BEFORE THE STATE OF WASHINGTON

ENERGY FACILITY SITE EVALUATION COUNCIL

In the matter of)

Application No. 2009-01) Hearing Volume V

WHISTLING RIDGE ENERGY, LLC.) Pages 614-855

WHISTLING RIDGE ENERGY PROJECT)

----------)

A hearing in the above matter was held on Thursday, January 6, 2011, at 8:00 a.m., at the Skamania Lodge, 1131 Southwest Skamania Lodge Way, in Stevenson, Washington, before the Energy Facility Site Evaluation Council with C. Robert Wallis, Administrative Law Judge, presiding.

* * * * *

WHISTLING RIDGE ENERGY, LLC, Tim McMahan, Attorney at Law, Stoel Rives, LLP, 900 Southwest Fifth Avenue, Suite 2600, Portland, Oregon 97204; Erin Anderson, Attorney at Law, Stoel Rives, LLP, 600 University Street, Suite 3600, Seattle, Washington 98101; Darrel Peeples, Attorney at Law, 325 Washington Street Northeast, No. 440, Olympia, Washington 98506

COUNSEL FOR THE ENVIRONMENT, H. Bruce Marvin, Assistant Attorney General, Office of the Attorney General, P.O. Box 40100, Olympia, Washington 98504

REPORTED BY:

Tami Lynn Vondran, CCR

CCR No. 2157

APPEARANCES (Cont'd):

FRIENDS OF THE COLUMBIA GORGE, Gary K. Kahn, Attorney at Law, Reeves, Kahn & Hennessy, P.O. Box 86100, Portland, Oregon 97286; Nathan Baker, Staff Attorney, 522 Southwest Fifth Avenue, Suite 720, Portland, Oregon 97204

SAVE OUR SCENIC AREA (SOSA), J. Richard Aramburu, Attorney at Law, Aramburu & Eustis, LLP, 720 Third Avenue, Suite 2112, Seattle, Washington 98104

CONFEDERATED TRIES AND BANDS OF THE YAKAMA NATION, by George Colby, Executive Committee Attorney, Yakama Nation Tribal Council, P.O. Box 6, Toppenish, Washington 98948

SEATTLE AUDUBON SOCIETY, Shawn Cantrell, Director of Conservation, 8050 35th Avenue Northeast, Seattle, Washington 98115

* * * * *

(Whereupon, the proceedings went on the record at 8:11 a.m.)

JUDGE WALLIS: Let's be on the record, please. This is the January 6th, 2011, session in the matter of Council Application 2009-01, regarding Whistling Ridge Energy Project. This morning we are taking up the cross-examination of avian and wildlife witnesses, and we will begin with Mr. Johnson.

Mr. Johnson has taken the witness stand. Mr. Johnson, I'm going to ask you to raise your right hand.

(Gregory D. Johnson sworn on oath.)

MS. ANDERSON: Thank you, Your Honor.

GREGORY D. JOHNSON,
having been first duly sworn on oath,
testified as follows:

DIRECT EXAMINATION

BY MS. ANDERSON:

Q. Mr. Johnson, please state your full name and spell it for the record, please.

A. Gregory Don Johnson. G-r-e-g-o-r-y, D-o-n, J-o-h-n-s-o-n.

JUDGE WALLIS: Mr. Johnson, the room is very large. And we have found that these microphones really need to -- they do work best if they're held very close to our mouths. So I'm going to ask you to do that. If it's a problem for you it's okay to take the microphone out of the stand and hold it so it's comfortable as you give your testimony.

MR. MCMAHAN: Your Honor, one thing I might recommend is these ones boom, those don't. He has a good voice. Mr. Johnson is very soft-spoken, maybe you could swap mics?

MR. KAHN: I don't care.

(Discussion held off the record.)

JUDGE WALLIS: Let's be back on the record.

BY MS. ANDERSON:

Q. Mr. Johnson, you have before you Exhibits 6.0, your direct prefiled, Exhibits 6.01, 6.02, 6.03 and 6.04R, which is your rebuttal prefiled testimony. Is this your testimony in this matter?

A. Yes.

Q. If I were to ask you those questions contained in that testimony today would your answers be the same?

A. Yes.

Q. Do you have any material changes you want to make to that testimony today?

A. No.

Q. Are you available to answer questions on cross-examination regarding these materials?

A. Yes.

Q. Have you ever answered questions on cross-examination in a contested hearing before?

A. No.

Q. Are you nervous?

A. I am nervous. I am a biologist, I'm not a paid expert witness.

MS. ANDERSON: With that in mind, I am going to move to admit his exhibits and we'll soldier through the day

yet again.

(Exhibit Nos. 6.00, 6.01, 6.02, 6.03 and 6.04R offered.)

JUDGE WALLIS: Is there an objection?

MR. KAHN: No.

JUDGE WALLIS: The exhibits are received in evidence as 6.00, 01, 02, 03 and 04.

(Exhibit Nos. 6.00, 6.01, 6.02, 6.03 and 6.04R admitted.)

JUDGE WALLIS: Mr. Kahn.

MR. KAHN: Thank you, Your Honor.

CROSS-EXAMINATION

BY MR. KAHN:

Q. Good morning, Mr. Johnson. My name is Gary Kahn, I represent intervenor, Friends of the Columbia Gorge. Do you have a copy of both your original and rebuttal testimony in front of you?

A. Yes, I do.

Q. Okay. Unless I specify otherwise, if I refer to a page or a line number on the testimony, it's your rebuttal testimony, okay?

A. Okay.

Q. If it's your original testimony I'll do my best to make a point of that.

JUDGE WALLIS: Mr. Kahn, I'm also going to ask you if you identify the passage you wait until the witness gets there before you ask the question related to it.

MR. KAHN: Okay.

BY MR. KAHN:

Q. The first passage would be on page 2, line 7. You state that the survey methods you used at Whistling Ridge are widely accepted in the scientific field. Is it standard practice in the field to rely on surveys out to 800 meters when comparing utilization rates between species that differ in body size such at the American Kestrel or Golden Eagle?

A. Yes, it is. When we do 800-meter surveys the intent is not to count every single bird that's in that plot. It's just to derive an index of avian use. These 800-meter surveys have been used across the county not only by WEST but by other biologists, other consulting firms. It's fairly standard practice across the country.

Q. In the field is it typical to assume that kestrels and eagles are equally detectable at 800 meters?

A. No. Again, as I said, that's to derive an index of avian use, it's not to count every individual that's in that plot.

Q. But would your counting be skewed somewhat because some of the species are just simply not visible or detectable and identifiable at 800 meters?

A. Again, the intent is to not identify and count every single bird that's within 800 meters of the observer. It's to get an index of avian use that's comparable across plots as well as across sites.

Q. What is the standard minimum number of hours for performing baseline surveys to predict wind project impacts?

A. There really isn't a set minimum number of hours. The number of hours you spend on site is going to be a function of the size of the site. Obviously a bigger site you're going to have more plots. You're going to spend more time on a bigger site. We worked on sites in the midwest that are about 100,000 acres. We spend a lot of time on those sites.

MR. MCMAHAN: Ma'am, is he going too fast for you?

THE COURT REPORTER: Yes.

MR. KAHN: Someone other than me.

THE WITNESS: I'll try and slow down.

BY MR. KAHN:

Q. It's your opinion that the 87 hours of surveys that you did here is consistent with the minimum number of hours that are widely accepted in the scientific field?

A. Yes. Because this is a fairly small site, we didn't need a lot of plots to cover the entire site. We did surveys once a week during spring and fall migrations. During the summer and winter we used a reduced schedule

because the avian populations are more static during the summer and winter and don't fluctuate as much. So we did surveys on approximately every two week schedule during those periods. But it was based on the schedule, not really the number of hours.

Q. How many different -- you did your surveys based on what you call plots; is that correct?

A. Yes.

Q. How many different plots were there?

A. It depended. We started out with six and then we increased that to ten as the steady area was enlarged.

Q. So if there was 87 hours and ten plots you spent roughly an average of eight to nine hours of surveys per plot?

A. That's probably correct.

Q. Page 2, same page, line 12. You state that "the data represents the best available science for predicting avian impacts at the project site"; is that correct?

A. Yes.

Q. If you had only collected two hours of baseline survey data would that have represented the best available science for predicting avian impacts at the project site?

A. No. But we collected data, like I said. On a weekly schedule during spring and fall migration we were out there one day a week. We were out there one day every two

weeks during the other periods. So I would say that does represent the best available data.

Q. When you set out to do the surveys before you began them I'm assuming you had some sort of plan or strategy?

A. Correct.

Q. Did you arrive at the 87 hours during that phase of the analysis?

A. We really didn't look at the number of hours. We looked at the minimum standards -- or actually the standards that are followed by most wind projects is to do weekly surveys during migration and to do surveys every other week during winter and summer. So that's what we did without regard to the number of hours.

Q. Okay. Next page, page 3, lines 22 to 23. You said that the exposure index--and I'm skipping some words here--the exposure index, is critical to understanding the environment within which the mortality estimate is made. Can you explain what you mean, please?

A. Well, the purpose of the exposure index is once the mortality estimate is made is to try to give the reader some understanding of what species might be the most likely turbine collision mortalities. It's based on abundance of those species and what percent of the time they spend flying and what percent of the time they spend flying in the

rotor-swept area, which those are all intuitive predictors of what the mortality might be.

Q. Can you use the exposure index to directly predict fatality rates?

A. You cannot, and we have never done that.

Q. In your analysis were exposure index values assigned to Northern Saw-whet Owls, Snowy Owls and other birds unlikely to be seen flying in very diurnal surveys?

A. I would guess that those exposures -- if the bird was never seen flying in a rotor-swept area the exposure index would be zero.

Q. Doesn't the analysis provide some numbers for the exposure index for those birds?

A. It does, but I don't have the data memorized. But if I recall there was just one Northern Saw-whet Owl and one Snowy Owl observed. So, intuitively, if you only see one bird during the whole year you would expect it to have a low risk of turbine exposure.

Q. And WEST frequently uses the exposure index as a tool; is that correct?

A. We include it in virtually all of our baseline reports.

Q. To your knowledge has that been peer reviewed or published in any professional scientific journal?

A. It hasn't. But it has been reviewed by a lot of

permitting agencies, and we haven't had any pushback on using that. Again, it's not to predict the number of fatalities. It's just to give the reader and regulatory agencies some idea of what species might be the most likely turbine fatalities.

Q. Are you equating review by permitting agencies with the rigorous peer review process for professional journals?

A. I think that level of review is somewhat different. Obviously, the peer review in a journal is looking for something different than what a regulatory person is looking for. A regulatory person is looking to see if the data meets their standards and to see if they agree with the conclusions of their reports. So their job is to protect resources, so that's different than a peer reviewed journal.

Q. As opposed to peer reviewers looking at the scientific validity of the proposal; is that correct?

A. I think that both peer reviewers and regulators look at the scientific validity of any report.

Q. The regulators that review these, are they all professional scientists in the field?

A. For the most part they are, yes.

Q. Okay. What about planners who review this, are they scientific professionals in the field of biology?

A. I'm not sure why planners would be reviewing our data. Our data are meant to be reviewed by professional wildlife biologists that work for state and federal agencies.

Q. Page 3, lines 24 through 26, got that?

A. Yes.

Q. You state that, "an awareness of raptor nest density within the context of the area proposed for a wind project is information that may be useful to setting the context of the project." Can you tell me please how nest density in the project area is useful?

A. Well, one of the surveys that was done for this project was to locate any Spotted Owl or Northern Goshawk nest in the area. And, obviously, it would be useful to know where those nests are so steps can be taken to avoid impacts to those species.

Q. Have you ever attempted to relate nest density to fatality rates?

A. I have looked at that and we have not found a strong correlation between nest density and fatality rates.

Q. Can you provide any examples of any wind energy projects where wind turbines were not permitted at certain sites due to nest density data?

A. I can cite several cases where turbine locations were moved to avoid nests to maintain a buffer such as a

half mile from a nest.

Q. Any of those here in Washington?

A. Yes, I know, like, Windy Point we moved turbines to avoid a Golden Eagle nest.

Q. Page 6, line 19. You state that, "All predictive modeling involves judgment calls based on a host of factors in order to make a prediction." Can you identify the judgment calls that contributed to your predicted fatality rates here?

A. Well, the judgment calls would be based on what the avian use data was. We looked at that in relation to what our predicted mortality was. For instance, the avian use data, especially the raptor use data, was compared to other wind projects across the country. And we developed a scale to compare that.

For instance, if the use value is zero to 0.5 raptors per 20 minutes per plot compared to all the other wind resource areas across the country that would be considered low. On the other hand, if you have some places like Altamont where you have raptor use that's on the order of two to three birds per 20 minutes per plot which would be six or seven times higher than zero to 0.5, we would classify that as a high raptor use. And we looked at that in relation to our predictions based on the actual raptor use just to see if everything seems to be compatible.

Q. At the beginning of your last answer you said you compared it to other projects across the country; did I catch that right?

A. Yes.

Q. Are any of those in mountainous forested habitat in the West?

A. No, they are not.

Q. Is this the first time you have done any predictions as to fatality rates for wind projects on mountainous forested habitat in the West?

A. It is not. We worked on one project in Colorado where we collected baseline data and estimated fatality rates, it was a pinyon-juniper habitat in the mountains.

Q. Is the habitat for Whistling Ridge different than the habitat there?

A. Yes.

Q. And the species diversity is different?

A. You know, without having the numbers in front of me I really can't testify to that. But the Colorado project was a native coniferous forest, whereas the Whistling Ridge is a managed coniferous forest.

Q. But there's going to be different species between the two; correct?

A. Yes.

Q. Page 6, line 20, you state that, "It is

scientifically and factually incorrect to state that any prediction that is not borne out by the actual event is the result of a fundamental shortfall in an assumption or methodology." Okay. You say that?

A. Yes.

Q. Your statement appears to be directed towards a portion of Dr. Smallwood's testimony where he states that prediction failures are caused by fundamental shortfalls in the assumption and methodology used to make the predictions; is that what your comment was aimed at?

A. Yes.

Q. According to your testimony on the same page a variety of factors can and does influence the actual outcome of a predicted event. Can you provide some examples of factors that are independent of the assumptions and methodologies underlying predictions?

A. Yes. Some examples would be, for instance, most of the earlier studies that we used in our regression analysis--which I assume will come up later--were done before the 2009 Washington guidelines. And if you recall the earlier Washington guidelines only required or suggested one season of avian use.

So a lot of the studies used in the regression analysis only had one season of avian use. That's an example of where -- and the fact that they were older also

suggested that they didn't follow the new guidelines. And so the new data had one full year of data, the new surveys had one full year of data. So they're a much better dataset to use for these regression analysis. In fact, the regression analysis, the methods are appropriate but maybe some of datasets could have been a little better.

Q. But isn't what you just described the methodology used as opposed to external factors that are plugged in?

A. I think the methodology used is sound. Like I said, the input into that model, some of that wasn't as good as it could have been.

Q. Is it fair to say that as a general rule there has been an underestimate of raptor fatalities at many of the wind projects in the West?

A. I think there's been an underestimate, and I think there's been overestimates, and I think there's been some that have been fairly accurate.

Q. Page 7, lines 11 through 17, you explain that earlier fatality monitoring studies did not have the benefit of existing fatality rates from other projects to inform predictions. I'm assuming your point there is that the earlier wind power projects didn't have any database upon which to draw from; is that your point?

A. The point I'm making is what I alluded to earlier, in the early years of these studies there wasn't any

datasets available where we had both fatality monitoring data and preconstruction avian use data, especially one full year of use.

Q. Even so, isn't it true that the most accurate predictions were made relatively early in the wind industry, specifically Klondike I in 2002, Combine Hills in 2003 and Buena Vista in 2004.

A. I didn't catch that question.

Q. Okay. You earlier said that the early projects didn't have any baseline data from which to draw, so there's inherently some uncertainty in that. My words not yours.

A. Yeah, I'm not saying there wasn't any baseline data. There wasn't very much fatality monitoring data that was collected in conjunction with baseline data.

Q. Didn't some of the earlier wind projects have the most accurate fatality rate predictions?

A. Well, if you recall--I can't testify to all of these projects--but I authored the Klondike report and we didn't have any regression analysis in that report. We didn't have that much data to prepare a regression analysis. And I think my estimate based on raptor use was zero to very low. And it turned out to be zero during the first year of baseline studies.

Q. So even without the fatality rates to draw upon from prior projects some of the earlier projects were fairly

accurate?

A. They were. And I think it's intuitive because the earlier predictions were based on raptor use at those sites, and raptor use, at least in the case of Klondike, was very low.

Q. If you could turn to page 8, lines 6 to 9. You state that, "Fortunately, in Washington predictive mortality estimates do not exist in a vacuum. TACs review, study and monitor projects and at times, operations are modified based on the TAC's assessment of the data over time as compared to preconstruction predicted estimates." Can you provide any examples of where TACs in Washington require changes to project operations due to fatality rate prediction failures?

A. I have not served on a TAC in Washington, so I'm not sure what they've done with regards to requirements.

Q. So you can't say whether there have been any projects changed as a result of a TAC's input?

A. I'm not sure. I believe there may have been some additional mitigation required when there was some triggers hit at Stateline in terms of mortality estimates.

Q. I'm sorry, did you refer to a specific project there?

A. Yeah. I'm not 100 percent certain, but I believe that there were was some triggers hit at Stateline in terms of bird fatalities that triggered some additional on-site

mitigation.

Q. But you're not sure?

A. I'm not 100 percent sure, no.

Q. Okay. Page 9, line 16 and 17. Actually, let me skip that. Page 10, lines 18 through 20. Now we're talking about the regression analysis. You stated that, "The regression analysis is only one of several diagnostic tools in the approach taken by WEST when doing predictive modeling of raptor mortality at wind projects"; correct?

A. Correct.

Q. What other diagnostic tools did you rely on to predict fatality rates here?

A. I guess the other major one would again be where we looked at raptor use in relation to other wind projects and looked to see if it's classified as low which would be less than 0.5 raptors per survey, versus if it's high like the two to three raptors per survey you can see sometimes at places like Altamont. So it's kind of another factor you look at that kind of supports your regression analysis.

Q. Other than the regression analysis in which you just mentioned no other tools were used?

A. The primary tool which is intuitive to assess raptor risk is the number of raptors that are using the area. There's an obvious correlation between the number of raptors using the area and the mortality you would expect.

