in the existing air
2 space of existing wind turbines, smaller turbines. I
3 believe that's what Loss -- I believe that's what
4 their -- their study suggested as well.

5 Q. Since 2013 when this paper was presented,
6 have the turbine models utilized in wind projects in
7 the United States generally increased in height?

8 A. They have increased in height, yes. So,
9 you know, machines now are able to generate more
10 power at those greater heights which also means
11 there's fewer turbines that are developed in a given
12 project to meet the capacity requirements, so it is a
13 tradeoff. There are some taller turbines but there's
14 fewer of them.

15 Q. Going back to the first full paragraph in
16 the second column on page 12 of Exhibit 84, I would
17 like to direct your attention to the -- the sentence
18 after the sentences that I read to you. It starts
19 with the word "Second." Tell me when you have found
20 that.

21 A. You are on the last paragraph on the left
22 column on page 12?

23 Q. I'm on the second paragraph. I'm sorry.
24 I am in the second column and the first full
25 paragraph of that column.

1 A. You're in the right paragraph --

2 MR. SECREST: May I show the witness,
3 your Honor?

4 ALJ WILLIAMS: You may.

5 MR. SECREST: Thank you.

6 THE WITNESS: Okay. Thank you. See if I
7 got it somewhere.

8 Q. (By Mr. Van Kley) Okay. So go back to
9 the paragraph that I've already read a couple
10 sentences to you which starts with the words "There
11 are factors."

12 A. Yep.

13 Q. Okay. Now go down to the sixth line of
14 that paragraph starting with the word "Second."

15 A. Yes.

16 Q. And that sentence reads as follows:
17 "Second, the size of the search plot may influence
18 how many actual fatalities are found by searchers."
19 Do you agree with that statement?

20 A. Yes.

21 Q. Okay. Now, staying in the same
22 paragraph, let's go down to the sentence that starts
23 with the words "Not all plot sizes" which will be
24 about seven lines below the sentence I just read to
25 you.

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1 A. Okay.

2 Q. And that sentence reads: Not all plot
3 sizes in studies for our analysis conformed to these
4 guidelines, and some studies may underestimate the
5 number of bird fatalities found to -- found due to
6 the bird carcasses landing outside the search plot.
7 Do you see that sentence?

8 A. I do see that sentence, yes.

9 Q. Okay. And do you agree with that
10 statement?

11 A. So, yes. I mean, in this study they did
12 not correct for birds that fell outside of the plots.
13 However, Loss et al. did do so and their estimate was
14 similar to ours. But, yes, you are correct, that is
15 what the sentence says.

16 Q. You can put Exhibit 84 to the side for
17 now.

18 A. The only thing I would add to that
19 statement would be we certainly have looked at this
20 and I guess based on the typical plot sizes and using
21 some of the ballistics models that are out there, you
22 know, those estimates are, you know, given the plot
23 sizes that have been studied, you know, the
24 percentage of birds nests are not -- you know, it's
25 not a doubling of the estimate. These cases are

1 capturing most of the birds that are killed and
2 some -- there is some adjustments made to it. These
3 aren't continually large adjustments.

4 Q. Do you agree that wind projects in the
5 midwest have had some of the highest fatality
6 estimates for bats?

7 A. Yes, they have. The range is broad from
8 0 to, I believe, 60 bats per megawatt, but most being
9 less than that, but that is the upper end of the
10 reported range.

11 Q. And just for clarification, the figures
12 that you just mentioned, up to 60 bats per megawatt,
13 would be the estimated number of bat deaths per
14 megawatt per year, correct?

15 A. Yes. That's reported megawatts for that
16 study. The reported numbers per megawatt per I
17 believe that number you're referencing -- I guess I
18 need to go back and I would need to go back and see
19 the study estimate to see if they reported per year
20 or per study period. I can't remember off the top of
21 my head.

22 Q. What do you need to do to confirm?

23 A. I would need to review the report where
24 that estimate was provided. But in general if it's
25 reported, it's going to encompass the majority, if

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1 not all of the time, when bats were present.

2 Q. During your redirect examination you
3 mentioned the survey of mortalities at Wolfe Island.
4 Do you recall that testimony?

5 A. I do.

6 Q. Now, the search radius for that study was
7 50 meters from the turbine tower, correct?

8 A. Yes.

9 Q. You also mentioned a study in which -- a
10 study on a wind project in which tundra swans were
11 present. Do you recall that?

12 A. Yes. They were described within those
13 Wolfe Island reports.

14 Q. Of the waterfowl studies that you
15 mentioned in your redirect testimony that appears to
16 conclude that the risk to waterfowl from wind
17 turbines is low, in how many of those studies was it
18 shown that tundra swans were present in the project
19 area that was utilized in those studies?

20 A. The monitoring studies at Wolfe Island.
21 I don't believe there is tundra swans present at the
22 Top of Iowa study I mentioned. But they were present
23 at the Wolfe Island study.

24 Q. And in how many of the studies at Wolfe
25 Island were the tundra swans present?

1 A. I believe they were there every year at
2 Wolfe Island, so I would assume they are present -- I
3 need to go back and check, but during the majority of
4 those studies, again, you mentioned the search radius
5 was 50 meters. If that was the distance, we would
6 expect if there were large numbers of tundra swans
7 mortalities occurring, they would be detected within
8 50 meters.

9 Q. How many tundra swans were present during
10 those studies?

11 A. The report referenced thousands. I would
12 need to check the reports for that number.

13 Q. In your redirect you provided some
14 testimony concerning the ODNR protocols for surveying
15 birds and bats, correct?

16 A. I did, yes.

17 Q. Is there anything in that protocol that
18 prohibits the wind developer from obtaining more
19 information than is required by that protocol?

20 A. There is not. In fact, you know, in this
21 case the Applicant, on their own, completed an
22 additional three years of large bird surveys that are
23 not required in the ODNR protocol.

24 Q. Uh-huh. And the reason that was done is
25 primarily -- was primarily to look for bald eagles,

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1 correct?

2 A. Bald eagles and other large birds so,
3 yes, tundra swans.

4 Q. What were the years in which the large
5 bird surveys were conducted for this project?

6 A. Okay. I believe I need to reference
7 the --

8 MR. SECREST: If I may direct you to
9 Exhibit S of the Application, not K.

10 THE WITNESS: Thank you.

11 A. So there was one study in 2016 to 2017.
12 Second survey in 2016 to 2017. 20 -- there's another
13 survey in 2018 to 2019. And then I believe there was
14 one more, the Tetra report for 2012 referenced
15 another study completed -- migration survey in 2011.
16 And I will be more specific. In 2011 to 2012 was the
17 other.

18 Q. Say that again, please.

19 A. 2011 to 2012.

20 Q. So in your testimony you stated that the
21 Applicant here completed more bird surveys than
22 required by ODNR. Did you include in that statement
23 the surveys done from 2011 to 2012?

24 A. Yes. In general under the ODNR
25 protocols, correct, that study would not have been

1 included. Also included in that statement were the
2 breeding bird surveys, so the ODNR does not require
3 breeding bird surveys unless turbines are located in
4 bird habitats and there will be no turbines in bird
5 habitats. So those are -- I guess that's -- you
6 know, those are all the studies that were done in
7 addition to what was asked for by the ODNR.