So that's the primary tool we used to assess risk.

Q. You based your estimates on the number of raptors using the area on your 87 hours of surveys?

A. That's correct.

Q. Okay. Continuing on page 10, lines 20 to 23, you testified, "I reiterate that our predicted avian mortality rates are based on estimated raptor use within the context of species abundance at a given site, as it has been well-documented that raptor mortality is related to the abundance of raptors," which is what you just said a moment ago; correct?

A. Correct.

Q. Other than your regression between fatality rates and utilization rates, where has this relationship been well-documented? Relationship between species abundance and fatalities.

A. Well, it's been documented in just about every one of those points we used in that regression analysis, all the different study areas we have looked at. The general trend is if you have low raptor use you're going to have low raptor mortality. And the opposite, if you have high raptor use you're going to have high raptor mortality. I think that's generally been documented in just about every wind project.

Q. Has that methodology been used by other folks

other than WEST?

A. Yes, that's been used by other consultants, I believe.

Q. Are you saying then that there's just a one-to-one correlation between the extent of the use and the mortality?

A. I'm not saying it's that highly correlated, just about nothing in nature is that highly correlated. But I'm saying that there definitely is a positive relationship, which is intuitive. The more raptors you have the more likely you're going to have higher mortality rates.

Q. Has this methodology that you used, your regression analysis, has that been published anywhere?

A. No.

Q. Or subject to any type of peer review?

A. It's been subjected to review by numerous state and federal agencies across the country.

Q. But not any peer review within the context of peer review?

A. That regression analysis has not been submitted to a journal.

Q. Doesn't raptor behavior play a role in the mortality of wind power projects as opposed to just species abundance?

A. There are some facets of raptor behavior that do play into this. For instance, Turkey Vultures are --

depends who you talk to, they're either considered a raptor or a stork. But Turkey Vultures do not seem as susceptible to turbine collisions as, say, like other raptors like Golden Eagles or American Kestrels. So behavior does play a role. In general, the abundance is still the primary factor driving mortality rates.

Q. And raptor behavior isn't factored into your regression analysis in any way; is that correct?

A. It technically is because we used to include Turkey Vultures in those use estimates and fatality estimates, but because Turkey Vultures are fairly common, but they're not typically found as fatalities, we have removed Turkey Vultures. So we're really comparing more oranges to oranges instead of apples to oranges. So our new regression analysis just have true raptors.

Q. Page 15, line 22 through the top of page 16 you wrote that, "Absent legislative or agency directive from the state of Washington, WEST should not, will not and cannot employ protocols and survey methodologies inconsistent with those recommended by WDFW." You're responding to Dr. Smallwood's criticism with that statement. Can you tell me where Dr. Smallwood has indicated that there should be methods or protocols used that are inconsistent with those guidelines?

A. Well, the guidelines are based on what the

Washington Department of Fish and Wildlife has termed standard protocols in. I am assuming that those are the ones that have been used basically since, I believe, Stateline was the first project built here in Washington.

We've used similar protocols, other consultants such as Northwest Wildlife Consultants have used those protocols. So I was assuming that that's what they're referring to as standard protocols. And some of the protocols Smallwood has suggested have not been employed in Washington; and, therefore, I wouldn't necessarily use those as standard protocols for the state of Washington.

Q. But are you saying that Dr. Smallwood was specifically advocating the use of protocols inconsistent with the WDFW guidelines?

MS. ANDERSON: Your Honor, I'm going to object. Mr. Johnson, please wait. Mr. Kahn needs to reference the quotes and statements of Mr. Smallwood if he intends to have my witness respond to them. He has not done so.

MR. KAHN: Mr. Johnson indicated that his comment there was in response to Dr. Smallwood's comment. I'm assuming he knows what comment he was responding to.

JUDGE WALLIS: It would be clearer for the record if you were able to identify that.

MR. KAHN: Okay. That might take a few minutes each time if I am going to have to refer to Dr. Smallwood's

comments.

MS. ANDERSON: Your Honor, I would ask Mr. Kahn to please pay attention also to the rebuttal statement that he has for Mr. Smallwood. He is jumping around documents again.

MR. KAHN: I'm sorry, I didn't understand that.

MS. ANDERSON: Please iterate what Smallwood document you're looking at and you're asking Mr. Johnson to respond to.

MR. KAHN: Okay. I'm saying that's going to take time if we have to do that every time, but if that's what the Council wishes.

I would also note that Mr. Johnson's rebuttal testimony doesn't refer to the statements either.

For those situations where Mr. Johnson knows what I'm referring to do we still need to go through this exercise?

JUDGE WALLIS: If it were only a discussion between the witnesses I don't think there would be much of a problem. But when it comes time to write the order, if the question is significant to the Council it could well be important for the Council to know exactly what passages are referred to rather than a more nebulous comparison.

MR. KAHN: Okay.

JUDGE WALLIS: So that's why I think it is

appropriate. And it is also possible that the witness may assist in identifying the passages. If we need a little bit of time off the record we can do that. And also if the question is unique to this area of the examination we might go on to other matters and then return to this perhaps after a little break. So those are the options we have.

MR. KAHN: Okay. We'll do our best.

MS. ANDERSON: Mr. Johnson, are you able to answer the question now?

And perhaps the court reporter could read back the question as this point.

(Question read back from page 636, line 12.)

MR. KAHN: And for this I'm not referring to Dr. Smallwood's testimony, I'm referring to Mr. Johnson's testimony, because his testimony didn't implicate any specific comment of Dr. Smallwood. And I'm asking him where Dr. Smallwood said that. So I don't have the cite from Dr. Smallwood because he didn't say it.

MS. ANDERSON: Your Honor, I believe Mr. Johnson can read the quote in front of him regarding what Mr. Smallwood has testified to this Council about regarding Washington DFW guidelines.

MR. KAHN: My question, Your Honor, was can he identify any of Dr. Smallwood's suggestions that are

inconsistent with WDFW guidelines. I have nothing to cite to.

JUDGE WALLIS: The witness may answer that question.

MR. KAHN: Thank you.

A. I do have his testimony on Exhibit 22.05 where he severely criticizes the Washington Department of Fish and Wildlife guidelines, I can read that if you would like me to.

BY MR. KAHN:

Q. My question though wasn't where he criticizes, I'm asking where he advocates the use of a methodology that is inconsistent with the protocols?

A. I'm not saying anything he advocates is inconsistent. I'm saying it's untested and hasn't been used in Washington before. I mean they're all protocols for doing the same things.

Q. Didn't the quote I gave you from page 15, line 22 through the top of page 16, you state emphatically that WEST will not use protocols inconsistent with those recommended by WDFW. And you answered my question a moment ago that that was referring to presumably somewhere in Dr. Smallwood's testimony. And I'm asking you where he has asked WEST or advocated that the EFSEC rely on protocols and methodologies inconsistent with WDFW guidelines? I'm

referring to your testimony.

A. I think he has done that by his criticisms of the Washington Department of Fish and Wildlife guidelines.

Q. Do you have the rebuttal exhibits that we've submitted to the Council for use in your testimony, specifically Exhibit 6.05C in front of you? It's a report from the National Wind Coordinating Committee Conference.

A. I have it, it just will take a while.

Q. Okay. Could you just take a moment to familiarize yourself with that document. I'm only going to ask you one question, you don't need to read the whole thing. Are you familiar with the National Wind Coordinating Committee?

A. Yes, I'm a member of it.

Q. You're a member of it. If I can turn your attention to page 2, the third line, the third paragraph from the bottom. These are minutes of a meeting or notes from a meeting or a report; correct?

A. Yes, that's what it appears.

Q. And this organization deals with impacts, biological impacts from wind projects?

A. Yes.

Q. And on page 2, the third paragraph from the bottom, doesn't this report indicate that, U.S. Fish and Wildlife Service and state agency people from around the country are alarmed by Washington DFW's Wind Power

Guidelines. They feel a bad precedent has been set by institutionalizing guidelines that are too weak"; is that what is in this report?

A. That's what it states, yes.

Q. Thank you.

A. Can I add one more thing?

Q. You answered my question.

MR. KAHN: If we could have a moment. I'm trying to coordinate so we don't have the issue that Ms. Anderson was concerned about.

(Mr. Kahn takes a brief moment.)

BY MR. KAHN:

Q. In response to Dr. Smallwood's criticisms of the limitations of diurnal surveys, on page 16, lines 5 to 18--I should have said that in the beginning--of your testimony. Actually, I'm going to withdraw that. We don't need to go there. Page 16, lines 23 through 24, you have that?

A. Yes.

Q. Pertaining to the issue of diurnal surveys you state that Dr. Smallwood's concern about your use of diurnal surveys only "is a non-issue within the entire wind industry with the lone exception being Smallwood." Is the wind industry the appropriate judge of scientific validity?

A. This is page 16?

Q. Yes, page 16, lines 23 to 24.

A. I believe that refers to visible airspace, not diurnal surveys.

Q. All right. Same question. Is the wind industry the appropriate judge of scientific validity?

A. The data are collected to satisfy regulatory agencies, and as long as regulatory agencies aren't suggesting something be done the wind industry probably isn't -- you know, if they don't feel it's correct to do it they probably won't do it.

Again, with this visible airspace thing it comes down to the intent of these surveys is not to count every single bird within an 800-meter plot. It's to get an index of bird use. And you can do that without having to count every single bird that might be within 800 meters of a person. So correcting for visible airspace really isn't required.

Every project has this issue. There's very few projects where you're going to have 100 percent visibilty from every point. We try to maximize visibility to where it is 90 or 100 percent or close to 100 percent. In my view, if you do that on every study then those results are comparable without figuring out if you actually saw 92 percent of your plot of 89 percent. To me it's not that critical because, again, we're just trying to get an index of bird use.

Q. And WEST did not conduct any nocturnal surveys in connection with this, did they?

A. Not with Whistling Ridge, no.

Q. Is it fair to say that you applied results from your diurnal surveys during the day to determine nocturnal use?

A. No, we did not do that.

Q. Okay. Page 19, lines 15, 16.

MR. MCMAHAN: What page again, sir?

MR. KAHN: Nineteen, lines 15 and 16.

BY MR. KAHN:

Q. You have that?

A. Yes.

Q. You wrote that--and I may be mispronouncing these--"both the Shoenfeld and Huso estimators are recognized within the scientific field to be unbiased estimators for projects such as Whistling Ridge"; correct?

A. Correct.

Q. Who established that these estimators were unbiased?

A. This was primarily taken from a new document the NWCC is preparing on methods and metrics for wind power developments.

Q. Has that new paper been field-tested?

A. Yes, both of these estimators have been

field-tested several times.

Q. Isn't it true that in 2010 Huso--and, again, I'm pronouncing that wrong probably--concluded that the Shonefeld estimator is biased?

A. She concluded that it was biased in some circumstances, but I don't believe -- and I'm not sure what you're referring to in terms of what she wrote. But from what I read it's not biased in all circumstances.

Q. Has any scientific professional in the field concluded that the estimator that you used is biased on the low side?

A. I haven't read anything about bias on the Shonefeld estimator. I know it's the most widely used estimator across the country.

Q. In 2009, Dr. Arnett, et al. did not conclude that your estimator is biased on the low side?

A. I think it depends on the situation. It's not biased low. There's a lot of factors that go into this like carcass removal rates and scavenger rates. I know we've looked at this. This estimator was developed by Wally Erickson with WEST. I think you guys have had some familiarity with him testifying on the Wild Horse project. He has looked at all these estimators very carefully and found that all of them are biased in some circumstances, but there are also circumstances where they are not biased high

or low and it depends on the situation.

Q. What are the factors? What aspects of the situation dictate the outcome?

A. Primarily how long a carcass remains in a plot before it's removed by a scavenger in relation to the search interval. So, in other words, if you're searching every two weeks but most of your fatalities are being removed by scavengers before that two week interval is up that's one potential factor.

On the other hand, if you're searching every day and your carcasses are lasting four or five days before they're being removed that's another factor to be considered.

Q. Page 25, line 25, you write, "The project site is simply not an intact, old-growth unmanaged forest." And then on page 26, lines 3 through 6, you state that, "As such, construction of a wind energy facility...would have a much lower potential for wildlife impacts than construction of a wind energy facility within natural forests," is that what you said?

A. Yes.

Q. Do you mean to imply that species diversity is a predictor of fatality rates?

A. I say that's based more on abundance.

Q. But the difference between a--in your

words--intact old-growth unmanaged forest and a managed forest primarily -- the difference significantly involves the diversity, the abundance of different species?

A. Diversity and abundance, yes.

Q. Okay. Based on your analysis how can you explain why impacts are so high in the Altamont Pass where species diversity and ecological integrity is so much lower?

MS. ANDERSON: Your Honor, I'm going to ask Mr. Kahn if he's quoting a statement by Mr. Johnson, please indicate the page and lines, not only for Mr. Johnson but for the record.

MR. KAHN: I wasn't quoting anything at all, I asked him a question.

JUDGE WALLIS: The question is permissible.

A. The reason that there's significant impacts at Altamont, even though avian diversity is not that high, is what I've said previously several times, the raptor use at Altamont is substantially higher than any other project that's ever been evaluated. So despite the lower diversity, just the sheer numbers of raptors are much higher at Altamont than any other place, which explains the higher raptor mortality there.

BY MR. KAHN:

Q. What is the connection between species diversity and fatality rates though if you're talking about abundance

of a particular species?

A. I'm not saying that there's a relationship necessarily between species diversity and mortality. It's just that the more species you have the higher probabilities are that maybe some of those species would be more susceptible than others.

Q. Okay. Page 26, the top, lines 2 and 3, you write that--I'll wait until you get there--you write that, "Even aged, managed forests are sometimes referred to as 'green deserts' due to their lack of wildlife abundance and diversity." How many species of birds were detected during your surveys?

A. I believe it was 90.

Q. Is that consistent with a lack of abundance and diversity?

A. I think if we didn't apply -- there's several indexes you can use to actually look at diversity. In other words, if one species makes up 90 percent of your birds and the other 80 species make up the last ten then it still isn't a diverse site.

Q. Do you have those numbers for this project?

A. I didn't calculate any diversity indexes.

Q. Isn't it true that the number of species that you found in Whistling Ridge is approximately three times the number of species that frequent the Altamont Pass area?

A. I'm not sure how many species frequent Altamont. But, again, we don't have any comparable data to a natural forest. I would guess if we had data for an unmanaged natural forest that the diversity would be even higher.

Q. Okay. Also on page 26, lines 10 through 13, you state that the, "Whistling Ridge project provides an optimum location to obtain data on wildlife impacts that might be used to inform decisions and impact predictions for wind energy facilities proposed for other managed as well as unmanaged, natural forests." How did you conclude that this would be an optimal site for such an analysis?

A. Because this site is a degraded habitat, it's managed with commercial timber production. It's not a natural forest. And I think there are other projects that have been proposed for natural forests. And to help inform decisions on what those impacts might be we need to look at what the impacts are of a wind project built in the coniferous forest environment. Obviously, you're better off building one in a degraded commercial forest and measuring those impacts before you move out into a natural forest.

Q. If you could look at the diagram we have there, Figure 2.1, you can see where the areas of turbines are?

A. Yes.

Q. And then right at the north end of it there's a black line that runs east/west?

A. Yes.

Q. Right there. Are you aware that the land to the north of the project, above that line, is owned by Washington Department of Natural Resources?

A. I am.

Q. Do you know what that area is managed for?

A. I'm not sure what it's managed for.

Q. Would you say that the DNR property to the north is an actively managed green desert?

A. I have not been out to that site, the DNR property.

Q. If that land to the north of the project site is more of an intact forest wouldn't species from that area also frequent the project area?

A. It depends on what their habitat is like. Some species that don't tolerate degraded forest or young forest or even an aged forest would probably not go out into that site.

Q. Are you aware that Washington DNR has refused to site wind turbines on its property that we were just talking about because of natural resource concerns?

MS. ANDERSON: Your Honor -- go ahead and answer the question.

A. I'm not aware what the DNR said.

BY MR. KAHN:

Q. Are you suggesting that one of the reasons that this Council should approve this project is because it would provide a laboratory that would give us results for future wind projects?

A. I'm not saying that's a laboratory, I'm just saying it's a good place to start. Obviously, there's going to be development in Western Coniferous Forests. We need to get data to make informed decisions. I'm not saying this site in particular is any better than any other. But the fact that it's a managed forest would make it appropriate for collecting this data.

JUDGE WALLIS: Just a brief note before we get too far away from it. The reference to Figure 2.1, I believe, is in the record as Exhibit 1.11.

MR. KAHN: Thank you. Yes.

JUDGE WALLIS: Thank you.

BY MR. KAHN:

Q. Page 27, lines 14 through 18, you have that?

A. Yes.

Q. We're now talking about impacts to bat species. I'm sorry, go back. Page 27, line 7 through 13. In that, I'm not going to quote anything, but I'm going to summarize. You're referring to a study in Colorado -- I'm sorry, you're referring to a study in Illinois on bat fatalities?

A. Yes.

Q. And that survey found that 82 percent of bats flying past turbines did not show any reaction, only 2.1 percent inspected a turbine; correct?

A. Correct.

Q. And you conclude from this that bats, because 82 percent of the bats did not show any reaction to turbines, this data implies that turbines are not a strong attractant to bats at the scale examined?

A. That's correct.

Q. This was just one single study?

A. Yes. This was one of the only studies that have collected that type of data.

Q. So from that one study you believe it's appropriate to make sweeping conclusions as to other projects as well?

A. I think you can imply that bat behavior is going to be fairly similar. I'm not sure why you would expect their behavior to differ drastically among different areas.

Q. To your knowledge were there any surveys done as to the bat usage of the area in Illinois to compare with what we might have here?

A. Yes. There were Anabat surveys done there.

Q. Are we talking about the same species of bats?

A. Some of them are the same, some of them are

different because of different parts of the country.

Q. Are we talking about the same habitat for Whistling Ridge as opposed to the study in Illinois?

A. No. The study in Illinois was in a corn and soybean agroecosystem.

Q. Wouldn't that make a difference between what you might find here as it is in a forested mountainous habitat as opposed to a cornfield, or whatever it was, how you described it?

A. You know, there just isn't enough knowledge to know how habitat influences bat behavior.

Q. If there isn't enough knowledge you can't make any conclusions about bat behavior here; is that correct?

A. I still maintain if bats are not attracted to turbines in Illinois that you couldn't surmise that the same would be true here.

Q. Does surmising reach the level of a scientific prediction?

A. I think you could use it as a prediction, yes.

Q. Okay. Page 28, lines 14 through 18, you state that, "high-frequency bat species are not typically associated with turbine fatalities." And then you go on to analyze data from 10 wind energy facilities in the Pacific Northwest. Were any of those 10 wind energy facilities located in forested environments?

A. No.

Q. Can you make conclusions that behavior and results from one type of habitat are usable in another habitat without any additional studies?

A. No, I've never said that.

Q. Okay. Page 30, line 17 through 20, you wrote quote, "Unsurprisingly, Smallwood suggests that WEST's use of such data is misplaced, and that a bias created by data having been gathered along roadways where certain raptors congregate and hunt renders the information unusable." Do you disagree that many of the bird species for which you made regional estimates congregate around roadways?

A. No, I don't.

Q. You don't disagree with that?

A. No. You know, I discussed the population estimates that are made using breeding bird surveys in detail. And there may be higher estimates for raptors because they do tend to congregate on roadsides. But, again, I made the point that -- and this is referring to a cumulative impacts analysis at the Columbia Plateau ecoregion, which obviously isn't the Eastern Cascades, but it's the only available data for population sizes. And without having a population size estimate you simply cannot do cumulative impacts analysis. Cumulative impacts revolve around what proportion of the population is being impacted.

Clearly without a population impact you can't do a cumulative impacts analysis.

Q. If I heard part of your answer correctly, though, you agree that many of the species for which you made estimates congregate around roadways where you did the surveys; is that correct?

A. I'd not necessarily would use the word congregate. I believe some of the species would have higher abundance along roadways. I do breeding bird surveys myself.

Q. You didn't do any surveys for this purpose along areas other than roadways in this context, did you?

A. Now, keep in mind, I didn't do these surveys, these are published data.

Q. Okay. The surveys that you used to rely on for your conclusions did not include surveys on other than roadway areas; is that correct?

A. That's correct. They were derived from breeding bird survey data which are all done along roadways, but they are very standardized.

Q. Page 36, line 17 through 19, you have that?

A. Yes.

Q. You state that, "It is inappropriate to take conclusions from Klickitat County regarding development in forested areas where forested areas are very rare, and apply them to an area that is entirely forested." Isn't it fair

to say that your analysis took conclusions from the grassland and shrub-steppe environment of the Columbia Plateau ecoregion and applied them to the forested environment of Whistling Ridge?

A. We did that in a regression analysis because, again, that's the only data we have for Pacific Northwest wind projects; therefore, I believe that represents the best available science to use in forming impact predictions. It's the only data available for Washington and Oregon.

Q. Isn't the property immediately to the north of the Whistling Ridge site, the DNR land, isn't that in Klickitat County?

A. I'm not really sure.

Q. Okay. Have you been to the site?

A. Yes, I have been to the site several times, but I haven't been north of the site.

Q. Okay. Page 37, lines 6 through 8, you write that, "Neither EFSEC nor WDFW has guidelines," as to whether every turbine should be monitored, "and EFSEC's reference to the U.S. Fish and Wildlife standard, which in this case counsels against such a condition, may be most appropriate." Are you stating that the Fish and Wildlife Service guidelines actually recommend not monitoring every turbine?

A. Yes. The new FACA guidelines have a discussion on how many turbines to monitor. And their example for when

you need to monitor all of them is when there are ten or fewer turbines, anything above that they suggest sampling.

Q. You have a site for that?

A. It would be the FACA guidelines, the version that was submitted to the Secretary of the Interior.

Q. Your contention is that that's a recommendation against monitoring all of the turbines?

A. It's a recommendation on what appropriate sample sizes are based on the number of turbines you have.

Q. As an appropriate sample size is there any problem with going higher, is that going to skew your results?

A. No.

Q. In fact, if you monitor more turbines wouldn't that make your results a little bit more accurate?

A. Potentially. It depends on the variability among turbines.

Q. What do you mean by the variability among turbines?

A. If you have some mortalities similar amongst all the turbines in a similar habitat then increasing the sample size isn't going to necessarily change your estimates.

Q. The analysis that supports your conclusions here, was that based on -- let me rephrase this.

When you set out to do your analysis how many turbines was it your understanding would be on the project?

A. We were just provided turbine corridors of potential locations when we first set up this study. We tried to cover all potential areas where turbines might be.

Q. So your analysis didn't factor in the number of turbines at all.

A. We provided an estimate per megawatt. So once you know the number of turbines and the capacity then it does factor in the number of turbines.

Q. So what number did you use as your guide for the number of turbines on this project?

A. You know, for what we did we don't really need to know the number of turbines. We estimated the raptors mortality rate on a per megawatt basis. I think, you know, we've been working on this site since 2002, and in a lot of the earlier studies we had no idea what the number of turbines was going to be, it was all in development. So we just came up with an estimate per megawatt.

Q. Are you saying that regardless of the number of turbines that the fatality rates are approximately the same based on -- in other words, if we have--and I realize this is ridiculous--five 15-megawatt turbines--and I know those don't exist--versus 50 one and a half-megawatt turbines, the fatality rates are going to be the same?

A. No. And the reason we used the number per megawatt--and I'm not entirely happy with that myself--is

it's a standardized ratio that's been used across the country. I believe the new FACA guidelines even recommend expressing all fatality estimates in number per megawatt. They're trying to get away from number per turbine because of the different turbine types, especially trying to compare modern wind turbines to those at Altamont. So they've kind of come up with this number per megawatt.

But research has shown that they looked at bird fatality rates as a function of turbine sizes, rotor-swept areas, heights, and they really didn't find any significant differences in those variables.

So clearly to answer your question, the fewer turbines you have the less mortality one would expect regardless of the number of megawatts.

Q. Does it matter, does the blade size, and therefore the swept area of a turbine, matter for your analysis?

A. No. It's strictly based on the number of megawatts.

Q. So turbines with blades of, say, 77 meters in diameter will have the same fatality rates as turbines with blades of 100 meters in diameter?

A. Based on that one paper that examined that that's what their conclusion would be.

Q. I'm sorry, could you repeat that?

A. That one paper I mentioned where they looked at

all those different turbine sizes, rotor-swept areas, heights and all that, they did not find any difference in fatality rates among turbine types and sizes, at least the modern turbines.

Q. Is it fair to say that different species of birds generally fly at different elevations?

A. Yes.

Q. Some species are less affected because they fly higher than turbines or lower than turbines?

A. Yes.

Q. If the turbine blade increases in length, and, therefore, covers a bigger area both upward and downward, won't that create different impacts to different species?

A. Presumably with the larger rotor-swept area you would have potentially more impacts on birds because you are covering a larger rotor-swept area. But with the larger turbine you're also producing the same number of megawatts with fewer turbines, so that might substantially reduce risk to birds.

Q. Does the specific location within a corridor affect your analysis?

A. It can. We try to plot flight paths of birds to look for any high concentration areas. And we've done other studies, like in Wyoming we found that birds were concentrated within 50 meters of a rim edge. And the

developer agreed not to put any turbines within that 50-meter buffer. So the data can be used to micro-site turbines.

Q. And you may have answered this, but I'm not sure. The swept area of a turbine, the difference between the size of the turbines and, therefore, the size of the blades and, therefore, the difference of the swept area doesn't affect your calculations in any way?

A. No. It's strictly based on the number per megawatt which is the standard kind of industry guideline.

Q. Okay. So to conclude this area, you're saying that it makes little difference to your analysis whether we have 50 one and a half-megawatt turbines in those corridors or 38 two-megawatt turbines with longer blades and a larger swept area?

A. To comply with the way the guidelines in the industry want fatality rates presented, which is number per megawatt, technically there would be no difference between those two scenarios. Now, intuitively, obviously, you would expect less fatalities with 38 versus 50 turbines.

Q. Even though it's a largest swept area?

A. Correct.

MR. MCMAHAN: Objection, that is a fact not in evidence.

MR. KAHN: I didn't say it was in evidence.

BY MR. KAHN:

Q. In a hypothetical situation the swept area doesn't matter?

A. No. Again, as I said, we present the data as we've been requested to by guidelines and agencies.

Q. Page 39, lines 5 through 13. You're discussing mitigation here; is that correct?

A. Correct.

Q. And you disagree with Dr. Smallwood's conclusion that there's little that can be done to effectively mitigate bird and bat fatalities once the project is operational; correct?

A. Especially as it relates to bats, yes.

Q. Are you aware of any evidence that increased cut-in speeds -- first of all, can you explain what a cut-in speed is?

A. The cut-in speed is when the wind speed gets up to a certain sufficient speed so the turbine starts rotating. A typical cut-in speed of a 1.5-megawatt turbine is 3.5 meters per second. So what we found is that if you raise that cut-in speed -- you basically just change the computer that's managing the wind turbine. If you increase that to four and a half meters per second then when the wind is blowing less than four and a half meters but greater than three and a half that turbine would normally be rotating,

but with increased cut-in speed the turbine doesn't rotate until the wind gets up to a higher value. You can change that from four and a half, to five and a half, to six and a half.

Q. And are you aware of any experimental evidence that shows that increased cut-in speeds can reduce bat fatalities?

A. Yes, I'm aware of at least three studies that -- well, I'm actually aware of four studies that have shown that.

Q. Can you provide any examples of projects that have adopted higher cut-in speeds as routine turbine operations in an effort to reduce bat fatalities?

A. I'm not aware of any that have done that, but I'm not familiar with what every wind project has done.

Q. You can't conclude -- I'll withdraw. You answered my question.

Page 41, lines 2 through 5. You got that?

A. Yes.

Q. Okay. You write that, "Finally, I emphasize that in his testimony, Smallwood repeatedly insists that EFSEC adopt his 'novel' approaches, and that EFSEC depart from best available science, precedent and wildlife agency guidelines that have been consistently applied by state and federal agencies." Can you identify the approaches that you

regard as Dr. Smallwood's "novel" approaches?

A. Examples would include granting for visible airspace in terms of the preconstruction avian use data. Another example in terms of the postconstruction mortality would be using his estimators that have not been used in Washington state yet.

Q. Can you clarify where in his testimony that he suggests that EFSEC depart from best available science?

A. I think it's probably just insinuated when he uses his testimony to show how his novel approaches he thinks are better.

Q. But he doesn't come out and say that or suggest any specific process to be used; is that correct?

A. Not that I'm aware of.

Q. Do you have Exhibit 6.07C in front of you? It's a report by your company on Postconstruction Avian and Bat Fatality Monitoring study for the Tuolumne Wind Project?

A. I'm familiar enough with it you can probably ask the question.

Q. That was my first question, are you familiar with it. You were involved in the proceeding?

A. I originally -- I was not involved in the postconstruction monitoring. I was involved in the preconstruction avian baseline studies. The postconstruction monitoring was done by WEST but it was done

out of our Walla Walla office.

Q. You weren't one of the authors of this report?

A. I wasn't.

Q. Did that report -- prior to the construction of the project did WEST make any predictions as to the fatalities to raptors?

A. Yes.

Q. And you don't have it, but I'll quote you page 23 of that, states that -- well, shows the -- it would be helpful if you can get it or we could give it to you?

A. I have it somewhere. (Witness locates the document.)

Q. Great.

A. Okay.

Q. This is the postconstruction report; correct?

A. Correct.

Q. And you indicated you weren't involved in this process but you were one of the authors of the preconstruction report that predicted fatalities; correct?

A. That's correct.

Q. Do you know what you predicted for raptor fatalities at this project?

A. I believe our upper bound was 0.16.

Q. And your lower bound was 0.05?

A. I believe that's correct.

Q. And this is called the Tuolumne project, but this was also originally called Windy Point; is that correct?

A. That's correct.

Q. So you predicted .05 to .16 raptor fatalities per megawatt?

A. I believe that's correct, yes.

Q. And what was the actual estimate based on included in this postconstruction fatality report?

A. 0.29.

Q. Which is anywhere from almost six times -- two times to six times higher than your predictions; correct?

A. Well, our prediction should be based on the upper bound because that was obviously anticipated as part of that prediction.

Q. So it's almost twice as much as you predicted on the upper bound?

A. Yes.

Q. And almost six times as much as you predicted on the lower bound?

A. I haven't done my math.

Q. Well, .05 to .29 is roughly about six, would you agree with that?

A. Yes.

Q. Okay. Any idea why your predictions were significantly off?

A. Well, this is an example of another project that was alluded to earlier. A lot of these projects were studied under the 2003 Washington guidelines that only required one season of avian use data. And a lot of our earlier predictions were based on projects that only had one season of avian use. I know for Windy Point there was not a full year of site specific avian use surveys at Windy Point.

Q. Do you have Exhibit 6.08C in front of you? It's an email string from the Washington Department of Fish and Wildlife?

A. I don't have it in front of me, I have looked at it.

Q. Okay. Is it fair to say that in that email string Washington Department of Fish and Wildlife biologists indicate that they're unfamiliar with the specific methodology that you used here?

MS. ANDERSON: Your Honor, I'm going to object. That document is not in front of Mr. Johnson. If they want to cross-examine him on it put the document in front of him.

MR. KAHN: I just asked him and he said --

JUDGE WALLIS: The witness indicated that he didn't need it. But it is being provided to him.

MR. KAHN: I offered.

BY MR. KAHN:

Q. Doesn't this indicate that the Washington

Department of Fish and Wildlife professional biologists are unfamiliar with the specific methodology you used for your surveys, your estimates, in this project?

A. All I know with regard to the Washington Department of Fish and Wildlife Service is they have written two letters stating our surveys meet all their guidelines completely.

Q. Okay. If you could -- the very bottom on that page, the email from James Watson to Michael Ritter, et al., doesn't it say, "I am too unfamiliar with the specific methodology the consultant used for the point counts on this project (other than 20-minute frequency), to be comfortable in concluding this is not part of a significant migration flyway," doesn't he say that?

A. Yes.

Q. Doesn't he also say that, "Further, I am unconvinced that periodic point counts are an appropriate method for documenting passage of migrants"?

A. Yes.

Q. Above that, doesn't David Anderson, another Department of Fish and Wildlife biologist says, "I have always been suspect of point counts for picking up migration patterns. Migration can be influenced by weather patterns and time of day. Point counts can miss these peak activity levels"?

A. That's what he says, yes.
Q. And your surveys were point counts?
A. Yes, which is standard practice for virtually all wind projects in North America.
Q. It's standard but the Washington Department of Fish and Wildlife biologists are unfamiliar and uncomfortable with your method, with that method?
A. You know, I really can't attest to some internal email communications. All I can really attest to is that the official corresponders from Washington Department of Fish and Wildlife Service states that all surveys and impact predictions were done in accordance with their guidance.
MR. KAHN: I believe that's all I have. I ask that Exhibits 6.05, 6.07 and 6.08 be admitted?
(Exhibit Nos. 6.05C, 6.07C and 6.08C offered.)
JUDGE WALLIS: Is there an objection?
MS. ANDERSON: Your Honor, the only area that I would object is 6.08 wherein Mr. Kahn has offered the opinion of some State employee in the Department of Fish and Wildlife as to his interim comments and thoughts on methodology, unless the Council is always cognizant of the fact that it also has the DFW's final letter in the record mailed to you regarding the agency's final conclusions on this topic. If you have that, recognize that that's in the

record, then I don't object to these interim internal discussions coming in.

JUDGE WALLIS: It's been used in the examination. And its origins and its circumstances have been explored on the record. Consequently, I don't see a need to withhold it from the record. Exhibits 6.05, .07 and .08C are received in evidence.

(Exhibit Nos. 6.05C, 6.07C and 6.08C admitted.)

JUDGE WALLIS: Is there other cross-examination of the witness? Mr. Marvin.

MR. MARVIN: Thank you, Council.

CROSS-EXAMINATION

BY MR. MARVIN:

Q. Mr. Johnson, my name is Bruce Marvin. I'm the Counsel for the Environment in this matter as is statutorily defined in the position for EFSEC proceedings. And I did have a few questions regarding your testimony and the information that you provided in the application.

I think as an initial departure point maybe if we can take a look at Exhibit 6.08C which I believe was the last document that was discussed?

A. The email chain?

Q. The email chain, yes. And if you could keep that

in front of you. I understand your prior testimony that there were surveys conducted that total a full year worth of seasons for species abundance; is that correct?

A. That's correct.

Q. And there were -- if you could just repeat for me the frequency of the surveys. I believe there was a difference between spring and fall and winter and summer?

A. It was approximately once a week during the migrations and once every two weeks outside of migration.

Q. And so there was extra emphasis or attention paid to migratory period seasons?

A. That's correct, and that's fairly standard practice.

Q. Okay. Why is that of interest? Why is there a special emphasis based on migratory activities?

A. Well, during migration you have birds moving through the area, and so the avian population changes throughout migration; whereas, during other times of the year it's fairly static. In the summer and winter you have the same birds that are breeding there, the same birds that are wintering there, but during migration you have the influx and egress of birds. So due to the variation it's wise to do more frequent surveys during migration.

Q. And in your testimony have you -- and I don't have it specifically here, I think this is on a noncontroversial

statement, but is it fair to say that migratory birds that are in migration are at potentially higher risk because they're unfamiliar with the territory they're traversing as opposed to species that are living in the project area?

A. I'm not sure that's ever been born out by data. I know of some instances where the highest at least raptor mortality occurs during the winner, wintering birds. Again, I think it depends on the number of raptors using the site, and that could change by season.

Q. Okay. Turning to Exhibit 6.08 -- or actually can you give me the time frames in which the various surveys were conducted by season?

A. I'd have to look that up to get the specific dates, but basically we did surveys September through November in the fall, late December through March in the winter, March through April in the spring and April through I believe it was early July for the summer breeding season.

Q. Okay. And if we look at the second page of 6.08C you'll see that I believe it's Mr. Watson indicates that he had expressed some concern that there were -- that fall surveys weren't conducted in between mid-August and mid-September. Do you see where I'm at?

A. Yes.

Q. And he also indicates that there's a -- well, I'll just read it, "Migrating raptors is not always obvious...to

the inexperienced. In the Cascades, the period from mid-August through mid-September will have the greatest number of birds in passage, primarily juvenile accipiters." And then in a parenthetical he says, "I noticed they start the counts in mid-September. Adult birds, obviously fewer in number, will dominate counts after mid-September including eagles and buteos." Were you aware of this increased migratory behavior by juveniles between mid-August and mid-September?