8 In addition, like, there were multiple
9 years, so there is more effort in the project than
10 would have been required under the survey effort
11 letter, so more points. Even within surveys that
12 were required, you know, even more points surveyed
13 than would have been required in the ODNR survey.

14 Q. Uh-huh. With regard to the 2011-2012
15 eagle surveys, can you tell me your opinion with
16 regard to whether those surveys are representative of
17 the bald eagle populations found in the project area
18 today?

19 A. Chris Farmer, who is up next, will be
20 testifying to eagles. That was not the purpose of my
21 testimony.

22 Q. Do you know the answer to the question?

23 MR. SECREST: Objection, outside the
24 scope of redirect.

25 ALJ WILLIAMS: I will give a small bit of

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1 latitude if he knows the answer.

2 THE WITNESS: I'm sorry. I think you
3 said go ahead?

4 ALJ WILLIAMS: I will give a small bit of
5 latitude to answer, if you know.

6 A. Okay. Are they representative of -- I
7 think they are in a lot of regards for -- with the
8 caveat that eagle populations have increased which is
9 why the Applicant decided to repeat a lot of those
10 surveys throughout the new boundary.

11 Q. You made a statement in your redirect
12 that some of the surveys were done outside of the
13 foraging area for the Indiana bat; am I accurately
14 restating your testimony?

15 A. No. What I said was the turbines were
16 sited outside of established presence buffers for the
17 Indiana bat based on the survey data prior.

18 Q. Were there any acoustic surveys for bats
19 that covered those areas?

20 MR. SECREST: Objection. This is outside
21 the scope of direct as well.

22 MR. VAN KLEY: No, it's not. I
23 specifically linked it to his testimony about the
24 turbines being outside the foraging areas. I'm
25 testing the accuracy of that statement.

1 ALJ WILLIAMS: I will allow him to
2 answer.

3 A. There were acoustic surveys. Honestly I
4 don't -- I don't remember if the met towers and the
5 locations of those surveys were in or out of those
6 presence buffers. I would need to go back and check
7 the map layout compared to the acoustic survey report
8 to give you an answer on that.

9 MR. VAN KLEY: Okay. All right. I have
10 no further questions.

11 ALJ WILLIAMS: Any redirect?

12 MR. SECREST: Your Honor, I would enjoy
13 more questions, but I believe I've exhausted mine.

14 ALJ WILLIAMS: All right. I don't expect
15 anyone else, but I will let people frantically wave
16 if they think they have anything. I see no motion.

17 With that we will take up the exhibits,
18 Mr. Secrest.

19 MR. SECREST: Thank you, your Honor. May
20 the Applicant move to admit Exhibits 32, 47, 84, and
21 85.

22 ALJ WILLIAMS: Any objection?

23 MR. VAN KLEY: Yeah. Could I have that
24 list again, please?

25 MR. SECREST: Certainly. It's 32 which

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1 was Mr. Good's prefiled testimony. It's 47 which is
2 the ODNR pre- and post-construction monitoring
3 protocol. It is 84 which is titled "Comprehensive
4 Analysis of Small-Passerine Fatalities from Collision
5 with Turbines at Wind Energy Facilities." And 85
6 which is the "Issues in Ecology, Impacts to Wildlife
7 of Wind Energy Siting and Operation in the United
8 States."

9 MR. VAN KLEY: Your Honor, I do not
10 object to the admission of Exhibit 32 or Exhibit 47.
11 I do object to the admission of Exhibits 84 and 85.
12 First of all, the witness has provided us with a
13 discussion about the information in those exhibits
14 that on which he is relying for his testimony. So
15 it's unnecessary to admit those papers in full on the
16 docket.

17 Secondly, those papers include a lot of
18 information and statements that was not subject to
19 redirect examination and, thus, could not be subject
20 to recross-examination. And, therefore, we shouldn't
21 allow those papers to be admitted in whole on the
22 docket to -- for possible use for purposes other than
23 the ones that the witness employed in his testimony.

24 ALJ WILLIAMS: Attorney Secrest,
25 response?

1 MR. SECREST: Thank you, your Honor.
2 Exhibits 84 and 85 were referenced, in fact,
3 footnoted in Mr. Good's testimony. They were
4 referenced in his testimony. Their inclusion in
5 these proceedings should not come as a surprise.

6 And with regard to topics for -- that
7 were not explored on redirect, Mr. Van Kley certainly
8 explored a number of topics in each one of these
9 exhibits that we did not touch on in redirect, so he
10 had ample opportunity on recross, and the Bench
11 provided him latitude to explore topics on recross
12 that were not specifically addressed in redirect.
13 And they are relevant to these proceedings, your
14 Honor.

15 ALJ WILLIAMS: I agree. I think they are
16 relevant. I think that they presented a lot of
17 opportunity for questioning regarding the exhibits.

18 MR. SECREST: Thank you, your Honor.

19 (EXHIBITS ADMITTED INTO EVIDENCE.)

20 ALJ WILLIAMS: Does anybody need a break
21 before we proceed to the next witness? Let's go
22 ahead and get started with the next witness and that
23 will give us an opportunity for a break around the
24 4:30 hour. It doesn't look as though we are going to
25 get to Witness Bellamy this afternoon, Attorney

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1 Margard, so if you want to let Mr. Bellamy know he
2 will be postponed until tomorrow, that would be
3 great.

4 MR. MARGARD: I will do so. That would
5 be great, your Honor.

6 ALJ WILLIAMS: Mr. Secrest, I am going to
7 have you call your next witness, and Judge Agranoff
8 will probably preside over the rest of the afternoon.

9 MR. SECREST: Thank you, your Honor. May
10 the Applicant call Dr. Christopher Farmer.

11 ALJ AGRANOFF: If you can please have
12 Dr. Farmer come up on the screen.

13 MS. CHILCOTE: Mr. Farmer, you have been
14 promoted to a panelist. You should be able to turn
15 on your microphone and speak now.

16 THE WITNESS: Yes. I'm here.

17 ALJ AGRANOFF: Hello, Dr. Farmer. Please
18 raise your right hand.

19 (Witness sworn.)

20 ALJ AGRANOFF: Thank you.

21 Mr. Secrest.

22 MR. SECREST: Thank you, your Honor.

23 - - -

1 CHRISTOPHER FARMER, Ph.D.

2 being first duly sworn, as prescribed by law, was
3 examined and testified as follows:

4 DIRECT EXAMINATION

5 By Mr. Secrest:

6 Q. Good afternoon, Dr. Farmer.

7 A. Good afternoon.

8 Q. Thank you for patiently waiting. Do you
9 have in front of you what has been marked as
10 Exhibit 33?

11 A. Yes, I do.

12 Q. Is that a copy of your prefiled direct
13 testimony in this action?

14 A. It is.

15 Q. Okay. Do you have any revisions or
16 corrections to that testimony?

17 A. No, I don't.

18 MR. SECREST: Okay. Thank you.

19 Your Honor, I will tender Dr. Farmer for
20 cross-examination.

21 ALJ AGRANOFF: Thank you. The exhibit
22 shall be so marked.

23 (EXHIBIT MARKED FOR IDENTIFICATION.)

24 ALJ AGRANOFF: Mr. Van Kley, are you
25 ready, sir?

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1 MR. VAN KLEY: Not quite, your Honor. I
2 am still pulling up the materials here. Give me a
3 moment.