A. You know, I'm not aware of that. And, you know, virtually all hawk watch migration counts, I'm not aware of any of those that start in August, especially in this latitude. I mean typically September through November is peak migration that you catch most hawks.

Q. We have any survey data from August?

A. No. But, again, that's just one month out of the fall migration. We have survey data for the majority of the fall migration.

Q. When is that survey data -- at what point did you begin collecting that survey data in September?

A. I'd have to look at the actual dates, but I believe it might have been September 11th.

Q. In your testimony, in your direct testimony on page 7 you indicated that there is "a handful of wind energy projects have been proposed on coniferous forest landscapes

in Washington, some of which are planned for unmanaged, natural forests." And if you want to take the time to find that in your testimony that would be fine.

A. What page was that again?

Q. I believe it was page 7, line 24.

A. Is this my direct or rebuttal?

MR. MCMAHAN: Yeah, it's your direct.

A. You can go on with the question. I believe I know what you're referring to.

BY MR. MARVIN:

Q. Anyway, I was wondering if you could identify those proposed projects for me if you're aware of -- if you know what they are?

A. Off the top of my head I believe they referred to Coyote Crest, Middle Mountain, Radar Ridge and I can't remember the fourth one. I believe those wind projects are called out in the record somewhere.

Q. I'm sorry, the first project you mentioned?

A. I believe it's Middle Mountain and Coyote Crest.

Q. Coyote Crest.

A. And Radar Ridge are the three I recall off the top of my head.

Q. Can you spell Coyote Crest?

A. C-o-y-o-t-e, C-r-e-s-t.

MS. ANDERSON: Your Honor, if it would be helpful,

those spellings and those projects are called out in Mr. Johnson's rebuttal testimony.

BY MR. MARVIN:

Q. Do you know if any avian surveys have been conducted in these locations?

A. The only one I have firsthand knowledge of is Radar Ridge. And I know avian surveys have been conducted for that.

Q. And you know within what time frame those were conducted?

A. I don't. I was not directly involved in that project.

Q. Is your firm involved in that project?

A. Yes, primarily with the Marbled Murrelet issues.

Q. And the Middle Mountain project, to your knowledge was any avian surveys done?

A. I'm not familiar with any other projects besides Radar Ridge.

Q. Okay. You previously indicated to say -- testified that cumulative impacts on Western forests were not possible because there had been no development, wind power development in Western Coniferous Forests; is the correct?

A. Well, obviously, cumulative impacts are related to how many wind projects you have. If you have a small 50

turbine project, and that's the only one in the Eastern Cascades, intuitively, you would assume that cumulative impacts at least associated with new wind development are not significant. So you have to start looking at other development in the Eastern Cascades. And to my knowledge at least what's reasonably foreseeable or something that's nearing the permitting stage or going through permitting there's very little development planned.

Q. In forming cumulative impacts do you consider projects that are dissimilar from wind turbines other than the project that is being proposed, for example, would you look at other proposed projects, projects that are impacting wildlife?

A. For a cumulative impacts analysis if your question is would you look at things besides wind development? You would. You look at past projects as well as current as well as foreseeable projects.

Q. And this project, has data from the Radar Ridge project been considered or analyzed in regards to this project?

A. We are currently working on revising the cumulative impacts analysis in the draft EIS. And the available data for many projects in coniferous forests in Western Washington will be included in that cumulative impacts analysis.

Q. In your testimony you repeatedly refer to the term "best available science." And I'm just going to give you a "softball" question here and say, you know, how would you define that term?

A. I think best available science is science that you can look at and rely upon and make credible decisions based on that science. And in some cases if it's the only available science it would be considered the best available science.

Q. And why is that a particular concern? In what context are you using that term?

A. Well, an example would be the cumulative impacts analysis for the Klickitat energy overlay. There was only one set of data that provided population estimates, which I testified to earlier, were require to do a cumulative impacts analysis. So, obviously, that set of data would be considered best available science.

Q. So in using the term best available science is it fair to say that there's -- it's a way of saying that to the best of our knowledge this is what's out there, but there continues to be unknowns?

A. Yeah, I think especially the former. To the best of our knowledge this is what's out there.

Q. But the reason you have to use that caveat is because there's a lack of certainty? I understand there's

always a lack of certainty with just about anything, but in this case there is no precedent upon which you can rely regarding the impacts of a project of this nature on this type of habitat; correct?

A. There are some issues with the breeding bird survey data, but I think I talked about those earlier. No information from the Klickitat County cumulative impacts analysis was used to predict impacts at Whistling Ridge.

Q. But those are simply predictions, we don't really have any on-the-ground information regarding the impacts of this type of development on the particular type of habitat that's being constructed; correct?

A. I didn't quite catch that question.

Q. We are talking at this point in terms of predictions, and we have two variables here. First, we don't have the -- well, I don't want to go into variables. We don't have -- the fact is we don't have an existent wind power project of this type constructed in Western Coniferous Forests at this time, so we don't have mortality studies that can verify with predictions; correct?

A. Right, that's an issue. But another thing to look at is the fact that there are no other projects in Western Coniferous Forests, your potentials for cumulative impacts is significantly decreased obviously.

Q. Overall cumulatively?

A. Yes, cumulative.

Q. But in terms of the individual projects there continues to be unknowns about -- that have that individual project in mind?

A. We don't have data from Western Coniferous Forests yet.

Q. I am going to switch over and talk a little bit about birds at this point. Excuse me, bats.

Can you describe the surveys that have been conducted to date with regard to bats?

A. In 2007, we had two ground detectors and one detector elevated on a met tower during a period of August through October. All of those stations were placed in upland habitats that were fairly represented over where turbines would be.

In 2008, we had four detectors that were all placed on the ground. And part of that study in 2008 was to look at bat activity where we expected bat activity might be higher such as in linear corridors as well as adjacent to wetlands.

In 2009, we tried to refine our bat use estimate. We had six detectors out and we paired them on met towers. So one was elevated to 45 meters on a met tower, one was placed on the ground at the base of the met tower. And, obviously, the met towers are in areas where the turbine

development is most likely, so we feel that's the best dataset for looking at bat use of the project area.

Q. With regard to the Anabat data, is there an ability to identify or to make species specific identifications of bats?

A. There is for some species that have very unique call characteristics, but for the most part we separate the species groups into frequency levels. Generally, they're related to risk of turbine collision. High frequency species would be your mouse-eared bats like your myotis bats such as little brown bats. Those species typically are not highly susceptible to turbine collision.

The species that are generally more susceptible such as silver-haired and hoary bats are low frequency bats. So we also look at the proportionate calls that are low frequency for bats.

Q. Is there technology available that will allow you to identify specific species?

A. There is. A lot of it depends on who you talk to. There's really not -- a lot of people are claiming they can identify species. And other bat biologists are claiming they can't. It's not set in stone right now.

Q. Are you very familiar with the U.S. Fish and Wildlife guidelines that were submitted, I believe were submitted for approval to the Secretary of the Interior on

March 4, 2010?

A. Yes, I've seen those guidelines.

Q. Let me read a section here. Full spectrum time expansion detectors provide nearly complete species discrimination, while zero-crossing detectors provide reliable and cost-effective estimates in total bat use of site and some species in this nation. Are you familiar with the full spectrum time expansion detectors?

A. Yes.

Q. And do you agree or disagree with the statement that appears in the guidelines?

A. I agree that the time expansion may have a better chance of identifying bat mortalities. The issue with the time expansion -- and this industry is evolving, but they didn't have a detector that you could sit out in a forest situation and leave for months on end. That's why the Anabat has been used on virtually every other wind project in the U.S.

Now, like I said, the technology is evolving, so they're starting to get some of these, like the Pettersson detector. There's some other detectors that can be left out in the field for a long time without having to change batteries and cards. And so to make data comparable we used Anabats because that's what's been used on virtually every other wind project up to date at the -- compare use values

need to compare similar technology.

Q. I understand there's two species of bats that are of concern, the big-eared Townsend bat, did I get that right?

A. Townsend's Big-eared Bat.

Q. Townsend's Big-eared Bat. And the Keen's Mytosis?

A. The Keen's Myotis; correct.

Q. Myotis. Just bear with me here for a second.

Can we turn to, I think it's page 48 of your rebuttal testimony. Just for a little background, can you describe the range of the Townsend's Big-eared Bat within the North American continent?

A. It's pretty much distributed across North America. There's some endangered subspecies in West Virginia along the East Coast. I know they occur in Wyoming. They're pretty much across the U.S.

Q. And the Keen's Myotis?

A. The Keen's Myotis is a Western species of myotis.

Q. And you know generally what its range is?

A. I haven't looked at a range map in a while. I just know it's limited to the Western U.S.

Q. Is it found primarily in the Pacific Northwest?

A. I don't know that off the top of my head.

Q. Is it found primarily in the forested habitat?

A. Yes.

Q. And I think you've established that there are no wind projects in Western Coniferous Forests; correct?

A. That's correct. But these bats do hibernate, and they will make fairly long distance migrations to hibernation spots. So presumably some of these would be moving outside of those forests.

Q. Okay. And on page 48 you state, "we know from years of monitoring at wind projects across the country that neither of these two species has ever been documented as a turbine fatality at any wind project in the U.S." Now you indicated Townsend's Big-eared Bat actually is a fairly wide ranging species; correct?

A. That's correct.

Q. I guess I don't take issue to that specifically with regard to Townsend's Big-eared Bat; however, with regard to the Keen's Myotis would it be fair to say that they have had minimal exposure to wind projects?

A. You know, they are very similar to other myotis, like little brown bats. And little brown bats are found at the turbine fatalities even out in cornfields. So little brown bats would also be considered a woodland species, potentially they definitely wouldn't live in cornfield environments. So I guess what I was trying to say is that a Keen's Myotis, being the fact it is a myotis, would have very little susceptibility to the turbine collisions based

on all the data we have.

Q. So I mean Keen's Myotis is a species of bat; correct?

A. Correct.

Q. And what is the -- myotis is a family, how do we --

A. It's a genus.

Q. A genus. And so, in fact, the statement that you know from years of monitoring wind projects across the country that neither of these two species -- you know, looking for wind projects across the country with respect to Keen's Myotis, which was only located in the West, is sort of a mismatch, sort of an apples and oranges comparison; wouldn't you say?

A. I wouldn't say that's definitely the case. These bats are migrating in hibernacula, you know, there's coniferous forests in Northern Klickitat County. It wouldn't be unreasonable to think that those bats are in close proximity with turbines in Klickitat County.

Q. But, certainly, if we're looking across the country as the base upon which we're making a determination, I mean that's a pretty large sample of potential impacts. But we have the myotis up here and basically up here in the Pacific Northwest. So there is kind of a bat overview in that comparison, would you acknowledge that?

A. It might have been more appropriate to say for Keen's Myotis the Western U.S. instead of the U.S.

JUDGE WALLIS: Mr. Marvin, for help in following along, if you could cite the page and line if you have a direct question related to testimony, that would be helpful. I take it generally you're talking about pages 48 through 50 of the rebuttal testimony?

MR. MARVIN: Yes. That would be page 48, line 6 through 8.

JUDGE WALLIS: Thank you.

BY MR. MARVIN:

Q. With regard to the bat surveys, you indicated that in the -- you previously testified that in the 2008 surveys you placed Anabat detectors in locations where you suspected large numbers of bats were being counted; is that correct?

A. We suspected higher levels of bat activity, not necessarily high numbers of bats.

Q. Yes, sorry. Please feel free to come in here and correct me if I'm misstating your testimony. It's not my desire to do so, so don't hesitate to chime in if I'm veering off in the wrong notion.

Based on that information, do you think that that information was gathered in 2008 as a predicted value regarding potential mortality for bats in the area?

A. I think it does provide some perspective in terms

of we know where the higher bat concentration areas are. And we got a little more data on what the different species frequency groups are. For instance, most of the bats associated with that wetland were high frequency species which would be the myotis which aren't particularly susceptible to turbine collisions.

We got some verification that bat use at ground level is much lower in clear-cut areas which would be similar to where the turbines would be developed. So I think it did provide some information on it. I don't think it was near as valuable at the data collected in 2009 on the elevated met towers.

Q. And the 2007 surveys do you? How would you judge their predicted value with regard to potential mortality?

A. The 2007 surveys we had some trouble with the detectors. They are not an infallible device like any electronic device. That survey started a little late, so we didn't provide as much credence to it. But it did provide additional data from two detectors that were, again, placed in low plant habitats, more typical where turbines would be placed. And, again, the data showed relatively lower levels of bat activity.

Q. With regard to the 2008 data -- excuse me. Yes, the 2008 data which focused on bat activity, is there information within that that would be useful for purposes of

developing mitigation plans?

A. I guess in terms of the fact that it showed relatively higher activity levels associated with -- are you talking, like, off-site mitigation or something?

Q. Just at this point mitigation in general.

A. Unless you're talking off-site mitigation, you know, obviously it shows higher bat activity levels associated with the pond. So that shows that you could create wetlands to mitigate potential habitant loss or impacts.

Q. You're familiar with the Wild Horse project; correct?

A. I'm somewhat familiar with it. I didn't work directly on that project.

Q. Were there water resources on that project that became of concern among the wildlife?

A. I'm not sure.

Q. Based on your training and experience would it be appropriate to take locations with high concentrations of bat activity or wildlife activity, would that be something that would be considered during the micro-siting process?

A. Yes. And I believe that has been considered. There are no plans to put turbines near that wetland.

Q. And I guess when you say "near" can you explain? I guess that's sort of a relative term. What does near

mean?

A. You know, I'm not sure what the distance is. I would have to get that information to see what the nearest turbine location is.

Q. What would you believe would be a sufficient distance to appropriately mitigate for that?

A. You know, I really can't come up with a certain distance. The data to determine that has not been collected at any wind project. One would assume three or 400-foot buffer would be sufficient. But, again, the data aren't really there to come up with buffers in wetland situations.

Q. And with regard to the bats in the wetlands, what would be controlling factors? What kind of behavior for bats is occurring in this wetland area to the best of your knowledge?

A. I didn't catch that.

Q. What kind of behavior did you document with your bat activity recordings?

A. You can't document behaviors, it's just strictly -- you can to some extent. You can distinguish feeding buzzes from other bat location calls. A feeding buzz is when a bat right before it hones in on an insect it emits a different type of call. So you can determine if they're feeding buzzes, so obviously the conclusion is they're feeding in that area. But for the most part it's

just echo location passes.

Q. But you did expect there would be increased activity in the area of the ponds; correct?

A. Yes. It is generally known that bat activity is higher near ponds and wetlands just because of the aquatic insects.

Q. Do you have any idea, based on the work that you've done, where these bats might be traveling from? I'm assuming they don't live on the pond.

A. If the ponds are in association with forested situations they wouldn't have to travel far to get there, they could just roost right near the ponds.

Q. And do you know with regard -- we're dealing with very dynamic landscape here, obviously, with a managed forest. Is there some age of the forest that's going to be more attractive as a habitat for bats than others?

A. I'm assuming that old-growth forest would be more attractive to bats. A lot of these bats roost in the bark trees and the foliage trees. I'm assuming therefore that larger trees would have more roosts up straight for bats.

Q. And does that suggest that these bats would be coming from off site in order to take advantage of the water resource?

A. You know, that would just be speculation on my part.

Q. But if --

A. I really can't say where they're coming from.

Q. Right. If you knew where they were coming from, and you knew that there was a concentration that were traveling down from the north, for instance, to this water source, would that be information that you would factor into during your micro-siting process?

A. Well, I think you need a lot more information than just locations. You need to know their flight behavior, how high they're flying, what corridors they're using. You have to have more information than just to assume that they're coming down from the north.

Q. Are there plans to acquire that information if this project goes forward?

A. I can't testify to that. I do know that with regard to bats there is definite mitigation measures that have been tested and shown to be effective. So if bats do become an issue there's really good mitigation to reduce those mortalities.

Q. Those mitigations are?

A. That's the turbine curtailment that we talked about earlier.

Q. In the 2008 Anabat studies you also indicated a high rate of activity along wooded road corridors; is that correct?

A. Yes.

Q. And what was your theory there in terms of the bat activity?

A. It's just simply a linear corridor through the forest was used by commuting bats as a travel corridor.

Q. Is that a consideration that may be factored into the micro-siting of the turbines?

A. I don't think so, because the turbines -- well, you can see the size of the cleared areas on that map. Those are going to be very large cleared areas that would not function at all like a road through a forest area would as a travel corridor.

Q. Would access roads to or between turbines also serve as transportation corridors for bats?

A. It depends on how wide the roads are. I don't think there's enough information to say that a six-foot road is used more than a 20-foot road, that would just be speculation on my part.

Q. But I mean any road?

A. Yeah, potentially they could be travel corridors.

Q. And based on the knowledge that you have at this point in time, do you have an opinion one way or the other as to whether those corridors will greatly increase the risk for bats?

A. I'm not sure why a road corridor would create

increased use if they're using that. You know, the potential risk is out where the wind turbines are, not along the road corridors.

Q. In your testimony, and I know you have rebuttal testimony that you submitted regarding Mr. McIvor's observations relative to the collision risk index, based on what I've reviewed in your rebuttal testimony you're willing to acknowledge that Mr. McIvor, to some degree, has a point there that the collision risk -- well, let's put it this way, do you believe that the collision risk index is not an appropriate means for predicting avian mortality?

A. I agree with that, and that's why we don't use it to predict levels of avian mortality.

Q. You've identified certain instances where you believe your information has been misrepresented by NEPA SEPA officials, can you describe how that information has been used?

A. I wouldn't characterize saying it was misrepresented. I think there was just more emphasis placed on it than probably what I would have or maybe what the data deserved. There are several qualifications of that risk index that are included in the baseline reports that weren't necessarily brought into the draft EIS.

Q. In your testimony you've indicated that three Bald Eagles were observed at the site during the course of a year

of surveys; is that correct?

A. That's correct.

Q. When you say "a" year, we're not talking about everyday surveys? Surveys were not conducted every day; correct?

A. No. It's during the number of surveys that I've testified about earlier.

Q. So they were just certain months during certain seasons at periodic --

A. Typically the Bald Eagles would be there more so in the winter than the other seasons. But, again, that data was collected on similar methods, similar frequencies of several other projects I worked on. And there's some cases where with the same amount of effort we've detected numerous eagles.