4 ALJ AGRANOFF: I would be a little bit
5 surprised if you had said yes.

6 MR. VAN KLEY: All right.

7 - - -

8 CROSS-EXAMINATION

9 By Mr. Van Kley:

10 Q. Mr. Farmer, I think I am more or less
11 ready. First of all, where do you live?

12 A. I live in Pennsylvania.

13 Q. Have you ever lived in Ohio?

14 A. No, I have not.

15 Q. Other than working on the Emerson wind --
16 or Emerson Creek wind project, have you done any
17 other professional work related to birds in Ohio?

18 A. I worked on one other early-phase
19 development wind project in Ohio in Crawford County
20 back in the 2012 to '13 time frame.

21 Q. Uh-huh. Where is Crawford County
22 relevant to the State of Ohio? Is it north? South?
23 East? West?

24 A. I believe it's to the south of this
25 project area.

1 Q. Do you know how far south?

2 A. I think it may be in an adjacent county,
3 if I recall correctly.

4 Q. Have you personally visited the project
5 area for the Emerson Creek wind project?

6 A. Yes, I have.

7 Q. On how many occasions?

8 A. I visited it just once this year.

9 Q. Have you visited that project area in any
10 other areas besides this year?

11 A. Not deliberately.

12 Q. Just passing through perhaps?

13 A. I may have passed through including when
14 I was transiting to the other wind project I worked
15 on.

16 Q. When did you visit the project area in
17 Emerson Creek wind project?

18 A. I went out there with Rhett Good on
19 March 5 and 6 of this year to make a general
20 reconnaissance of the area.

21 ALJ AGRANOFF: Mr. Van Kley?

22 MR. VAN KLEY: Yeah.

23 ALJ AGRANOFF: If you could please make
24 sure your video camera is on.

25 MR. VAN KLEY: Oh. Here I am.

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1 ALJ AGRANOFF: There you are.

2 Q. (By Mr. Van Kley) Let's go to your
3 written direct testimony labeled as Applicant
4 Exhibit 33. Let's go to page 14 of your testimony.

5 A. Okay. I'm on page 14.

6 Q. Okay. And we are going to talk briefly
7 about the study that is labeled as C on that page,
8 "April 3, 2020, WEST, Large Bird and Eagle Use
9 Surveys."

10 A. I see it.

11 Q. What is the nature of the surveys, that
12 is, what was the procedure of the surveys used in the
13 preparation of this report?

14 A. These are point count surveys that are
15 conducted at a random sample of the project area.
16 They consist of an observer staying at a fixed
17 location and surveying for birds in an 800 meter
18 radius around them for one hour at each point.

19 Q. So if a bald eagle traveled further than
20 800 meters, then its presence would no longer be
21 recorded in this report?

22 A. The way that these are conducted, the
23 answer to that is going to be a yes and a no. The
24 data recording for purposes of the U.S. Fish and
25 Wildlife Service records the eagle use within just

1 that 800-meter radius around the point. However, to
2 inform turbine siting and to inform other risk
3 analyses in a qualitative fashion, what we typically
4 do is we map that movement for as far as we can
5 reliably follow it and map it. So if it were to move
6 out of the 800-meter plot but we could still see it,
7 we could continue mapping the flight path.

8 Q. Yeah. Now, Firelands reported to the
9 U.S. Fish and Wildlife Service what it referred to as
10 eagle use minutes; is that correct?

11 A. Yes. There are eagle use minutes
12 sometimes called eagle exposure minutes or eagle risk
13 minutes also.

14 Q. Okay. Now, are the -- are the time
15 periods in which the bald eagle traveled beyond
16 800 meters included in the eagle use minutes reported
17 to the U.S. Fish and Wildlife Service?

18 A. No. Those are not included because they
19 are outside of the sample frame of the survey. And
20 that's important because when you take a
21 representative sample of an area, if you use data
22 outside of your sample frame, you do not have any
23 estimate of the effort it required to get that.

24 Q. Let's go to page 19 of your testimony.

25 A. Okay. I have page 19.

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1 Q. With regard to the eagle use minutes
2 reported to U.S. Fish and Wildlife Service, how much
3 of that information was obtained using the procedure
4 that we just described?

5 A. With regard to -- I'm sorry. I'm not
6 sure I followed.

7 Q. Well, I will reword it. You described a
8 procedure in which the observer will be situated in a
9 location and record all eagle use activity within
10 800 meters; is that correct?

11 A. Yes.

12 Q. Is that the procedure that was used
13 for -- to obtain all of the eagle use minutes for the
14 project area that was reported to the U.S. Fish and
15 Wildlife Service?

16 A. Yes, I believe it was in these recent
17 reports based on the surveys that WEST did. And what
18 I didn't mention before, that those are -- it's a
19 cylinder, the plot. It has a top as well as sides.
20 And the top of that cylinder is 200 meters in height.
21 So minutes -- radius would not be recorded.

22 Q. Okay. You -- your voice disappeared
23 there for a moment. Can you repeat the last part of
24 your answer?

25 A. Yes. I will put the microphone closer in

1 case that was the issue. Is this better?

2 Q. Yes.

3 A. Okay. In the data that goes to the U.S.
4 Fish and Wildlife Service, for their analysis there's
5 also a top to the plot. It's a 200-meter high plot.
6 So it's an 800-meter radius by 200-meter height.

7 Q. Okay. And I think you also said
8 something about if there was something and then you
9 faded out, it would no longer be?

10 A. Yes. If there was an eagle observed
11 within 800-meter -- 800 horizontal meters of the plot
12 but it was above 200 meters vertically, it would not
13 be included in those minutes.

14 Q. Let's go to Question and Answer 16 that
15 starts on page 19 of your testimony.

16 A. Yes, I see it.

17 Q. The answer reads in part -- let me start
18 with the question just to put it in context. The
19 question is, "To your knowledge, has the U.S. Fish
20 and Wildlife Service collision risk model been
21 applied to data from the Project?"

22 And the first part of your answer
23 states: "Yes. The Staff Report of Investigation for
24 the Project states on page 43 that the U.S. Fish and
25 Wildlife Service 'determined the preliminary risk to

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1 eagles is about 2.5 eagles per year.' This appears
2 to be derived from the U.S. Fish and Wildlife Service
3 collision risk model prediction." Did I read that
4 correctly?

5 A. Yes.

6 Q. What makes you think that the -- this
7 estimate of preliminary risk to eagles was derived
8 from the collision risk model prediction?

9 A. Two aspects, that it was provided by the
10 U.S. Fish and Wildlife Service and that it references
11 a predicted fatality rate of 2.5 eagles per year.
12 That's typically the type of output that you see from
13 that collision risk model.

14 Q. What are the inputs for that model?

15 A. The inputs for the model consist of sort
16 of three primary areas. One is an estimate of eagle
17 exposure and that's what's derived from the point
18 count survey sample that is done in the project area.

19 The next is what's called an expansion
20 factor and that is derived from the physical
21 components of the wind farm and the size of the
22 rotor-swept area and what it does is it extrapolates
23 from the sample taken on the point counts to all of
24 the turbines in the wind farm and all of the daylight
25 hours during which an eagle might fly for a year.

1 The third component is what's called a
2 collision probability or collision frequency and that
3 is derived from under -- our understanding of how
4 much, unfortunately, a golden eagle collides with a
5 wind turbine given a minute of exposure. We're
6 currently stuck using golden-eagle-based information
7 from older wind farms in order to populate that model
8 but there are efforts underway to update those and
9 it's hoped that the Fish and Wildlife Service will
10 relatively soon have a bald-eagle-specific model that
11 doesn't rely on golden eagle data.

12 The reason that's important is that
13 although we call them both eagles, bald eagles and
14 golden eagles are not closely related to one another.
15 They have very different biologies and very different
16 foraging ecologies that makes their collision-risk
17 profiles appear to be different at wind farms.

18 Q. So the number of eagle use minutes that
19 the wind company obtained for the Emerson Creek Wind
20 Farm is utilized in a collision risk model?

21 A. Yes. The estimated exposure is those
22 number of minutes with a denominator of how much
23 survey effort went into measuring those -- those
24 exposure minutes.

25 Q. In calculating those eagle use minutes

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1 for this project, did Firelands set up its count
2 areas within a visible distance from the eagle nests?

3 A. I believe some of the earlier surveys did
4 that which is those would not be good data to use for
5 the collision risk model. What the collision risk
6 model is trying to get at is what the typical
7 exposure within the entire project is rather than
8 what the extreme -- either extreme low or extreme
9 high exposure would be. So the correct way to do it
10 is to randomly distribute your sample locations
11 throughout the project area.

12 What happens in practice is there's --
13 there's always land that you can't access, so you end
14 up with a sample that's a stratified random instead
15 that you don't have a fully randomized spatial
16 sample.

17 Q. Uh-huh. And which were the eagle surveys
18 conducted for this project that you believe utilized
19 the appropriate procedure?

20 A. Those would be the eagle use and large
21 bird surveys that were conducted in 2016 and '17 and
22 2018 through '19.

23 ALJ AGRANOFF: Have those been
24 incorporated in exhibits that have already been
25 marked in this case?

1 THE WITNESS: Yes. One of them was in an
2 S exhibit that Mr. Good was referencing earlier. I
3 don't recall which S that was. And the 2018 to '19
4 has been attached as CF-4 to my testimony.

5 ALJ AGRANOFF: Okay. Thank you.

6 Q. (By Mr. Van Kley) Okay. I think we can
7 all find CF-4. Can you give us a clue as to how to
8 find the other report that's in Exhibit S?

9 A. Yes. I have it electronically here. I
10 can look up what the name is.

11 Q. Okay. And maybe the date as well of the
12 report.

13 A. Yes. It is -- there are two of them, I'm
14 sorry, Exhibit S-1 and Exhibit S-2. S-1 is May 8,
15 2018. S-2 is September 10, 2018.

16 Q. Okay. Thank you. Would you find what's
17 been marked as LR Exhibit 16 in a folder that I
18 believe you have been provided.

19 A. Yes. I have an electronic copy of that.

20 Q. Okay.

21 MR. VAN KLEY: At this time, your Honor,
22 we would like to mark this as LR Exhibit 16.

23 ALJ AGRANOFF: It shall be so marked.

24 (EXHIBIT MARKED FOR IDENTIFICATION.)

25 MR. VAN KLEY: Okay. And just to

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1 identify the exhibit. This is a series of e-mails.
2 The first e-mail on the first page is an e-mail from
3 Margaret Rheude to Jennie Geiger dated March 12,
4 2020.

5 Q. (By Mr. Van Kley) Mr. Farmer, is that the
6 document you have in front of you?

7 A. Yes, it is.

8 Q. Okay. Thank you.

9 ALJ AGRANOFF: And just so that I know,
10 Mr. Van Kley, this LR Exhibit 16 -- I'm trying to
11 find it in the files that I have here. Where would I
12 be looking?

13 MR. VAN KLEY: You would be looking in
14 the exhibits that I circulated by e-mail.

15 ALJ AGRANOFF: Okay. Hold on for a
16 second.

17 What was the date of the e-mail,
18 Mr. Van Kley?

19 MR. VAN KLEY: Let me look. 10-1?

20 ALJ AGRANOFF: What was that date again?
21 10-1? October 1?

22 MR. VAN KLEY: That sounds correct. Let
23 me find the e-mail.

24 ALJ AGRANOFF: It's an exhibit list.

25 MR. VAN KLEY: It was the -- it was in

1 the compilation of exhibits that I distributed
2 through a share file which I believe you had
3 downloaded by somebody else for distribution to you.
4 Mr. Margard had downloaded them and I believe may
5 have distributed them to you on a stick.

6 ALJ AGRANOFF: I only see LR Exhibit 15,
7 25. At least what I got loaded I have LR 15, 25, 26.

8 MR. SECREST: Your Honor, I have it up
9 and the ability to e-mail rather quickly, if I may do
10 so.

11 ALJ AGRANOFF: I appreciate that, and
12 also I think Judge Williams was looking for it.
13 Yeah, if you can e-mail that to me, that would be
14 great.

15 MR. SECREST: Certainly. This comes from
16 Mr. Van Kley's e-mail.

17 ALJ AGRANOFF: Thank you. Okay. I do
18 have it now. Thank you.

19 MR. VAN KLEY: All right. Thank you.

20 Q. (By Mr. Van Kley) All right. Mr. Farmer,
21 have you seen this document before today?

22 A. Yes, I have.

23 Q. Uh-huh. When did you first see this
24 document?

25 A. This was forwarded to me I think sometime

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1 in late spring or early summer.

2 Q. Do you recall who forwarded it to you?

3 A. Yes. Jennie Geiger.

4 Q. I would like to refer you to the second
5 e-mail in the chain which starts about the middle of
6 the first page of LR Exhibit 16 and which is an
7 e-mail from Margaret Rheude to Robert Holderbaum
8 dated February 27, 2020.

9 A. I have it.

10 Q. Yeah. Was this e-mail included in the
11 e-mails that Jennie Geiger forwarded to you?

12 A. Yes. I think it was.

13 Q. All right. If you look at the last
14 sentence of the second paragraph of that e-mail, that
15 sentence starts with the words "I conducted."

16 A. Yes, I see it.

17 Q. Okay. Great. The sentence says "I
18 conducted an initial model run on the summary data
19 they provided me, using the following inputs: 71
20 turbines, Vesta 150-4.2 MW styles. 1212 hours of
21 eagle use observations, with 125 eagle use minutes
22 observed." Do you see that?

23 A. Yes, I do.

24 Q. Okay. And the next sentence which is on
25 the second page of LR Exhibit 16 states "Based on

1 these inputs, the preliminary risk to eagles is about
2 2.5 eagles per year." Do you see that?

3 A. Yes, I do.

4 Q. Okay. And based on the vernacular that
5 she uses there, do you understand that the 2.5 eagles
6 per year referenced in that sentence refers to the
7 expected mortality of eagles per year?

8 A. Yes. That would confirm what we stated
9 earlier, that that is an output from the collision
10 risk model that predicts annual fatalities based on
11 eagle exposure.

12 Q. Uh-huh. And referring you back to the
13 page of LR Exhibit 16 where Ms. Rheude lists 71
14 turbines for 1,212 hours of eagle use observations
15 and 125 eagle use minutes, are those empirical inputs
16 of the Fish and Wildlife Service collision model that
17 you identified earlier in your testimony?

18 A. Yes. They need the number of turbines.
19 They need the rotor radius of the turbines which you
20 can usually find if you know the make and model. And
21 they need the survey effort and the number of eagle
22 exposure minutes.