Q. Okay. And you've stated on page 42 of your rebuttal testimony that the small sample size of some species at Whistling Ridge indicates that use is very low, which intuitively means that risk is low?

A. That's correct.

Q. And I'm curious about that term "risk." If you're dealing with a species, let's say, an endangered species, that has a small, presumably has a small population to begin with, isn't risk a somewhat relative term?

A. It is relative. You have to look at it in the

context. Obviously, if you have a defined population of even a small number of endangered species, and you do something that might impact them there, then they would be at high risk. But in terms of these species, they were there in very low numbers. They were there in an island -- not an island. They were there in a sea of coniferous forest, so their habitat in not limited at all. In fact, you would expect higher populations to probably occur in areas where there's more natural forest. So from that perspective you really wouldn't expect a risk to populations because only a small fraction of the population in the region would be expected on your site.

Q. But if you have a population whose presence of the animal is low to begin with, just by virtue of the fact that it's endangered, doesn't the fact that it's been sighted or seen on site have somewhat of a more heightened significance than perhaps a different species?

A. In all these cases we're not dealing with any endangered species. These are species that are a couple of them are candidates in the State Monitored species. So we're not dealing with a state or federally listed species.

It's my general opinion that based on the life history of those species there's nothing about this site that would tend to concentrate them there. You would expect them to occur at equal or maybe even higher densities in

other areas of this region. In my opinion, the fact that they were low numbers indicates that it was not a very suitable habitat for these species.

Q. Have you had an opportunity to -- have you visited the proposed mitigation site for this project?

A. I have not been involved in the mitigation aspects of this study.

Q. Have you reviewed any documentation regarding the mitigation parcel?

A. I looked at the letter they sent, yes.

Q. When you say "they" who are they talking about?

A. Washington Department of Fish and Wildlife.

Q. Have you looked at any of the underlying data on which Fish and Wildlife made its determination?

A. Like I said, I wasn't involved in the mitigation aspects of this study at all. I'm not certain that I'm the best person to testify to that.

MR. MARVIN: Okay. Just one second. I'll be right back.

(Mr. Marvin reviews his notes.)

MR. MARVIN: I have nothing further. Thank you.

JUDGE WALLIS: Let's be off the record for a minute.

(Break taken from 10:02 to 10:23 a.m.)

JUDGE WALLIS: Let's be back on the record

following our morning recess. We have some questions now from Mr. Cantrell for the witness.

MR. CANTRELL: Thank you, Your Honor.

CROSS-EXAMINATION

BY MR. CANTRELL:

Q. My name is Shawn Cantrell. I'm with Seattle Audubon. And you mentioned before that this is your first time testifying in an adjudicative process like this. This is my first time asking questions, so if I mess up, forgive me. And you have been doing great so I'm sure we will do fine.

I have A variety of questions, I'm going to hop back and forth between both your prefiled testimony and your rebuttal. I'll try to reference each as I go through.

First, in your prefiled testimony on page 7, down at the bottom, lines 24 through 26. This was mentioned before I think with Mr. Marvin --

MR. MCMAHAN: Sorry, Shawn. Is that the direct or the rebuttal testimony?

MR. CANTRELL: The direct, sorry.

BY MR. CANTRELL:

Q. Page 7 of the direct testimony, lines 24 through 26. You have that?

A. Yes.

Q. You reference that there are a handful of wind projects in coniferous forests, some of which are planned for unmanaged, natural forest. I'm wondering where? I know of projects that are planned for commercial harvested forests, but I'm not aware of any unmanaged, natural forests, I'm wondering where that one is?

A. It was my understanding that portions of Radar Ridge are not managed, but I could be incorrect on that.

Q. I do believe while there is desire to have it become natural habitated, currently it is a heavily harvested commercial area. Okay.

So then looking now on page 6 of your direct testimony, lines 3 through 6 that you have, you say that, "the data show that the Whistling Ridge actually receives lower use by raptors as well as all bird species combined compared to most other wind resource areas in the U.S., as well as the Pacific Northwest." Are you familiar with that?

A. Yes.

Q. So when you say that the bird species combined is less, but for specific species is that the case? So, for instance, Olive-sided Flycatcher, is this higher or lower than other wind resource areas?

A. Clearly some species would have higher use of Whistling Ridge than any forest-type species like the ones you mentioned. Olive-sided Flycatchers specifically would

have -- that species would have higher use at Whistling Ridge than other projects, but this statement refers to all bird species combined.

Q. So specifically this has a higher use of use by Olive-sided Flycatchers than any other project that you're familiar with?

A. Yes, in the Pacific Northwest.

Q. How about Vaux's Swifts, would that be the same?

A. I'm not 100 percent sure on that. I know there's been Vaux's Swifts observed at other projects in Klickitat County, I don't know about the relative abundances between the two.

Q. How about Pileated Woodpeckers?

A. Clearly, that one would only be found on Whistling Ridge.

Q. Okay. So if I could have you turn then to Exhibit 6.03, which is a one page chart that I think goes with this same narrative where it compares all birds. What is the purpose or meaning of this chart in your opinion of why you think this is a valuable part of the record?

A. It just shows how total bird use at Whistling Ridge compares to other projects that have similar avian use data. It helps put it in perspective from potentially avian risk issues.

Q. So this does not give any indication of the type

of species or the sensitive status of any of those species; is that correct?

A. No, this is simply just total bird use in relation to other wind projects.

Q. So the one on the far left, the Leaning Juniper in Oregon, without seeing the data it's possible that that high, very high bird use there could be all crows and pigeons and no sensitive species? I'm not saying that it is, but based on the way this is presented that --

A. Right, you don't know anything about the species composition of those grafts.

Q. So this chart really is not useful if you're trying to understand the impact of Whistling Ridge on any sensitive species per se that this chart doesn't -- it's not necessarily harmful but it provides no useful information in that regard; is that correct?

A. Not in regard to individual species, but in terms of overall bird risk as a whole.

Q. But, again, overall bird risk would you say that it's appropriate to be most concerned about sensitive species, whether they be ESA listed or candidate species or other such things? That that would be a form of avian impacts you would first look at the most, you know, at risk species and then work your way down until you get to the most common of species, you know, even invasive species like

starlings, that there would be an appropriate ranking there?

A. That would be one way to look at it or to rank it.

Q. Is that a way that you would suggest it be looked at?

A. We do have a fairly elaborate discussion of those sensitive species in our reports. So we did pull those out and give those separate looks in the report.

Q. Okay. So you have this chart here where you've done the comparison to other wind projects. Did you do any comparison of avian use of the project area to other commercial forestlands?

A. I'm not aware of any other similar avian use data collected at other commercial forestlands. The methods used to collect avian use data at wind farms are somewhat unique in that the plot radiuses are usually larger, the time periods are usually longer. If you are familiar with point counts conducted in forested environments to estimate bird use, they are typically done by using a radius of 50 to 100 meters, they are usually done in the interior forest, they're usually done for periods of five to eight minutes instead of 20 minutes. So, you're trying to compare apples and oranges to compare those two datasets, assuming there was point count data from other commercial forests.

Q. Assuming that there was other data would it still be useful to have a comparison? Or are you suggesting that

it would in fact be harmful or have no value to take that data and do a comparison?

A. Unless it was collected using similar techniques it would be very hard to compare those datasets.

Q. Is that a yes or a no?

A. I'm saying it would be hard. It would have little value without comparable methods.

Q. Okay. So you're familiar with the Wind Power Guidelines, WDFW's Wind Power Guidelines?

A. Yes.

Q. So I want to just show you one sentence out of -- excuse me, two sentences out of this where it talks about baseline studies and information review. It says, existing information on species and potential habitat in the vicinity of the project area should be reviewed and if appropriate mapped. Sources of existing information should include resource agencies, local experts and goes on. So did you consult with resource agencies such as the U.S. Fish and Wildlife Service or the Department of Natural Resources on their commericial forestlands that are in the vicinity to see if they had any comparable data?

A. They were consulted, and all the relevant data, I believe, is presented in the EIS, the draft EIS in terms of relevant wildlife data at the site.

Q. I'm not familiar -- I did spend a fair amount of

time looking through the DEIS. I did not see any data or references to consultation with the U.S. Forest Service or the Department of Natural Resources regarding avian use on their lands. Are you saying it's there and I just missed it or --

A. I'm saying that we didn't specifically request data from those agencies. And it's our opinion that data collected on site is always going to be the best predictor of risk.

Q. I agree with the data collected on site. But wanting to know the relative abundance of species such as a Vaux's Swift, or a Pileated Woodpecker, or Olive-sided Flycatcher are all considered sensitive species, wanting to know whether or not this site that's proposed for this project has a high abundance relative to comparable land in the vicinity or low abundance. It would be the value from, you know, sort of the value guide implied in the question there. I'm trying to see if you agree that that sort of abundance comparison would be of value, and if so did you do that?

A. It would be if the methods were very similar. As I pointed out, it's unlikely that the methods used by those agencies would be similar to what we used for the wind power risk assessments. So you might know if the species occur there, but trying to compare those abundance estimates

between two different methods would be somewhat problematic.

Q. So you did not, based on the fact that you thought it wouldn't be of much value or limited value, you didn't bother contacting Forest Service or DNR for that to see if they had such data, and if they had it that it was done in a similar study protocol that you used?

A. I did not get their data from them assuming they had some.

Q. On page 7 of your direct testimony, lines 20 and 21, you state, "I feel these data represent the best available science for predicting avian impacts at the project site." And, again, "these data," you're talking about the avian studies that you have done; is that correct?

A. Yes.

Q. So you feel that that represents the best available science without having any sense from other adjacent land owners of the relative abundance and species diversity in that general area to know whether or not you're building it in a green desert that has very limited resources, or it's a highly robust abundant diverse habitat compared to similar regions?

A. The data we evaluated is avian use data and avian mortality data collected at wind projects across the country in a variety of habitats. And the general relationships between higher raptor use and higher raptor mortality occurs

across all habitats, and there's no reason to expect it wouldn't be applicable on a forested environment.

Q. Again, I appreciate that, but that's in regards to raptors. I'm actually focusing on, again, the sensitive species that I highlighted already, the three in particular. Pileated Woodpecker, the Vaux's Swift and the Olive-sided Flycatcher aren't raptors; correct?

A. That's correct.

Q. And so comparison of raptor data really is not relevant for those sensitive species. And you've already said that those species don't occur in other wind power sites because we don't have habitat that's comparable, we don't have wind power projects constructed in comparable habitats. So there's really -- that comparison, I guess I'm struggling to see how you mesh those two?

A. That comparison wasn't made specifically for those sensitive species. They're discussed separately in the report and treated differently than the other portions of the report with regard to all birds and raptors.

Q. Let me jump ahead then. I may come back to this again. But since you raised it, what is the conclusion on those three species that you did? When you did make your comparison or analysis what did you determine for those three species?

A. I think we determined, based on the risk index,

which one of those would have a potential for turbine collisions, but then from a population perspective in view of the fact that, like I said, the project is in a sea of suitable habitat for those species and you wouldn't expect population consequences for those.

Q. So, again, you're suggesting that this area has low abundance of those species compared to other habitats?

A. It has low abundance of those species compared to other species.

Q. But, again, this may be the prime spot in the entire state of Washington for Vaux's Swifts, Pileated Woodpeckers, Olive-sided Flycatchers, based on the data you have, this may be the high point in the entire state; is that a fair assumption?

A. Unlikely given the habitat characteristics of that site.

Q. Could you describe the characteristics, the habitat characteristics that the Olive-sided Flycatcher most often utilizes?

A. In my experience they're most often associated with riparian corridors.

Q. Do you recall what the EIS in the application says is their typical habitat?

A. I don't recall off the top of my head.

Q. Talks about aged habitat where they're in a

forested area and then they go out into a clearing to feed and then come back. And it doesn't mention riparian habitat. So this project, if it would be built, doesn't it in fact create the very type of habitat that an Olive-sided Flycatcher would like to utilize?

MS. ANDERSON: Your Honor, if I may, can we have Mr. Cantrell just kindly direct us to where he's making reference so that Mr. Johnson and the Council can follow along?

MR. CANTRELL: Sure.

MS. ANDERSON: Are you referring to the application for site certification or are you addressing the draft environment document?

MR. CANTRELL: It's in both.

MR. MCMAHAN: What document should we look at?

MR. CANTRELL: The one I have in my hand. It will be quicker for me to find it in the DEIS. If I need to find it in the site certification I can take more time to do that.

MS. ANDERSON: We would be prefer to find it in the ASC.

MR. MCMAHAN: We will help you.

BY MR. CANTRELL:

Q. I will come back to that question when somebody else finds it for me.

So let me switch gears here then. On page 7 of your direct testimony starting on line 24, going down to line 26. And then, again, on page 8, lines 8 and 9. Here you say that this project is -- let me find it. In particular if you look at page 8, lines 7, 8 and 9, the sentence that says, "comparison of avian usage in natural forests would add little to the analysis of the project's habitat conditions." So are you aware of any party in this proceeding that wants to compare this to a natural forest?

A. It has been suggested that we try to compare avian use at this site to a natural forest to try to put it in perspective. Again, I mentioned the problems with using the difference in methods between what is typically done in managed or natural forest versus what's typically done for a wind project.

Q. You said it had been suggested, who suggested that?

A. I believe Seattle Audubon said that in their preliminary comments on the draft EIS.

Q. I know that I suggested in our comments specifically to compare it to other comparable commercial forest landscapes but not an unmanaged landscape.

A. That might be the case. But, again, I mentioned the problems with using different methods to look at abundance.

Q. Again, if you look at your statement here on page 8, you say, "a comparison of avian usage in natural forests would add little to the analysis of the project's habitat conditions." Again, that's a very different -- that sort of is what I learned in debate class in high school is setting up a strongman. Saying, well, they're talking about natural forests so that's not what our comments were regarding. Our comments were regarding comparable forest that have had multiple generations of harvest. So I'm trying to understand where this comment comes from and its relevance?

A. I guess it was my misunderstanding that you guys were looking at data from natural forests compared to this site, not other managed forests.

Q. Okay. If you look to page 43 in your rebuttal testimony, lines 1 to 4, you state, "Given the number of surveys conducted and the small numbers of Olive-sided Flycatchers, Vaux's Swifts, Western Bluebirds and Pileated Woodpeckers recorded during the surveys, the data do no suggest the site is in an area where these species are concentrated." Are you familiar with any place where these species are concentrated?

A. I'm saying that in relation to other bird species. These species were among the lowest of the abundance estimates, so they are not concentrated compared to other bird species on the site.

Q. You're not saying that this is of low concentration compared to any other place in the state? You're simply saying just compared to ravens or some other species that this is in lower abundance, has a lower abundance at this site than other species, but you're not saying this is a low abundance site compared to other sites in the region?

A. I'm saying the species have very low use of the site is what I'm trying to say there.

Q. Do you have knowledge or opinion of whether or not this is a site that has high or low concentrations compared to other sites, do you know?

A. I don't know.

Q. On page 43, lines 24 through 26, you state, "To be clear, WEST's predictions of impacts to birds was based on avian use estimates (the number of birds) in comparison to wind energy facilities with similar avian use and postconstruction fatality estimates." Again, this is probably going to sound familiar, this sort of gets back to a question I asked before. So you really don't have any comparison for the forest related species such as Olive-sided Flycatcher, etc.; correct?

A. That's correct.

Q. So, again, as it relates to these species this comparison really is not illustrative of much of anything,

is it?

A. Again, you know, in relation -- in relation to avian use there is a relationship between avian use and mortality. So the fact that these species occurred in very low numbers is relative to other bird species but suggests -- would not suggest that they would experience high fatality rates.

Q. The report talks about -- in the application you talk about the wind-swept, rotor-swept area. And in your analysis you identify which species occur in which different areas. Do you recall where the Olive-sided Flycatcher, where it was most often, or always, or never in the rotor-swept area?

A. I'd have to look that up. I can't remember exposure indexes for every single species.

MS. ANDERSON: Mr. Cantrell, again, could you kindly, if you're making reference to a particular report or page, could you indicate what report you're looking at so the Council, SEL and CIL can follow along?

MR. CANTRELL: I'm referring to his testimony here on page 43.

MS. ANDERSON: Of his rebuttal testimony?

MR. CANTRELL: Of his rebuttal testimony, lines 24 through 26. It says it's based on avian use estimates since I'm asking him what avian use estimates he was using for

that comparison.

A. The avian use estimates are based on other wind projects where we had both preconstruction avian use estimates and and postconstruction fatality data.

BY MR. CANTRELL:

Q. Did you, in your testimony, I'll find the citation, but in your rebuttal testimony do you recall talking about Partners in Flight and their population estimates? I'm probably going to mess up the terminology there, but where you talked about coming up with the best available science for estimated number of birds and the Partners in Flight was a place that you referenced?

A. The Partners in Flight data was, again, the breeding bird survey data I referred to which was strictly used for population estimates of birds in Klickitat County.

Q. Okay. So are you familiar with the Partners in Flight breeding bird data regarding the Olive-sided Flycatcher or Vaux's Swift?

A. I haven't looked at those species specifically.

Q. So on page 40 of your rebuttal testimony, lines 21 through 26, there's several sentences there, but what I take is the gist of it is you say that WEST's work is not only consistent but implements the WDFW Wind Power Guidelines. Is that a fair summary of that statement there?

A. Yes.

Q. So when the guidelines suggest that you ask for data from other agencies, such as DNR and U.S. Fish and Wildlife Service, is there a disconnect there?

A. I think in order to request data you need to make sure the data you're requesting is collected in a similar manner so that you can compare it. And I know for this EIS that all the relevant data sources from adjacent landowners were evaluated for appropriateness for inclusion of an EIS.

Q. So can you reference where the Forest Service and DNR data is referenced in either the EIS or the application or any part of this?

A. I wasn't involved in preparing the DEIS.

Q. But didn't you just say that it was included in the DEIS?

A. Well, I'm not sure there was any data available. I know there was Spotted Owl data that were asked for and that type of thing.

Q. But for other sensitive species do you know whether or not either you, as the avian study person, or in the DEIS, whoever that was for the agencies, inquired as to whether or not other data was available?