23 Q. Why then is rotor size important in this
24 calculation?

25 A. The collision risk model is based on the

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1 area of air that rotors pass through, and so, to
2 determine that, they build a cylinder around the
3 turbine that uses that radius to determine the radius
4 of the cylinder.

5 Q. Uh-huh. And in the calculation of this
6 collision risk model, does that model compare the
7 number of eagle use minutes with the number of hours
8 of eagle use observations?

9 A. Yes. In this case essentially the eagle
10 use observation hours are the denominator, and the
11 eagle exposure minutes are the enumerator.

12 Q. Looking again at the second paragraph of
13 Ms. Rheude's e-mail of February 27, 2020, she states
14 in the third sentence that "Emerson Creek seems to
15 have a good amount of recent eagle use data, which
16 conforms to the Fish and Wildlife Services'
17 recommendations in the Eagle Conservation Plan
18 Guidance." Do you see that sentence?

19 A. Yes, I do.

20 Q. Do you have any knowledge concerning
21 which eagle studies performed by Firelands were used
22 in her calculation?

23 A. I do not directly know, but I can surmise
24 by looking at the data that it is from the 2016
25 through 2019 studies that we discussed earlier.

1 Q. Uh-huh. Did those studies record 1,212
2 hours of eagle use observations collectively?

3 A. I believe they probably did. That's
4 the -- although it's stated awkwardly in her e-mail.
5 That's not hours of eagles using the project. That's
6 hours of people looking for eagles.

7 Q. Based on your knowledge of the collision
8 risk model used by the U.S. Fish and Wildlife
9 Service, is there a -- a rule of thumb utilized for
10 the purpose of calculating those models that requires
11 the eagle use data to be no older than a specific
12 age?

13 A. So there is -- there's no strict
14 regulatory cutoff on that and often how old the data
15 can be comes down to coordination between the
16 individual project and the Fish and Wildlife Service,
17 but typically for this kind of survey we start to
18 think of them as stale if they are more than about
19 five years old, and they are probably less applicable
20 than they would be were they newer.

21 The -- in 2016 the Fish and Wildlife
22 Service promulgated some regulations that require
23 certain data in order to apply for an eagle take
24 permit. And one of those requirements was two years
25 of eagle use data of this nature. However, it

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1 doesn't specify how recent they have to be.

2 Q. Uh-huh. If the amount of eagle use in a
3 project area is increasing from year to year, does
4 that affect the usefulness of the eagle use data in
5 earlier years?

6 A. That is one of the considerations that
7 the Fish and Wildlife Service took into account in
8 creating the requirement for two years of surveys.
9 We are all aware there is variation from year to year
10 and also that bald eagle populations are increasing
11 nationally and within Ohio.

12 And so what you want to do typically is
13 get two consecutive years or two years with an
14 intervening year so that you can get an estimate of
15 how big that variation is between years in a
16 quantitative sense for populating the model.

17 However, when you have an opportunity to
18 get more older data such as this project has, that
19 also allows you to see how that's changing over time
20 and get sort of a qualitative feel for what the
21 risk -- not only what the risk profile is but also
22 what the risk trajectory looks like.

23 So it's kind of a -- it's a bifurcated
24 answer. You want two recent years to populate the
25 quantitative model, but if you have more data that

1 are older, that's actually very valuable in a
2 qualitative sense in assessing risk overall.

3 Q. It is that -- is the data useful for
4 qualitative purposes because it shows trends and
5 population?

6 A. It's indicative of trends, but it's also
7 indicative of how stable the use patterns you observe
8 more recently are and also what some of the habitat
9 drivers of use patterns might be.

10 Q. Directing your attention to the second
11 page of LR Exhibit 16, I would like you to take a
12 look at the third paragraph on that page.

13 A. Is that the paragraph that begins
14 "Looking"?

15 Q. Yes, sir.

16 A. Got it.

17 Q. I would like to refer you to the second
18 sentence starting with the word "Additionally."

19 A. Yes.

20 Q. That sentence states as follows:
21 "Additionally, we (the Fish and Wildlife Service)
22 expect the eagle population in this area to increase,
23 including the number and density of eagle nests."
24 Did I read that correctly?

25 A. Yes.

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1 Q. Do you agree with the statement?

2 A. Yes, I do. And also that is true of most
3 areas in the continental United States.

4 Q. Would you find what has been marked as LR
5 Exhibit 15.

6 A. I have. It's opening very slowly. Yes,
7 it's open now.

8 Q. Okay. Great. And is this a copy of
9 e-mails between you and other persons?

10 A. Yes, it is.

11 Q. The first page of LR Exhibit 15, the top
12 contains an e-mail from you to Rhett Good dated
13 March 9, 2020; is that correct?

14 A. Yes.

15 ALJ AGRANOFF: Hold on, Mr. Van Kley.
16 Maybe this is just my problem with the file I have
17 but what I have got marked as LR Exhibit 15, when I
18 click on that it's the Eagle Conservation Plan
19 Guidance Module 1.

20 MR. VAN KLEY: No. You are looking at
21 the Republic Wind exhibits apparently.

22 ALJ AGRANOFF: I may have dragged the
23 wrong file. You're right. Hold on.

24 Okay. Sorry about that.

25 MR. VAN KLEY: Okay.

1 ALJ AGRANOFF: Whenever you are ready,
2 Mr. Van Kley.

3 MR. VAN KLEY: Yes.

4 (EXHIBIT MARKED FOR IDENTIFICATION.)

5 Q. (By Mr. Van Kley) So in the e-mail dated
6 March 9, 2020, from you to Rhett Good, you state that
7 you visited seven historic nest locations and found
8 that five were occupied and active; is that correct?

9 A. Yes, that's correct.

10 Q. And in that sentence you were referring
11 to bald eagle nests, correct?

12 A. Yes. It's an e-mail string about the
13 bald eagle nests.

14 Q. And this e-mail string ensued after you
15 did your site visit to the project area in March of
16 2020, correct?

17 A. That's correct.

18 Q. And the information contained in the
19 e-mails in LR Exhibit 15 are the results of the
20 observations you made during that visit.

21 A. Yes.

22 Q. That visit occurred on March 5, 2020?

23 A. March 5 and March 6. But the nest
24 locations I believe we all -- visited all of them on
25 the 5th.

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1 Q. At the end of this Exhibit LR 15, there's
2 a map of the project area, correct?

3 A. Yes.

4 Q. And there's some handwriting on this map.
5 Does that belong to you?

6 A. Yes, it does.

7 Q. And in the handwriting on the map you
8 placed the locations of the bald eagle nests that you
9 observed on March 5, 2020?

10 A. That's correct.

11 Q. So looking at this map, did you put
12 circles around squares that represented active bald
13 eagle nests on that date?

14 A. So I put circles around the squares that
15 we visited and observed to be occupied. So there are
16 some nests that have no circle and no notation next
17 to them and those were not visited.

18 Q. Now, did you make an effort on this visit
19 on March 5 and 6 to find every active bald eagle nest
20 in the project area or within 2 miles around the
21 project area?

22 A. No, we did not. The primary goal here
23 was to familiarize me with the entire project area to
24 inform my evaluation of what eagle-related risks
25 would be like. And as part of that, we visited as

1 many of the known bald eagle nests locations as we
2 could that were either in or very close to the
3 project.