A. I'm not sure.

Q. Are you aware that the Applicant's desire is to permit turbine strings rather than specific turbine locations?

A. I'm not involved in that.

Q. Are you aware of that I'm asking?

A. I am now.

Q. Okay. So do you feel that that is consistent with the Fish and Wildlife guidelines that state -- I'll get the cite here for you. The Wind Power Guidelines say that the primary purpose of preproject assessment studies include "design the project layout (e.g. turbine locations) so that impacts on biological resources are avoided and minimized"?

MS. ANDERSON: Mr. Cantrell, can you, again, give us the page you're reading from?

MR. CANTRELL: This is the Department of Fish and Wildlife, page 3.

MS. ANDERSON: Thank you. Got it.

BY MR. CANTRELL:

Q. So there they specifically say that, you know, helping design the specific turbine locations is part of the preproject assessments. You're saying that you weren't involved in any preproject assessment related to turbine placement?

A. What I'm saying is our data did not suggest any high use areas for raptors or other birds that would warrant, you know, avoiding placing turbines. The one area that our data did suggest be avoided, to some extent, would be the wetlands. The bat activity levels were higher.

Q. Do you think that it's appropriate and consistent from a biological point of view to permit corridors as opposed to specific sites for turbine locations?

A. In this situation because we didn't find any areas of higher use by birds and I think it is appropriate. Another issue with this managed forest situation is this forest is going to change significantly throughout the life of this project as they clear-cut areas and as trees come back. So the habitat and locations of habitat features are going to change throughout the life of this project.

Q. Okay. The Applicant, Mr. Spadaro, stated in his testimony on Monday that they were going to limit the size of turbines that they were going to be using. They previously had 1.5 to 2.5, I believe. But now they are committing to not having turbine sizes less than two megawatts. Are you familiar with that statement or that indication by the Applicant?

A. I am familiar with that.

Q. Okay. Did the Applicant consult with you in that process in deciding whether or not it would be biologically desirable to reduce the number of turbines?

A. Well, I think it's intuitively obvious that the fewer number of turbines you have the less impact you would expect.

Q. Did they consult you about this?

A. Not specifically, they didn't consult me on turbine sizes.

Q. Did they consult with you on the number of turbines?

A. They didn't consult with me on the number of turbines. But, again, these issues are -- it's all intuitively obvious with the fewer turbines you have less impacts. I'm not sure it needs consulting to verify that.

Q. Okay. They mentioned that five -- they would reduce the number of turbines in the A-string and eliminate, I believe, it was the E and F-strings. Did they consult with you about the biological efficacy of those versus any others or any discussions with you regarding which turbine locations might not be necessary or appropriate or any prioritization from a biological point of view?

A. Again, our data did not suggest there was high use areas that warrant being avoided with turbines. So I wouldn't see a need for them to consult on different turbine locations when in actuality our data suggested fairly uniform bird use across the site.

Q. You don't think they needed to, and they in fact did not, consult you on that?

A. Our data would not suggest that we need to be consulted on turbine locations.

Q. Okay. I wanted to turn to the topic of a

Technical Advisory Committee. On page 38 of your rebuttal testimony, lines 7 and 8, you state, "The project Applicant's prefiled testimony indicates that it agrees with the propriety of a TAC. However, telling EFSEC who should sit on a TAC is not well-taken, and I strongly counsel against it." Could you explain what you mean and why you feel that way?

A. That is in reference to Dr. Smallwood's testimony where he said really the only people that should sit on TACs are people that have intimate knowledge of avian and bat interactions with wind turbines. I counsel against that for a couple of reasons. For one, there's very few people like that, you know, in the U.S. right now. That's limited to a handful of individuals that work for state, federal and natural resource agencies.

And another reason I counsel against it is it goes against the Washington guidelines which state that the TAC should be comprised of representative stakeholders including the wind industry, landowners, local environmental groups, county and local agencies. And several of those members from those communities would not have substantial knowledge of avian and bat interactions.

Q. So you were not suggesting that EFSEC should avoid doing this sort of stakeholders that you just articulated that are mentioned in the Wind Power Guidelines, you think

it is appropriate to have those different entities identified specifically by the Council in the formation of a TAC?

A. I do believe that's an appropriate membership for the TAC.

Q. Do you feel it's appropriate for EFSEC to identify that, or it should be left up to somebody else later on to decide, or is it an appropriate condition within any site certification?

A. You know, I really don't have an opinion either way on who should select the TAC. I think it should be a collaborative approach between the developer and the regulatory agencies so that they all agree on who should be asked and what membership they should represent.

Q. Just to be clear, you're saying that, "telling EFSEC who should sit on a TAC is not well-taken," you're not suggesting that EFSEC shouldn't be able to at least collaborate on it, you're just talking about being told this person or that person by Mr. Smallwood --

A. Basically what I was trying to say is the TAC should be comprised of more than just people with a lot of experience in bat and turbine interactions and bird interactions.

Q. Okay. Could you describe in your professional opinion what's the appropriate scope of a TAC's

responsibilities or authority?

A. I think the TAC should review protocols for postconstruction monitoring that's going to be done and determine the appropriateness of those. I think the TAC should review data periodically on annual reports to determine the need for future monitoring, maybe to change the scope of the monitoring. For instance, if one species or one group appears more susceptible than others then maybe you could focus on major impacts of those species in subsequent years.

Q. Would you have a suggestion of the lifespan of a TAC?

A. You know, that's kind of -- I think that's in the regulatory arena.

Q. From a biological point of view do you think there's a value in having an entity that has this expertise that you were just describing in the monitoring and other responsibilities and roles to be there for one year, five years, 20 years, the life of the project? From a biological point of view what would be your recommendation?

A. From a biological point of view I would recommend that the agreed upon number of years of data collection occur, and then at the end of that a decision should be made. You know, obviously, if you have minimal impacts there probably isn't a need to keep a TAC for the life of

the project. I think it should be based on data collected at the site.

Q. Okay. In your experience have TACs had successful recommendations that have led to alterations of project operations after they have been built?

A. As I said, for bats there is a no mitigation measure in terms of curtailment to reduce mortality. There's been preconstruction survey data used to guide turbine placement before construction.

Q. I want to make sure I understood what you said a moment ago and then link it to that comment. So one of your suggested roles for a TAC would be to review the monitoring and make recommendations for any, you know, changes or additional studies or activities that may need to take place?

A. That's correct.

Q. And I'm asking you are you aware of any TAC in any, you know, permitted wind project where those types of recommendations from a TAC have then been implemented by the project operator?

A. Yes. I'm working on projects in Wyoming that have eagle issues, and there's been a lot of recommendations from the TAC that are all being implemented by the developer.

Q. Could you give me just one or two examples of those sort of recommendations?

A. Yeah. We increase -- we started doing avian use surveys at every turbine string once an eagle is found on that turbine string. And those are being done on a weekly basis year around. We were searching approximately a third of the turbines. For any turbine string where a Golden Eagle fatality was found we automatically started searching all the turbines.

Q. Great. Thanks. Again, in the WDFW Wind Power Guidelines, page 6, the very last paragraph it states, "The range of potential adjustments to the monitoring and mitigation requirements should be clearly stated in the project permit." Would you agree with that statement?

A. I think typically there is a monitoring protocol that's put together as part of the permit application.

Q. I'm asking from a biological point of view your expertise. Do you feel that the range of potential adjustments to monitoring and mitigation requirements should be clearly stated in the project permit, meaning that when this body if they decided to license this project or give it a site certification or recommend the Governor do it, you know, that site certification? According to the guidelines, my reading of it, here it says that whatever monitoring and mitigation requirements are there, and the potential adjustments to those based upon the TAC and ongoing monitoring, should be clearly stated in the project permits.

From a biological point of view do you agree that that's an advisable desirable thing?

MS. ANDERSON: Mr. Johnson, do you have a copy of the regulations in front of you that he's directing you to?

MR. MCMAHAN: Guidelines not regulations.

A. I think the adjustments should be made in relation to what's found during monitoring.

BY MR. CANTRELL:

Q. Do you think it's wise from a biological point of view for the permitting, and in this case EFSEC, putting that in the permit up front versus trying to go back and have a reopener, or whatever regulatory nightmare there might be, to try to have it put in place later?

A. I'm not sure what they could put in the permit, like, in terms of turbine curtailment and that type of thing. I think those types of decisions should wait until after data is collected to show there is in fact an impact to be worried about.

Q. The guidelines list several, and I can read it for you if you don't have it in front of you anymore, it says following examples -- this is, again, on the bottom of page 6, going onto the top of page 7. It says, "reducing or eliminating the source of the impact, management plans, additional monitoring or research focused on understanding the identified impacts to particular species," the example

given bats, "and creation of raptor nesting structures."

So these are the sorts of things that the guidelines are recommending be considered before the permit is issued and included in the permit. And I'm asking you, I'm not sure what your answer is, but do you think that's a good idea, bad idea or don't have an opinion?

A. I think you should be careful here because it doesn't make sense to recommend turbine removal before you have even data -- even have any data to suggest that that's an appropriate mitigation tool.

Q. Again, the list I just read from the guidelines don't mention turbine removal?

A. You know, I was assuming reducing or eliminating the source of the impact would basically be removing turbines.

Q. Okay.

MR. MOSS: Judge Wallis, do we have these guidelines that we have heard repeated reference to as part of our record?

MS. ANDERSON: Your Honor, I have colored copies for the entire council and anybody else that would like them if I may approach?

JUDGE WALLIS: Very well.

MR. CANTRELL: I assumed that they were incorporated in, maybe I was mistaken, because they're

referenced by his original testimony. They're also mentioned in his rebuttal testimony. They've been mentioned and cited by other counsel. So I was following their lead, sorry if I misstepped.

MR. MOSS: No. I just wanted to know if they're in the record and where so we could refer to them later.

MR. CANTRELL: Thanks. Sorry.

MR. MOSS: Apparently they're going to be offered as an exhibit?

MR. KAHN: We certainly have no objection if it was included in the record. It seems pertinent.

MR. CANTRELL: Okay. So are you familiar with --

JUDGE WALLIS: Just a moment, Mr. Cantrell, let's find out where this fits in the series of exhibits for this witness.

MR. CANTRELL: Promise, I'm almost done.

JUDGE WALLIS: What's the next available exhibit number for this witness?

It appears to be 6.09. Is that correct?

MR. KAHN: Yes.

JUDGE WALLIS: Very well. Let's mark this for identification as 6.09. It is a multipage document with the cover page designated Washington Department of Fish and Wildlife Wind Power Guidelines, April 2009.

(Whereupon, the documents referred to

were marked as Exhibit No. 6.09.)

MR. CANTRELL: Thank you, Your Honor.

BY MR. CANTRELL:

Q. I realized from your earlier testimony in response to questions that you were not directly involved with the identification of the proposed habitat mitigation parcel; am I correct?

A. I did not have any involvement in that.

Q. Are you familiar in any regards? Have you seen the exhibit, I believe it is Exhibit 1.03R, have you at least seen that one where it has photographs of the proposed parcel?

A. I haven't seen that. We do have the letter that Washington Department of Fish and Wildlife Service wrote on December 20th that stated that the mitigation was acceptable for this project.

MR. CANTRELL: Could someone? Is it possible for him to get to copy of that exhibit?

MS. ANDERSON: The letter?

MR. MARVIN: No, he's talking about the photographs.

MR. CANTRELL: The photographs of the mitigation, the proposed mitigation habitat. I can give him mine if no one else has any.

MR. MARVIN: They're attached as exhibits to

Mr. Spadaro's.

MS. ANDERSON: Okay.

MR. CANTRELL: I should wait and give him mine?

MS. ANDERSON: We're getting it.

BY MR. CANTRELL:

Q. Okay. So if you could take a moment and look at those photos.

JUDGE WALLIS: For the record, what exhibit?

MR. CANTRELL: This is Exhibit 1.03R. It's a series of photographs of the -- I think there's at least six or nine, I don't know the exact number, but a number of photographs of the proposed habitat mitigation, approximately 100 acres.

BY MR. CANTRELL:

Q. So did you have a chance to take a quick look at those photos?

A. Uh-huh.

Q. Would you describe that as like-kind habitat to the project site?

A. Actually, I would probably describe it as better, better habitat than the project site.

Q. I guess I'm -- not the quality but the habitat-type. Is it shrub-steppe? Is it coniferous forest? Is it marine wetlands? You know, is it the same type of habitat?

A. It appears to be more open coniferous along with Oak forest than the project site.

Q. So are you familiar with the suggested habitat mitigation be of like-kind?

A. It is my understanding that it should be of like-kind, but if you can come up with something better than what you're building the wind project on then that's more than acceptable.

Q. You're suggesting this is better habitat in your very, obviously, rudimentary analysis but --

A. Obviously, I'm just looking at a couple photos. So I think I would rely more on the December 20th letter that WDFW wrote stating that the mitigation was in fact acceptable and should mitigate all impacts associated with the project.

Q. In your time on the project site are you aware of any lands that provide good coniferous forest habitat in the project area?

A. The whole site is coniferous forest, but, again, it's degraded due to commercial forestry practices.

Q. The entire project site and adjacent SDS lands are all degraded?

A. I'm not sure about adjacent sites. I'm just saying the site is used as a commercial forestry site.

Q. I guess I'm asking in your time on that site did

you encounter any areas that in your professional judgment you thought this looks like, you know, for a commercial forestland this looks like it could be a good habitat, did you encounter anything of that nature?

A. Nothing rings a bell.

Q. Okay. Moving on to a little bit more about monitoring and postconstruction studies. On page 29 of your rebuttal testimony, lines 10 through 12, you say, "To date, no studies of avoidance behavior have been conducted at wind energy facilities in forested landscapes; all have been done in open grassland and shrublands"?

A. That's my general understanding, yes.

Q. Do you think there would be a value in having an avoidance behavior study done in a forested landscape?

A. I think it would help inform decisions for future development in forested landscapes.

Q. So then if you turn to page 37, line 21, and going from there all the way through the first line on page 8, so the last paragraph and the first line on the next page, it seems as though you're saying somewhat different things, which is now that sort of study would not be particularly helpful. There's no indication that suggested there be appropriate condition for the project to do that sort of study. Am I misreading your statement here?

A. No, you're not. I was talking about the

utilization surveys that were done prior to construction were fairly broad scale. I'm not sure if you were really doing a displacement study it would be appropriate to discontinue those utilization surveys.

Q. So if you were going to suggest a type of displacement study, postconstruction displacement study what -- how would it differ from the preconstruction avian surveys that you were a part of?

A. You would probably want to do something like a gradine analysis study where you look at bird density as a function of distance from turbines and see if it actually does decrease the closer you get to turbines.

Q. You're saying that something along those lines or something else, but that a displacement study would be of value particularly since there are none in a forested landscape that you're aware of? And this is, you know, the current place appears to be the, potentially, first project built in a forest, so this would be a good place to do that sort of study?

A. I think, you know, it would help, yes.

Q. Great. Again, on page 35 of your testimony, lines 11 through 13, you said, "There is no reason to believe that the Whistling Ridge Energy Project cannot and will not be appropriately conditioned, operated and managed with monitoring oversight provided by EFSEC in response to its

own unique features."

I'm wondering if you could suggest what you feel will be the appropriate conditions from a biological point of view? I realize there's all sorts of other visual or many issues, but just on the biology, particularly the avian piece, what recommendations or suggestions would you have for an appropriately conditioned permit that EFSEC would issue and then monitor in the forest?

A. I think, obviously, you would want to have an operational monitoring program to look at what the actual impacts are with this site. And any future decisions should be based on the data collected during those operational monitoring programs.

Q. So in response to a question a few moments ago you mentioned that you were hesitant--at least I think is the way you might have phrased it--to put too much into the permit at the outset not knowing exactly what conditions are so you wouldn't want to sort of lock in too much is that --

A. I believe any conditions should be based on actual data, so I think the first condition is to set a reasonable monitoring program in place, and then base future conditions on the results of that monitoring.

Q. So if you're hesitant to have, you know, fairly specific conditions in the application up front would you then be supportive of a reopener clause so that based upon

whatever monitoring happens that there's an opportunity to actually implement changes?

A. I believe that's typically the case, is future decisions on conditions are based on results of the monitoring.

Q. But specifically an opportunity for the regulatory entity, in this case EFSEC, to come in and say, okay, we have three years, or five years, or whatever of data and reports and it's different than what we expected based on the preproject thing, so we're going to come in and we are going to say you need to do this study, or this curtailment, or this cut-in speed, or whatever?

A. I think that's what is expected of this process, yes.

Q. Great. Okay. Page 33, lines 21 and 22, again, this is of your rebuttal testimony. You say, "One area where there is a dearth of cumulative impacts information is that of wind energy projects built in forested habitats." Given that statement, do you agree that some sort of ongoing or postconstruction analysis or study of the project would be valuable, not just for the direct impacts here but for the future cumulative impact studies for other projects that may come down the road if this one is built?

A. Yes. I mean the cumulative impacts analysis in Klickitat County wouldn't have been possible if we wouldn't

have had so much mortality data from all those projects in Klickitat County.

Q. So, again, you mentioned the mortality studies. Would you also think live birds, knowing how many are there, how many are displaced, if any, what's the usage after its construction, would that be an appropriate piece of any potential cumulative impacts information?

A. Yes, it would.

Q. Great. I really am almost done. Page 39, lines 16 and 17. Hoping you can explain just a little bit more detail than what you state here where you said, "Smallwood is also incorrect in assuming that forest cover will impede carcass searcher effectiveness, thereby reducing awareness of the need for mitigation."

Am I correct in you saying that you can be just as successful in finding bird carcasses in a forested landscape than you can out on shrub-steppe or on cropland?

A. You can if you take certain measures to improve success. We're working on forested projects in the Eastern U.S. where we're using mowers, and we're maintaining low vegetation around turbines to do searching. So we have very good success finding carcasses, certainly better or as good as shrub-steppe or grassland.

Q. Are you familiar with the Applicant's proposal for what level of vegetation they would maintain around the

project?

A. Yes, to some extent I am.

Q. Do you think that what's been proposed by the Applicant is consistent with being able to have successful mortality studies and carcass search success?

A. I think it might be, but really without seeing it on the ground it would be hard for me to make that determination. It would certainly help because they plan to maintain low vegetation conditions around the turbine.

Q. You're aware that it's not a simple circle, there's more of an hourglass shaped configuration that they're proposing?

A. Right. We had that same situation back East where we had un-uniformed search plots.

Q. So you would not search -- where there are growing taller trees you wouldn't search then? Is that -- I'm trying to understand how -- you know, are the birds that collide are they just as likely to fall anywhere in a radius or are they going to fall in the hourglass shape?

A. You know, there isn't a lot of data to suggest where they might fall.

Q. So the hourglass shaped habitat may in fact make it more difficult to find the carcasses then?

A. I really can't say if it would make it more difficult or not.

Q. Okay.

A. You can design a carcass search study to take into consideration all those factors and account for them when you're doing your mortality estimates.

Q. You mentioned one other carcass survey methodology other than the standard--well, my understanding anyway of standard--which is you have humans walking transects looking for bird carcasses. You mentioned something about a mower, could you talk a little bit more about that?

A. A mower. Yeah, the mower obviously isn't used to search for carcasses, but we're doing similar studies in corn and soybean fields in the Midwest. And, obviously, a corn and soybean field is virtually impossible to search in late summer or early fall. So we're either using mowers or herbicides to clear plots of corn and soybean so we can effectively search for fatalities.

Q. So the actual search protocol, the activity itself is not particularly difficult, it's still humans walking transects looking for dead birds?

A. Correct. But we're just clearing plots to increase their ability to find carcasses.

Q. Are you familiar with the University of Washington's Center for Conservation Biology and their K-9 investigative entities, dogs that go out and search for animals?

A. I am not.

Q. Would you have any opinion on whether or not it would be a useful study to have dogs go and be incorporated, at least on an experimental basis, to see whether or not they're more successful at finding dead birds?

A. You know, it's been requested. You know, dogs that are trained to find dead birds are not very common. I have had two Brittanys, and I love to hunt birds. And they're trained to find live birds. They just ignore things that are dead. So you have to almost start with puppies, young dogs, and train them from the getgo to find carcasses.

Q. Again, I guess I would suggest that you reconsider that, you know, as you're going forward anyway, because the University of Washington Center for Conservation Biology has trained dogs that find scat, carcasses, owl pellets, you name it, they'll find it. All they want to do is chase a tennis ball afterwards. That they're easy to train.

Last question for you. On page 2 of your direct testimony on line 8 you mention the 76, at least 76 projects that you've worked on. Is that number still generally accurate?

A. Yes.

Q. In any of those projects have you recommended that the project not be built?

A. I don't believe so, no.

Q. Have you recommended project alterations or mitigation actions that weren't implemented in any of those?

A. No, I can't think of any instances where that's happened.

MR. CANTRELL: That's all I have, Your Honor. Thank you.

JUDGE WALLIS: Very well. Is there objection to receiving 6.09?

(Exhibit No. 6.09 offered.)

MS. ANDERSON: I have no objection, Your Honor.

JUDGE WALLIS: The document is received in evidence.

(Exhibit No. 6.09 admitted.)

JUDGE WALLIS: Is there redirect?

MS. ANDERSON: Your Honor, a few items. I would like --

MR. KAHN: Excuse me, Ms. Anderson, not to be out of order, I have a few questions based on Mr. Cantrell's and Mr. Marvin's testimony. I don't know if it's appropriate to do it now or after the Applicant questions Mr. Johnson? I just wanted to let you know I do have a few questions.

JUDGE WALLIS: Is there a preference?

MS. ANDERSON: Carry on.

JUDGE WALLIS: Mr. Kahn.

MR. KAHN: Thank you.

///

RECROSS-EXAMINATION

BY MR. KAHN:

Q. Mr. Johnson, on this last point about the searching for the carcasses, would any carcasses of birds be found beyond 50 feet from the turbine?

A. Yes.

Q. What about beyond 150 feet?

A. Yes.

Q. In Mr. Spadaro's prefiled testimony, Exhibit No. 1, he states that between 50 -- this is page 10. "In the area between 50 and 150 feet from the turbines...Tree and vegetation heights in this area would be limited to approximately 15 feet above the elevation of the base of the turbine."

MS. ANDERSON: Your Honor, could Mr. Kahn please give Mr. Spadaro's testimony to Mr. Johnson. He doesn't have it.

MR. KAHN: I want to make sure I have a copy of it as well.

(Document handed to the witness.)

BY MR. KAHN:

Q. Again, as I was saying, this is on page 10 beginning at the very top, "Tree and vegetation heights in this area"--this is between 50 and 150 feet--"would be

limited to approximately 15 feet above the elevation of the base of the turbine." If you have a growing forest with 15-foot high trees over the base of the turbine will that create some difficulties for finding carcasses?

A. You know, there's ways to overcome finding carcasses in this situation. I mean we do this, again, in the corn, soybean agroecosystems where we have done studies where we have just searched turbine paths and roads. And with the access roads you can search up to any distance you want from a turbine, up to 180 meters if you want to. And we found that there's a strong correlation between fatalities picked up off roads and turbine pads alone versus these plots I have talked about where the entire corn and soybean fields have been cleared. There's a strong correlation between those two. So there's ways you can get around difficult searching conditions.

Q. Are there roads that are going to be near every turbine in this project?

A. Yes.

Q. Every single turbine?

A. Yes, every turbine has to be accessed by roads.

Q. Okay. Where are those roads going to be?

A. Down the turbine strings.

Q. Okay. So if you go between 50 and 150 feet is there going to be a road for every turbine between 50 and

150 feet?

A. There should be, yes.

Q. Okay. All right. We'll have maps that will show that. My question, again, though was if you have a growing forest of 15-foot high trees above the base of the turbine will that present difficulties in finding carcasses?

A. You know, without actually going and visiting the site I can't say one way or another.

Q. Further, Mr. Spadaro's testimony was that, "In the areas between 150 and 500 feet...tree heights would be limited to approximately 50 feet above the elevation of the base of the turbine." Same question, if you have trees that are 50 feet above the elevation of the turbine will that make finding carcasses difficult?

A. You know, it depends on how dense the trees are, how open the ground is under the canopy, all kinds of factors. In fact, it might be very easy to search the ground on some of those.

MR. KAHN: Okay. That's all I have. Thank you.

JUDGE WALLIS: Redirect.

MS. ANDERSON: Yes, thank you, Your Honor. Two things. At this time I don't have any redirect. If Mr. Cantrell has any follow-up questions in response to Mr. Kahn's then I'm reserving the right to follow up with the witness. And Mr. Cantrell is indicating no. I would

also say the same for Mr. Marvin, if he has additional questions for the witness then I am reserving the right to redirect in response to those.

The second item, there appears to be some confusion in the record. Exhibit 6.08C was admitted over my objection in expression of concern. Those three emails we have no context within which to put them. We don't know who the people were that were writing those comments. We don't know if they were selectively inserted into the record as negative comments without a correlating insertion into the record of any kind of positive comments. We have no information whatsoever of the training, the experience, the responsibility level of the people that were exchanging those emails.

What we do know is that the agency, WDFW, in response to concerns about best available science--these surveys that were performed and the mitigation project--have been formalized, not in emails in between staff people we don't know about, but from the agency under the agency's authority.

I would ask if this Council is interested in having DFW's definitive conclusions on those topics that this Council consider including those three letters in this record. And I believe they have been mailed to the Council. And they are specifically a letter to Mr. Al Wright from

Travis Nelson, the Renewable Energy Section manager of DFW --

MR. KAHN: Your Honor, I'm going to object. We've had six months to comprise the record here with all the exhibits attached to declarations. If these were appropriate to be submitted by the Applicant they should have been done so in a timely basis. You've already admitted the document, and I think this is going a little bit beyond where we're suppose to be.

MS. ANDERSON: Your Honor, same response regarding the emails that Mr. Kahn revealed on Monday. If this is substantial information relative to this Council's decision I believe that it is an important consideration for you to have the final statement from the agency from the director of the Renewable Energy Section at DFW.

MR. KAHN: Then they should have been submitted in a timely fashion as opposed to on the fourth day of the hearing.

MS. ANDERSON: Your Honor, if I may --

JUDGE WALLIS: I think we have enough information to make a ruling. The documents were used in cross-examination. They provide context for that examination. Beyond that I do not take it that they will be critical in analyzing the truth or lack of truth in the document itself in the language that's used. The witness

has had the opportunity to comment on them, and I don't see the need to expand the record in the manner that you're suggesting.

MR. KAHN: Thank you. And, Your Honor, I misspoke a moment ago when I said I have no more questions. I do have a few more if I may have a moment here?

MS. ANDERSON: Your Honor, I am going to object to that. We have been back and forth on this. I reserved redirect. Both the parties who had an opportunity to take at this witness a fourth time have indicated they don't have anything further.

MR. KAHN: And there have been no questions since I said that. Nothing has happened other than some argument, so this would just be a continuation of where I was a few moments ago.

MS. ANDERSON: I maintain my objection. I would like the Judge to rule.

MR. KAHN: I have three or four questions and that's about it.

JUDGE WALLIS: I'm going to allow the questions.

MR. KAHN: Thank you.

RECROSS-EXAMINATION (continued)

BY MR. KAHN:

Q. Mr. Johnson, is it true that raptors are likely to

move from the Columbia Plateau to the Whistling Ridge site during the normal course of their lifestyle?

A. Probably not likely.

Q. No Golden Eagles will come from the Columbia Ridge Plateau to this site?

A. There may be some interchange. We found the Golden Eagle use of the site was extremely low.

Q. But present?

A. But present, yes.

Q. So it possible that this site will contribute to cumulative impacts to some bird populations along with the other projects on the Columbia Ridge Plateau?

A. My intuition is it would be fairly minor just because it's in a completely different ecoregion, it's a different habitat, different bird assemblages.

Q. But they do use the area, your surveys have shown that?

A. Yes.

Q. Your surveys -- there was testimony about the surveys you did and that it was done over -- you did one survey per season but not in the same year; is that correct?

A. That's correct.

Q. Is that consistent with current WDFW guidelines?

A. It was consistent with WDFW guidelines at the time. At the time that we did those surveys we started in

2004, and we were working under 2003 guidelines, which at that time only recommended or suggested one season of avian use surveys. After we did that--according to the guidelines we did the fall survey which met the guidelines--the client decided we needed to do more surveys. And at that time he voluntarily conducted more surveys even though they weren't technically required by the guidelines.

Keep in mind, all these surveys were conducted and completed before the 2009 guidelines came out.

Q. The statement is true that currently the protocol you used is not consistent with the current guidelines? Yes or no question.

A. Yes, it is current, it is consistent.

Q. There was also some questions about the surveying of being along the roadways. Did you adjust the survey results from the roads to the nonsurveyed areas away from the roads?

A. Now I think you're talking about the breeding bird survey data?

Q. Yes.

A. I did not adjust those numbers. Those population estimates were calculated by Partners in Flight, not us.

Q. You made no attempts to adjust the surveys from the road use -- the numbers from the road use to the nonroad areas?

A. I'm not even sure how you would do that.

MR. KAHN: Okay. Thank you, that's all I have.

JUDGE WALLIS: Is there anything further?

MS. ANDERSON: No, Your Honor, I have nothing further.

JUDGE WALLIS: Very well. Mr. Johnson, thank you for appearing today. You're excused from the stand at this time. Let's be off the record.

(Discussion held off the record.)

JUDGE WALLIS: Let's be back on the record. Mr. Marvin.

MR. MARVIN: Thank you, Your Honor. And I apologize. We are moving at this time that the Council take judicial notice of the 2010 U.S. Fish and Wildlife Wind Power Guidelines which are referenced numerous times in the materials that have been submitted to you and the Council.

JUDGE WALLIS: Is there any objection to that?

MS. ANDERSON: I have no objection to the Council taking recognition.

JUDGE WALLIS: Let the record show there is no objection. We will take official notice of that document. Mr. Marvin, I will ask that you provide a current copy of the document so that that will be contained in the Council's file.

MR. MARVIN: Is there a time frame in which you

would like that to be done?

JUDGE WALLIS: Eventually, yes, not at this moment.

MR. MARVIN: I will make arrangements for that.

JUDGE WALLIS: Within a week after the conclusion of the oral hearings, please.

MR. MARVIN: Thank you, Your Honor.

MR. KAHN: Your Honor, while we're on the topic of official notice, the exhibit that Ms. Anderson pointed out, the 2009 WDFW guidelines, which you have accepted into the record, we ask that the Council take official notice of the 2003 guidelines as well so we have a complete record.

MS. ANDERSON: I have no objection to that.

JUDGE WALLIS: Very well. Same protocol on that. If you would provide a copy within a week after the conclusion of the hearing.

MS. ANDERSON: Your Honor, if we're taking judicial notice of matters, is the Council also taking judicial notice of WDFW's final opinion letters?

JUDGE WALLIS: I'm sorry, I didn't catch that.

MS. ANDERSON: Is the Council also willing to take judicial notice of WDFW's final position letters on matters regarding avian impacts?

MR. MOSS: Judge Wallis, I would ask on behalf of Council Members that we take that matter under advisement,

give an answer after the lunch break.

MS. ANDERSON: Thank you.

JUDGE WALLIS: Mr. Reams is our next witness. Could he take the stand at this time, please.

MR. KAHN: Your Honor, as to Mr. Moss' comment about the Council taking it up, will there be any opportunity for the parties to address it or will you just come back after the break and give us a ruling? Because if there's no opportunity I would like to point out the rules that apply here, WAC 463-30-230, lists the categories of documents that official notice can be taken of. And I don't believe a letter, as Ms. Anderson's referring, fits within those. That would be the only comment I make.

JUDGE WALLIS: Thank you.

(Mr. Reams has taken the stand.)

JUDGE WALLIS: Raise your right hand.

JEFFERY THOMAS REAMS,
having been first duly sworn on oath,
testified as follows:

DIRECT EXAMINATION

BY MR. MCMAHAN:

Q. Good morning, Jeff. Tim McMahan here for the record. Would you please state your full name for the

record?

A. Jeffery Thomas --

Q. Please come forward to that mic, that mic needs you close.

A. Okay. Jeffery Thomas Reams, e-r-y.

Q. And spell your last name.

A. R-e-a-m-s.

Q. Mr. Reams, where are you employed?

A. I am a partner at Turnstone Environmental Consultants.

Q. And the address?

A. 31884 Fern Road, that's Philomath, P-h-i-l-o-m-a-t-h, and that's in Oregon.

Q. And, Mr. Reams, you're going to need your testimony in front of you on the table. So if it's in your bag why don't you get it so we can have you tell the Council that you accept it. Got it?

A. I think I got it.

Q. All right. Mr. Reams, do you have in front of you what has been marked as Exhibit No. 5.0 along with a number of exhibit documents? 5.0 is on the front page, Jeff.

A. Yeah, I've got that.

Q. All right. Is that your written direct testimony in this matter?

A. It is.

Q. Jeff, do you have the attachments there?
A. You would have to tell me what those attachments are.
Q. Well, there are --
MR. MCMAHAN: I'm sorry, Your Honor, I didn't go through this before he stepped up, I thought he had all this stuff. So if I could take a minute to make sure he has everything in front of him?
JUDGE WALLIS: Yes, please. Why don't we be off the record for just a moment.
(Lunch break taken from 11:40 p.m. to 1:14 p.m.)
JUDGE WALLIS: Let's be back on the record, please.
Ms. Anderson, at the conclusion of the prior witness' testimony we had an offer from you regarding some additional documents, which I believe you referred to as letters. Could you go back to that, please, and describe a little bit more completely what you're talking about and what their nexus is with the email exchange that was used in the witness' examination?
MS. ANDERSON: Certainly, Your Honor. Thank you.
The first letter is a letter dated September 22, 2009, from Mr. Greg Hueckel, the assistant director of the habitat program at WDFW.

JUDGE WALLIS: Could you repeat that name and spell it?

MS. ANDERSON: Certainly. Greg Hueckel, spelled H-u-e-c-k-e-l, the assistant director of the habitat program at WDFW. The letter was to Mr. Spadaro, the Applicant. The recipients of the copies included the EFSEC siting manager at that time Allen Fiksdal, Governor Chris Gregoire and the WDFW director Phil Anderson. In that correspondence --

MR. MCMAHAN: Do you need content?

MR. KAHN: Do you have an extra copy of it we can look at?

MR. MCMAHAN: Of course.

MR. KAHN: Do you have an extra copy we might look at?

(Documents handed out.)

MR. KAHN: That was fast.

MS. ANDERSON: If the Council wishes me to summarize the content I'm happy to do so. Let me go through these letters. The second letter -- and then I will address how they're relative to the three emails that also came in under 6.08C.

The second letter is dated November 24, 2010, signed by Travis Nelson, the Renewable Energy Section manager for the Washington Department of Fish and Wildlife, and the cc's on that letter include Stephen Posner at EFSEC,

Lisa Veneroso at Washington Department of Fish and Wildlife and Mike Ritter, also at Washington Department of Fish and Wildlife.

The third letter is dated December 20th, less than a month ago, to Mr. Al Wright, the manager of EFSEC. The cc's on that include Mr. Posner, Ms. Veneroso, Mr. Ritter and Mr. Spadaro, also from Travis Nelson, the Renewable Energy Section manager at the WDFW.

These letters address the agency's position in writing and under signature on the matters of application of the Wind Power Guidelines and integrating best available science, the methodology and protocols used to conduct the surveys to support this project, the agency's assessment of the satisfaction of their guidelines through the discharge and performance of the surveys performed by WEST in this matter that Mr. Johnson attested to, as well as the propriety or impropriety of the mitigation measures that have been recommended and agreed upon by the agency.

I believe that the emails reflect some question or concern about the appropriate protocols from some unknown staff members at the agency. These letters express the agency's position. I do believe they are substantial to the issue of whether or not the materials prepared by Mr. Johnson address, insofar as surveys go, the matter of the WDFW guidelines being satisfied as well as mitigation

measures proposed.

JUDGE WALLIS: Very well. The Council expressed some interest in light of the receipt of the other document in having these documents in the record as well. And I'm wondering if you would state your argument in support of doing so.

MS. ANDERSON: Certainly. Your Honor, I believe that the purpose and function of this proceeding is to evaluate the criteria siting matters for a wind project. That is the ecological and environmental functions and effects of a siting project. To that effect WDFW has recommended guidelines. There's also regulatory authority to demonstrate compliance with the WDFW guidelines in this proceeding.

You have three emails that express some unknown agency level concerns about whether or not those have been satisfied. That's a criteria that this Council has to make a determination on. The resource agency responsible for assisting in whether or not those guidelines have been met and the mitigation is appropriate in accordance with those guidelines is in fact WDFW. That criteria is not satisfactorily met just by three emails out of context by some unidentified, or unknown level, or status parties when in fact there is best evidence out there, and that is the statements of the agency itself as the interpretation and

satisfaction of its guidelines.