4 Q. Okay. And as shown by this map on
5 March 5 and 6, you found six bald eagle nests that
6 were occupied?

7 A. I believe we found five. One, two,
8 three, four, five. Yeah, five existing and one new
9 occupied nest for a total of six.

10 Q. And that new occupied nest has the word
11 "new" next to it, right?

12 A. Yes, it does. It is not very legible,
13 but it does say "new."

14 Q. Uh-huh. Is that an eagle nest that was
15 found near the reservoir known as the Bellevue 5
16 Reservoir?

17 A. Yes, it is. It is just south of that.

18 Q. Uh-huh. Prior to March 5, 2020, were you
19 aware of the existence of this nest?

20 A. No, we were not aware of that nest when
21 we visited the project area. It was not previously
22 recorded on the bald eagle nest surveys.

23 Q. How many of the six bald eagle nests were
24 active in the 2016 to 2017 survey that you mentioned
25 earlier in your testimony?

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1 A. Those were eagle use surveys. I don't
2 believe eagle nest surveys were included in those
3 reports.

4 Q. Okay. Fair enough.

5 A. I think there are some other eagle use --
6 or eagle nest surveys we could look at from that time
7 frame.

8 Q. During what other years were eagle nest
9 surveys conducted besides 2020?

10 A. Can we refer to Exhibit CF-2 to answer
11 that?

12 Q. Sure. If that helps you.

13 A. Yes. CF-2 I compiled in order to help
14 myself understand what the timeline looked like.

15 Q. Okay. Give us just a moment to find it.

16 A. I am looking for it too.

17 Q. Let me know when you have found it.

18 A. I have it in front of me.

19 Q. Okay.

20 A. So your question was how many years were
21 surveys conducted for eagles nests?

22 Q. Yeah. First, let's talk about CF-2 to
23 make sure that the record reflects what it is.

24 A. Okay.

25 Q. And help me interpret it. Would you

1 describe CF-2.

2 A. Yes. CF-2 consists of a table and two
3 maps that -- well, I put together the table, and I
4 had a GIS technician put together the two maps at my
5 direction to help me understand what the timeline of
6 eagle nests detection and occupancy looked like for
7 the project as a whole.

8 Q. Does this --

9 A. I'm sorry. I had another thought to help
10 clarify that. The rationale for that is that because
11 there are a number of different reports spanning a
12 number of years, there was no single source to look
13 at in order to have this all in front of you at once,
14 and I found it difficult to track without this.

15 Q. Does Exhibit CF-2 reference all of the
16 bald eagle nest surveys that were conducted for the
17 Emerson Creek wind project?

18 A. Yes, it does.

19 Q. And the years in which those surveys were
20 conducted can be found in the first line of CF-2?

21 A. Yes.

22 Q. There's a column, the first column from
23 the left is labeled as "Nest ID." Is that an
24 identification system for the bald eagle nests found
25 during these surveys?

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1 A. Yes. That's identification information
2 that I applied so that we could track a single nest
3 through time. Unfortunately what happened through
4 the reports was that each different consultant who
5 did a survey used a different nomenclature for the
6 nests, and I found without having an ID, just an
7 objective ID applied to the nests, you really could
8 not track it through time effectively.

9 Q. And looking at the first map following
10 the table we've been discussing, that is a map of the
11 Emerson Creek wind project and surrounding areas; is
12 that correct?

13 A. Yes. That is the Emerson Creek wind
14 project as it's currently configured and all of the
15 bald eagle nests that were known within a 10-mile
16 radius based on the surveys.

17 Q. And those bald eagle nests are numbered
18 on the map?

19 A. Yes. The numbers on the map correspond
20 to the ID number on the table.

21 Q. So based on the information in CF-2, how
22 many bald eagle nests were active in 2018?

23 A. I'm going to have to go through it and
24 add those up if you'll bear with me.

25 Q. Yeah, sure.

1 A. And you'll see if you look at this table,
2 a number of those are outside of the area that was
3 searched or were not reported depending on which nest
4 it is, so.

5 Q. Oh, okay. Yeah, that's a good point. So
6 let me just modify the question based on that
7 observation. How many bald eagle nests were known in
8 2018 that were located inside of the project area or
9 within 2 miles of the project area boundary?

10 A. Okay. That's an easier question.

11 Q. Yes.

12 A. Inside or within 2 miles?

13 Q. Yes.

14 A. Okay. Would you like the ones that are
15 inactive or just the ones that were occupied and
16 active at the time?

17 Q. Just the ones that were occupied and
18 active.

19 A. Okay. There were five reported as
20 occupied and active within 2 miles in 2018.

21 Q. And prior to 2018, the most-recent eagle
22 nest survey was in 2014, correct?

23 A. Yes.

24 Q. And how many active and occupied eagle
25 nests were found during that survey located in the

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1 project area within 2 miles of the project area?

2 A. This is where the search area becomes a
3 little bit problematic because it was not a
4 comprehensive search area for the entire project as
5 is currently constituted in 2014. It looks like none
6 of those were occupied and active at the time.
7 However, one was detected as unoccupied in 2014.

8 Q. What area was encompassed in the 2014
9 survey?

10 A. If we look at the second map, it will
11 show that survey area. 2014 is the forest green
12 outline. Let's see, which I believe was the southern
13 portion. No, that -- I may have misspoken. That may
14 have actually joined the northern portion as well. I
15 think we may need to look at the 2014 report to be
16 definitive about the search area for that one.

17 Q. How many bald eagle nests are currently
18 known to be in the project area or within 2 miles of
19 the project area boundary?

20 A. There are eight.

21 Q. So that's one more bald eagle nest than
22 was found in the 2020 survey that is listed under the
23 2020 status in your Exhibit CF-2?

24 A. I think I included one that was not
25 occupied and active. Okay. I get six when I count

1 occupied and active only.

2 ALJ AGRANOFF: And which document,
3 Dr. Farmer, are you looking at?

4 THE WITNESS: That is on the table in
5 CF-2. So that's comparing the second-to-last column
6 to the last column.

7 Q. (By Mr. Van Kley) Okay. I think we may
8 have miscounted. Did you include the -- did you
9 include nest 25?

10 A. Yes.

11 Q. Okay. All right. So let's just go
12 through these. Looking at the column for 2020
13 status, there's one nest ID 11 that's occupied and
14 within 2-mile of the project area?

15 A. Yes.

16 Q. The same is true for nest 15?

17 A. Yes.

18 Q. The same is true for nest 19?

19 A. Yes.

20 Q. And 20?

21 A. Yes.

22 Q. 23?

23 A. Yes, 23.

24 Q. 24?

25 A. 24 is yes.

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1 Q. And 25?

2 A. And 25. So that's seven, yeah.

3 Q. Okay.

4 A. And if you would like, I can figure out
5 which one I did not visit in March. That's probably
6 what you want to do, right?

7 Q. No, I don't need to do that.

8 A. Okay.

9 Q. You don't need to do that either. So is
10 the information in the column for the 2020 status of
11 bald eagle nests in CF-2 the current knowledge that
12 Emerson Creek wind has concerning the active and
13 occupied bald eagle nests inside the project area
14 within 2 miles of the project area boundary?

15 A. Yes, it is.

16 ALJ AGRANOFF: Mr. Van Kley, would this
17 be a good time to take a break?

18 MR. VAN KLEY: Sure.

19 ALJ AGRANOFF: Why don't we take a
20 15-minute break and come back at 4:30. And we will
21 go into the long stretch.

22 (Recess taken.)

23 ALJ AGRANOFF: Let's go back on the
24 record. And Mr. Van Kley.

25 MR. VAN KLEY: Yes.

1 Q. (By Mr. Van Kley) Mr. Farmer, could you
2 turn to page 20 of your written direct testimony
3 identified as Applicant Exhibit 33.

4 A. Yes, I have it in front of me.

5 Q. And let's go to Question and Answer 18
6 there.

7 A. Yes.

8 Q. In the first paragraph -- in the first
9 sentence of your answer to Question 18, you refer to
10 one bald eagle fatality reported in the news in Ohio.
11 And that this is the only publicly-available account
12 you have found of a bald eagle fatality in the state.
13 Do you see that?

14 A. Yes.

15 Q. Could you tell me what bald eagle
16 fatality you found?

17 A. That was a fatality near Bowling Green,
18 Ohio.

19 Q. And what did you do to search for eagle
20 fatalities at wind energy projects throughout the
21 State of Ohio?

22 A. I did an online search. I also had --
23 WEST has a subdepartment that does literature
24 searches for us. I had them run a literature search
25 for me to see if there were any public records of

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1 bald eagle fatalities in the state and also searched
2 our own fatality database to see if there were any
3 that we had recorded.

4 Q. Do you know whether the mortality data
5 for birds at Ohio wind projects are publicly
6 available on the internet?

7 MR. SECREST: Objection to the extent
8 birds outside of eagles is not within the scope of
9 the testimony nor relevant.

10 MR. VAN KLEY: Well, I think the answer
11 is the same, but I'll rephrase.

12 ALJ AGRANOFF: Thank you.

13 Q. (By Mr. Van Kley) Do you know whether
14 eagle mortality data at Ohio wind farms is publicly
15 available on the internet?

16 A. If a facility has an eagle take permit
17 and they record a fatality, that data will become
18 public because there are reporting requirements to
19 the Fish and Wildlife Service that then makes it
20 public.

21 If the facility does not have an eagle
22 take permit and an eagle fatality occurs, that goes
23 into the Fish and Wildlife Service enforcement track
24 and that may not become public right away because
25 it's evidence at that point in a legal proceeding.

1 So I think the answer is mixed in that case.

2 Q. Are you aware of any Ohio wind projects
3 that possess take permits for eagles?

4 A. I do not know of any in the State of Ohio
5 yet.

6 Q. In the third sentence of Answer 18 in
7 your testimony you state as follows: "For context,
8 Ohio has 39 operating wind projects, with a total of
9 419 turbines producing 864 megawatts of power."
10 Where did you obtain those statistics?

11 A. Those would come from the American Wind
12 Energy Association database which contains all of the
13 wind farm installations in the U.S.

14 Q. And does that database include wind
15 turbines that are not regulated by the Ohio Power
16 Siting Board in Ohio?

17 A. I don't know the answer to that.

18 Q. Do you know how many wind projects are
19 subject to Ohio Power Siting Board regulation?

20 A. No, I don't.

21 Q. Do you know that only wind power projects
22 over a certain nameplate capacity in megawatts are
23 subject to Ohio Power Siting Board regulation?

24 A. Yes; that's typical of most state Siting
25 Boards.

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1 Q. So what are the sizes or what is the
2 range of -- the number of turbines that is within the
3 39 operating wind projects that you reference in your
4 answer?

5 A. I did not research the range in size in
6 terms of number of turbines.

7 Q. So one or more of these turbine projects
8 may have no more than one wind turbine in them?

9 A. That is true. However, it would
10 contribute to the 864 megawatts of installed
11 capacity.

12 Q. Uh-huh. The next --

13 (Dog barks.)

14 A. Remediating that.

15 Q. In the next sentence of your Answer 18,
16 "The total number of projects in the state include 11
17 projects that are close to the shore of Lake Erie,
18 where bald eagle population densities are highest."
19 Where did you obtain this information?

20 A. The information regarding how many wind
21 farms there are is also from that AWEA data base.

22 Q. How did you determine that 11 projects
23 are close to the shore of Lake Erie?

24 A. I counted them, and I looked for those
25 that were closer than the current project is sited.

1 ALJ AGRANOFF: Dr. Farmer, you used an
2 acronym just a second ago. Just clarify what the
3 acronym was.

4 THE WITNESS: Sorry. That was AWEA.
5 That stands for American Wind Energy Association.

6 ALJ AGRANOFF: Thank you.

7 Q. (By Mr. Van Kley) With respect to these
8 11 projects that you state are close to the shore of
9 Lake Erie, how many of those projects are large
10 enough to be designated by the Ohio Power Siting
11 Board?

12 A. I don't have an answer to that.

13 Q. Do you know what the sizes or the
14 number -- do you know what the number of turbines are
15 in any of these 11 projects?

16 A. No. The information is in the database,
17 but I did not extract that information.

18 Q. Do you know how many megawatts of power
19 are produced by these 11 projects?

20 A. I do not know.

21 Q. Do you know what counties of Ohio these
22 11 projects are located in?

23 A. I also do not record the counties. The
24 context that is relevant here is that they're in a
25 zone that's added in the most recent ODNR report as

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1 having the highest densities and that is really the
2 only aspect that I was looking at.

3 Q. And what zone is that where the bald
4 eagles are of the highest densities according to the
5 information you have?

6 A. That is in the counties that immediately
7 abut the Lake.

8 Q. Do you know which counties those are?

9 A. I would have to have that report in front
10 of me in order to name them for you, but it would
11 include Sandusky County.

12 Q. Do you know what the sizes of those wind
13 turbines in the 11 projects close to the shore of
14 Lake Erie are in height?

15 A. No, I don't.

16 Q. Do you know what their sizes are in
17 diameter?

18 A. No.

19 Q. Does -- does the AWEA database have any
20 restriction on the wind turbine projects reported in
21 its database related to the size of the turbines in
22 those projects?

23 A. Not to my knowledge.

24 Q. Do you know what the size of the smallest
25 wind turbine in those 11 projects is?

1 A. No, I don't.

2 Q. With respect to wind projects that are
3 not subject to Ohio Power Siting Board jurisdiction,
4 are you aware of any eagle mortality monitoring
5 requirements applicable to those projects?

6 A. No, I'm not.

7 MR. VAN KLEY: I have no further
8 questions.

9 ALJ AGRANOFF: Any questions of other
10 parties with respect to clarification, or in the case
11 of Erie County, have any cross?

12 MS. ESPOSITO: None, your Honor.

13 ALJ AGRANOFF: Mr. Secrest?

14 MR. SECREST: Your Honor, may I just have
15 2 minutes to confer with my co-counsel?

16 ALJ AGRANOFF: Certainly.

17 Karen, we're off the record.

18 (Discussion off the record.)

19 MR. SECREST: Thank you, your Honor. I'm
20 not good at estimating what 2 minutes is apparently.

21 ALJ AGRANOFF: It's an art which we are
22 all learning in terms of time estimation.

23 MR. SECREST: That's right. If the
24 witness is ready and everyone else is, may I proceed,
25 your Honor?

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1 ALJ AGRANOFF: Absolutely.

2 MR. SECREST: Thank you.

3 - - -

4 REDIRECT EXAMINATION

5 By Mr. Secrest:

6 Q. Dr. Farmer, in your cross-examination you
7 were asked questions about collision frequency and
8 the Service's collision prediction modeling. And
9 when answering those questions you referred to the
10 Service using data related to golden eagles, and you
11 said "unfortunately." Why did you say
12 "unfortunately"?

13 A. Well, as I said in part of my testimony
14 too, it's a different species. It's not closely
15 related to bald eagles, and it's -- it's unclear how
16 representative those data may be of bald eagles, but
17 it appears that the collision rate is much higher for
18 golden eagles than it is for bald eagles.

19 Q. Thank you, Doctor.

20 Do you still have in front of you what
21 was marked LR 16?

22 A. Yes.

23 Q. Okay. Looking at the second page of LR
24 16, that says "Based on these inputs, the preliminary
25 risk to eagles is about 2.5 eagles per year." Do you

1 see that?

2 A. Yes.

3 Q. Is that 2.5 eagles per year the 80
4 percent upper confidence rate?

5 A. Yes, that would be.

6 Q. And can you explain what that means?

7 A. Yeah. So the collision risk model
8 outputs a probability distribution of predicted
9 fatality rates. The average of that would be the
10 50th percentile. The Fish and Wildlife Service
11 chooses the 80th percentile for management purposes.
12 The rationale being that if the permit take at the
13 80th percentile, then they have an 80 percent
14 probability that the project will not exceed that
15 number. So it's a conservative number. However, the
16 Fish and Wildlife number does it on purpose in order
17 to have conservative management.

18 Q. To put it another way, does the Fish and
19 Wildlife Service overestimate the number for the
20 collision -- or the fatality risk to eagles in this
21 model?

22 MR. VAN KLEY: Objection, leading.

23 A. Yes.

24 ALJ AGRANOFF: One moment. Would you
25 care to rephrase?

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1 MR. SECREST: Sure. I'll rephrase, your
2 Honor. Sorry. I was on mute.

3 Q. (By Mr. Secrest) Based upon your
4 experience, does the Service overestimate the number
5 that is outputted from its collision prediction
6 modeling?

7 A. Yes. The numbers are always highly
8 conservative, so they're overestimates, but they are
9 deliberately so.

10 Q. And based on your experience, are you
11 familiar with projects where the Service's risk
12 number is greater than 2.5 eagles per year, yet there
13 have been no eagle fatalities?

14 A. Yes. There are projects like that out
15 there.

16 MR. SECREST: Okay. Thank you,
17 Dr. Farmer. I have nothing further.

18 ALJ AGRANOFF: Mr. Van Kley, based on the
19 limited scope of redirect?

20 - - -

21 RECROSS-EXAMINATION

22 By Mr. Van Kley:

23 Q. Are you aware of any -- any projects at
24 which the number of bald eagle mortalities has
25 exceeded the pre-construction estimate of the U.S.

1 Fish and Wildlife Service?

2 A. I'm aware of projects at which the model
3 was run, and the fatality rate exceeded it. However,
4 those were estimates from days before the Fish and
5 Wildlife Service always ran the model itself. So, in
6 other words, they were projects that had not applied
7 for take permits.

8 Q. So who ran the models in those instances?

9 A. Typically it would be a skilled
10 consultant that would run that. Most -- most people
11 don't have the statistical ability to run the model.

12 MR. VAN KLEY: Okay. Thank you. No
13 further questions.

14 ALJ AGRANOFF: Thank you, Dr. Farmer.
15 Mr. Secrest.

16 MR. SECREST: Your Honor, may I move for
17 the admission of Applicant's Exhibit 33.

18 ALJ AGRANOFF: Any objection? There
19 being none, Applicant Exhibit 33 shall be admitted as
20 part of the record at this time.

21 (EXHIBIT ADMITTED INTO EVIDENCE.)

22 ALJ AGRANOFF: Mr. Van Kley.

23 MR. VAN KLEY: Yes, I would like to move
24 admission of LR Exhibit 15 and 16.

25 ALJ AGRANOFF: Any objection?

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1 MR. SECREST: No, your Honor. Thank you.

2 ALJ AGRANOFF: There being none, the
3 aforementioned exhibits shall be admitted as part of
4 the record at this time.

5 (EXHIBITS ADMITTED INTO EVIDENCE.)

6 ALJ AGRANOFF: And let's go off the
7 record for a moment.

8 (Discussion off the record.)

9 ALJ AGRANOFF: Let's go on the record.
10 Thank you.

11 MS. PIRIK: Okay. Your Honor, with
12 regard to the motions for protective order, we would
13 like to revise the -- just in general let you know
14 that the motions for protective order that are
15 outstanding at this point is the one that was filed
16 on January 31, 2019, with the Application. It
17 references financial information in the Application
18 as well as Exhibit F which is the socioeconomic
19 report as well as the manuals submitted with regard
20 to the models in Exhibit N.

21 The next one is July 10, 2019. Those
22 were manuals that were filed with the third
23 supplemental submission. In addition on
24 September 12, 2019, there were manuals information
25 submitted with the fourth supplemental application.

1 Then on November 26, 2019, there were
2 manual information submitted with the third response
3 to a data request from the OPSB staff.

4 And, finally, with regard to motions for
5 protective order on February 11, 2020, in response to
6 the sixth data request to Staff's inquiries there
7 were manual information as well as certain financial
8 information that were submitted.

9 So those would be the five motions for
10 protective order that are outstanding and then the
11 document that we filed on September 24, releasing
12 some of the safety manual information would be
13 revised to reflect that those are the five filings
14 that we made.

15 ALJ AGRANOFF: Thank you. And then with
16 respect to each of the motions that you just
17 referenced that pertain to the turbine safety
18 models -- manuals, I assume you're working off of the
19 premise that those motions would be modified to the
20 extent that Exhibit 82 releases some of that
21 information that was previously requested protected
22 treatment?

23 MS. PIRIK: Correct, your Honor.

24 ALJ AGRANOFF: Okay. All right. And
25 with respect to those motions, do any of the parties

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1 have objections?

2 Okay. If not, then the aforementioned
3 motions shall be granted taking into account the
4 filing of Exhibit 82 on the public record which would
5 therefore negate some of the request for protective
6 treatment relative to the safety manuals.

7 MS. PIRIK: Thank you, your Honor.

8 ALJ AGRANOFF: You're welcome.

9 All right. If there's nothing else, then
10 we will reconvene tomorrow at 9 o'clock consistent
11 with the schedule we just discussed a little while
12 ago.

13 ALJ WILLIAMS: Before we all hang up --
14 we can do this off the record.

15 (Discussion off the record.)

16 (Thereupon at 5:02 p.m., the hearing was
17 adjourned.)

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1 CERTIFICATE

2 I do hereby certify that the foregoing is a
3 true and correct transcript of the proceedings taken
4 by me in this matter on Tuesday, October 6, 2020, and
5 carefully compared with my original stenographic
6 notes.

7
8 _____
Karen Sue Gibson, Registered
Merit Reporter.

9
10 _____
Carolyn M. Burke, Registered
Professional Reporter.

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12 (KSG-6969)

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Summary: Transcript Revised - in the matter of the Firelands Wind, LLC hearing held on 10/06/20 - Volume II electronically filed by Mr. Ken Spencer on behalf of Armstrong & Okey, Inc. and Gibson, Karen Sue Mrs.