I believe that it is relevant, and it goes to one of the criteria that this Council has to consider.

MR. KAHN: Your Honor, I, again, note that this doesn't fit within any of the provisions for official notice under WAC 463-30-230. I would also note that at least one of these letters has been floating around for over a year, the other ones were a while ago. This is the first we've seen of them. There were certainly opportunities to submit these as part of the testimony -- attached to the testimony as other people have done. So we don't think it's appropriate.

I will also add that if the Council does accept these, since this is new information that we have seen for the first time, we need to be given an opportunity to submit some written testimony pertaining to this if we see fit once we have an opportunity to read this. To come in at the last minute without us having an opportunity to investigate it, to check on it, to be able to rebut it I think is unfair unless we're given such an opportunity.

MS. ANDERSON: If I may briefly respond. The emails were sprung on us three days ago.

MR. KAHN: Consistent with this Council's scheduling.

MS. ANDERSON: In response to that we have offered

up evidence that is appropriate to the issue that they raised on Monday with these three emails.

MR. KAHN: And it's in essence surrebuttal which they have objected to already.

MS. ANDERSON: Your Honor, the Council already has all three of these records, they're in your files. They are simply not in this adjudicative proceeding. I'm asking that they be moved into the formal adjudicative proceeding because you will adjudicate the question of whether or not the WDFW guidelines have been satisfied.

JUDGE WALLIS: Very well. I will note some earlier expressions from counsel as to the broad latitude that the Council has in receiving hearsay evidence, and we'll take this under advisement, and we'll consult with the Council as to its preference.

MR. KAHN: Okay.

MS. ANDERSON: Very well.

MR. KAHN: So at this point it's not admitted yet; correct?

JUDGE WALLIS: That's correct.

MR. MARVIN: Your Honor, I also would like to raise an issue, and it's one I've expressed some concern about before.

JUDGE WALLIS: Mr. Marvin, could you pull that microphone closer and slow down.

MR. MARVIN: I have some questions in terms of what capacity Mr. Nelson is making these comments as. And I understand, obviously, that he's representing the Fish and Wildlife Department and the agency's position on this. And my understanding also is he is -- that the agency, Fish and Wildlife, is on contract with EFSEC to provide expertise regarding these projects. And I just think it would be helpful to have some clarification in terms of which hat he is wearing in writing this, submitting this material, and whether it was his intent that it be used for the purposes of these proceedings or whether it was something that was being forwarded to EFSEC on a consultant basis.

JUDGE WALLIS: Very well. Are we ready to resume the examination of the witness?

MR. MCMAHAN: Yes. Thank you, Your Honor.

DIRECT EXAMINATION (continued)

BY MR. MCMAHAN:

Q. Mr. Reams, I think you were previously sworn, and I think you told us who you are, and I think you told us your address, but I think what you haven't done yet is introduced Exhibit No. 50?

A. Okay.

Q. So now do you have in front of you -- sorry, not 50. Five. Do you have in front of you Exhibit No. 5.00

with the attachment of documents?

A. Yes.

Q. All right.

A. Can you hear me okay?

Q. Yes. Mr. Reams, is that your testimony in this matter?

A. Yes, it is.

Q. Do you have anything of substance that you would change here today in that testimony?

A. No.

Q. All right. And are you available for cross-examination in this matter?

A. Yes.

MR. MCMAHAN: All right. I move to admit, Your Honor.

(Exhibit Nos. 5.00, 5.01, 5.02, 5.03, 5.04, 5.05 & 5.06 offered.)

MR. KAHN: No objection.

MR. CANTRELL: No objection.

JUDGE WALLIS: Let the record show there's no objection and the document is received.

(Exhibit Nos. 5.00, 5.01, 5.02, 5.03, 5.04, 5.05 & 5.06 admitted.)

JUDGE WALLIS: Cross-examination.

MR. KAHN: Your Honor, at this time I have no

cross-examination. I would like to reserve the right to do so after Mr. Cantrell and Mr. Marvin ask any questions if they do.

JUDGE WALLIS: Mr. Marvin.

MR. MARVIN: At this point I know that Mr. Cantrell has a series of questions that he would like to present, and I would prefer to go after him if that would be possible.

JUDGE WALLIS: Mr. Cantrell.

MR. CANTRELL: I'm fine with that, Your Honor. I won't guess on how long this will take, but it should be shorter than the last one is all I can say.

CROSS-EXAMINATION

BY MR. CANTRELL:

Q. Hello, Mr. Reams. Thank you for talking with us today. I want to start by looking at your testimony on page 6, lines 14 through 16. This is where you say the "potential study area does not contain a contiguous area of potentially suitable Spotted Owl habitat but is comprised of a patchwork of stands containing suitable habitat." If you could elaborate a little bit. You say it's not contiguous, so how big are the stands, these little patchworks you talk about? Just give us a bit more detail of the potential suitable habitat that's there, how much, etc.

A. Yes. So I guess there was the four criteria that we looked at when we analyzed the habitat. We looked at GIS data, we looked at stand layered data, we looked at aerial photos and then finally we did some field reconnaissance. So putting that all together, the whole area was about 14,900 acres, I believe, somewhere close to that. Now, with -- let me back up. I apologize.

The 14,900 acres actually was a 1.8 provincial range that surrounded the turbine string. And then within that then we took habitat out that we felt like was inappropriate. So it was 12 inches DBH which is a 60 percent canopy cover, it was --

Q. Could you explain to the council what DBH is?

A. Diameter of breast height. So 12 inches was the tree that we used, so it was a very conservative approach on the habitat that we used to survey. And I don't have the exact number of the acreage that we actually surveyed, but the patchwork meant that there were clearcuts that were involved in the 1.8 provincial range of the spine there. So that was taken out. So I don't have the exact number of areas that we surveyed but I can tell you that we put roughly 80 calling stations in place.

Q. So, again, the patchwork, recognize that I wouldn't be able to pull numbers off the top of my head either, but are we talking about parcels that are two acres,

20 acres, 200 acres, just some relative scale of this patchwork? Are we talking about four trees that are great? Are we talking about 100 acres? Just some relative sense of how much, you know, potential suitable habitat you identified in the surveys?

A. I would say roughly with that broad brush, the 12-inch DBH, or the 60 percent canopy cover, we were probably 50 to 60 percent I would guess of that 14,900 acres.

Q. Could you also articulate how that 14,000 acres deals with the turbine corridors with the radius? Then there's also the two historic circles just [redacted] of the project?

A. Right.

Q. How much more --

A. Right. That was about 7,222 acres, I believe, combining both the [redacted] sites.

Q. And in that 7,000 you surveyed that was all good habitat or about 50 percent?

A. Yeah, we surveyed probably 80 percent of that just sort of off the top of my head.

Q. And were any of the stands that were potential suitable habitat that are on SDS land, were any of them -- you said they weren't contiguous to each other, were any of them contiguous to the DNR lands [redacted] of that 7,000 acre

area?

A. One more time, Shawn.

Q. You've got the various parcels that you identified as potential suitable habitat that were part of the turbine strings that you were going to survey?

A. Uh-huh.

Q. Then you also had -- when you said none of those were very big, weren't contiguous to each other?

A. Right.

Q. Were any of them contiguous to i.e. adjoining the DNR land to the [redacted]?

A. I think a lot of that land had been harvested under the HCP with DNR, so I don't recollect exactly how much of that would be contiguous. There could certainly be some contiguous habitat, but I don't recollect how much.

Q. Okay. Can I direct you, I don't know if you have it in front of you, but the application for the project, Figure 2.3-3, it's a map that has -- it's entitled Harvest Schedule and it shows the aged class of all the different stands in the area?

A. Yeah, I have seen that.

Q. It's Figure 2.3-3.

MR. MCMAHAN: This is now our only copy because Mr. Reams walked off with our other.

MR. KAHN: This is Mr. Reams.

MR. MCMAHAN: I'm sorry, Johnson.

MR. BAKER: Page 2.3-10.

BY MR. CANTRELL:

Q. If you don't have that it's also in the DEIS.

A. Okay, I got you.

Q. So if you look at that map and you can see that particularly on the [redacted] edge of the project area on the top of the page there you can see a number of the parcels have dates that are going back as early as [redacted], [redacted]. So a number of [redacted] stands of trees. And I'm wondering is it your recollection that when you were out there on the grounds if those were still standing or have those been harvested?

A. My recollection is they had been harvested.

Q. All of those? Do you have any recollection of these [redacted] stands particularly in the [redacted] end if any of them are still standing?

A. I don't recall, Shawn, I really don't.

Q. Is it possible for you then to take this map that we were just asking you about and overlaying it with where you identified suitable habitat? Is there a way of letting the Council know on this map, yeah, when we surveyed we surveyed here, here, here and here; and here's where there were the larger trees and why we did that?

A. In our report we have survey locations that we

have in the appendices that show where the placement of those were.

Q. Would that be figure, or exhibit, let me find it. I think it's in one of your supporting documents. It's a map with circles on it. Yeah, Exhibit No. 5.03, is this the one that you were...

A. Yes. You can see the crosshairs where the station locations were.

Q. So, again, if about [redacted] of the way up from the bottom there's a horizontal line across that, that's the property line from the DNR and SDS land in that area, is that accurate? You can just see where the turbine string [redacted]?

A. Right, right.

Q. So there are a number of survey sites in that general area along that area?

A. Yeah. You can see that there's some surveys along the string. And then, you know, I guess it's a good, what? [redacted] from that mark there's a station.

Q. And you didn't survey in the [redacted] of clear-cuts; correct?

A. No.

Q. So if there's a survey spot then there's likely potential suitable habitat in that area?

A. Yes.

Q. Okay. So based on that, just very crude judgment or measure, there's a lot of potential suitable habitat. I realize it may not meet the statutory regulatory definition of habitat, but there's a lot of --

A. Yeah, particularly within these owl circles which I think we're talking about; right?

Q. Yeah.

JUDGE WALLIS: Let me interject for just a minute. The witness is being very responsive, but I'm going to ask you to wait until you're sure that the question is completed. It's difficult for the court reporter when people are overlapping in there discussions for the record.

A. I'm new at this. Can you tell?

BY MR. CANTRELL:

Q. Thanks. So don't put these far away because I want to come back to them, but I want to go to your testimony on page 8 where you give a discussion about the Northern Spotted Owl detections that happened in 2010?

A. Right.

Q. Rather than me ask a whole bunch of different questions about it, maybe you could just walk us through basically what you were doing, what you found, where it happened, etc., then I may interject with asking for clarifying or more specific information if you didn't cover it?

A. Sure, sure.
Q. Thanks.
A. So just to back up real quick, Shawn, so 2008 and 2009 we completed our objective under the protocol requirements to get our two years of survey efforts in. So 2010 --
Q. I'm sorry, two years?
A. 2008 and 2009 we had conducted Spotted Owl surveys.
Q. You did that -- you're not suggesting that that completes the Fish and Wildlife suggested protocol?
A. I am suggesting that.
Q. You're saying that U.S. Fish and Wildlife protocol only calls for two years of surveys?
A. Yes, yes. So we did two years. Then there was discussion about continuing to collect data in 2010. So 2010 we went forward and we conducted surveys there as well.
And so May 6th, within the [redacted] activity center we got a Spotted Owl response. So typical with these protocols is a follow-up is required. So we triangulate where we felt like the response occurred. And the next morning we went in to try to find the Spotted Owl and get a status, a social status of exactly what was happening.
So May 7th, that next morning, we went in with mice, and in the [redacted] portion of the [redacted] site in

[redacted] we were able to identify and mouse a Spotted Owl which is roughly about two miles away from that north string, the furthermost turbine.

MR. MCMAHAN: If I could just ask a quick clarifying question? You moused the Spotted Owl, could you describe what you meant by that?

THE WITNESS: Yeah, right. So, it's a crazy profession we have here. But in order to get the social status to figure out what's occurring with this Spotted Owl, whether it's nesting, whether it's a single bird, we mouse the bird. So what we do is we put a mouse out for the bird. Based on the bird's behavior we can tell what its social status is.

So if it's nesting it will grab the mouse and typically fly to a nest and we can follow it. If it eats and cashes the mice usually we say that it's a single bird without a mate. So that's sort of the premise of this mousing. And this is what we do for follow-up visits to try to figure out what's going on.

MR. CANTRELL: Thanks, Tim.

BY MR. CANTRELL:

Q. Can you continue now?

A. Okay. So, I guess I went and analyzed all the dots on the map, and throughout the 2010 survey season we got a response or we saw the bird nine times. And six of

those nine times we saw it in a specific drainage in that [redacted]

Q. Okay. So, again, now going back to this map here, which is Exhibit 5.03, it shows your survey area. Can you indicate? You said that you identified or detected that owl or an owl nine times during the survey season, six of them were in the drainage. So if you could show us where in the drainage, and if it's all basically right on top of each other, that's fine, but stretch drainages are rather linear, so where those indications were so that the Council and others can see precisely where those nine spots were or roughly if not precise?

A. I have a map that indicates every single location and when we see that. Is that public record that I can show, Shawn?

JUDGE WALLIS: Is there a map in the record?

THE WITNESS: No.

JUDGE WALLIS: Or that is readily accessible to the record?

MR. MCMAHAN: I don't think it's in the record.

THE WITNESS: No.

JUDGE WALLIS: What is the size of the map that you have?

THE WITNESS: (The witness indicates.)

JUDGE WALLIS: It seems to be a single sheet. I'm

wondering, Mr. Cantrell, if you could go on to another topic, and we could ask staff if they could get some copies so that counsel and the Council Members can follow along during questioning and then consider whether the document should be included in the record as an exhibit. Would that be acceptable?

MR. CANTRELL: Sure.

BY MR. CANTRELL:

Q. So leaving that topic for a moment, but still sticking on the surveys and the detection of owls in 2010, what's your level of confidence that all the detections were the same owl?

A. It's high. Yeah. We hadn't had a response in that particular activity center for over ten years, and all the sudden we've had multiple responses. And this bird had a particular personality in how it responded to us, and it was very aggressive. So we felt it was the same male Spotted Owl that we had received multiple times. And it seemed to be kind of in the same general area.

Q. Is it common for a known Spotted Owl to travel the two plus miles, you know, in a day? If I read your report correctly that you detected it, you know, nearly if not more than two miles apart within a 24 hour period, is that common for owls to travel that far?

A. Yeah, it is common. We could have a foraging

Spotted Owl in the evening and when we use our audio boxes to elicit responses from Spotted Owls, depending on specific Spotted Owl behavior they can be very territorial and they can fly great distances. And this particular owl flew a great distance right to the road, so we actually got a visual on that.

Q. So along those lines then it's quite possible the [redacted] most location that you saw the owl could go easily another mile or two or three further [redacted] into the project lands?

A. I guess it depends on -- I guess it would depend on the -- you know, I can't answer that. I don't know, I really don't.

Q. Let me ask it a slightly different way. It wouldn't be uncommon, I won't say which direction, but it could go a different direction and back the two miles or wherever from when you first detected it? There's no magic about, oh, you have a confidence level that it's reached its furthest migration away from its central roosting spot that it's using at the moment?

A. No. I mean the provincial range, I guess, can be fairly large for these birds. So depending on the habitat that we're calling from I guess you could elicit a response from that particular Spotted Owl. Interesting thing about this Spotted Owl is when we did elicit a response from this

Spotted Owl we did a follow-up the next morning, the bird was back in the same drainage that we had originally found it.

Q. Okay. Next question I want to ask you to clarify for folks here a number of terms that are used on page 5, 6 and 7. If you need me I can try and go through and identify each one, but I think it would be apparent here. There are terms that seem to be used interchangeably, and I want to make sure that they can be used interchangeably or if they have distinct meanings that you can clarify what those are.

You talk about activity centers -- these are all related to Spotted Owls. Activity centers, historic cores, nest cores, provincial range, potential suitable habitat. So they seem to be used relatively interchangeably. And I know that there are some regulatory definitions for some of these and others not, etc. I'm just wondering how you meant to use these terms, and if there's a distinction clarify that for us?

A. Yeah. So an activity center is really right where the historical or active nest was. So that's what we say is sort of the centralic point of that big owl circle. Then we have a nest patch which is roughly 75 acres or 300-meter radius that we call where a lot times the juveniles will be. And then we've got a core which is roughly 500 acres or .5 miles that surround the activity center. And then up above

that we have a provincial range which is the 1.8 miles from the owl nest.

Q. And you also talked about potential suitable habitat, and that can or may or may not have a direct relationship to any of those; is that correct?

A. Right. So that potential suitable habitat as we identified it was the 12-inch DBH, which is with the 60 percent canopy cover. In the 2008 recovery plan it mentions DBH trees at 30 inches and canopy covers 60 to 90 percent. So, again, we took a really conservative approach in our survey effort.

Q. That's great. So on the next question on page 8 of your testimony, line 9, you talk about the Northern Spotted Owl was about [redacted] of the project and [redacted] turbine location. Is the turbine location -- my understanding from the Applicant is they don't have turbine locations, they have turbine strings. So what are you referring to there? What turbine location? You know, we've been chastised to say there isn't such a thing, so what is that? [redacted] from what?

A. Right. Well, our particular maps I guess had a [redacted] turbine. And so our GIS person then took a reading from the response to what appeared to be the [redacted] portion of where that turbine was going to be. So whether there was going to be a turbine there or not, I

don't know. But on my little map there was a little turbine there, so we did our calculations from that.

Q. Where did you get that map?

A. I think it's one of the maps that we looked at earlier.

Q. From the Applicant, I mean, this was an Applicant supplied map?

A. Right.

Q. So the Applicant provided you information that here's where potentially at least turbines would go?

A. Yeah, that's the information we had, right.

Q. Did they ever give you data and ask you to do anything with turbine strings? And see the notations that they have there? Or did they just give you dots where the turbines were?

JUDGE WALLIS: And that question referred to Exhibit 1.11C.

MR. CANTRELL: Thank you.

A. Well, we had to have some general guidelines of where the turbines were to be so we could buffer it appropriately. So there had to be a stopping and a starting point. So we had a map that looks a little bit different then that, but that was the map that we used to create our buffers and our survey regime.

MR. MCMAHAN: Shawn, could I just, again, purely

to keep the record clear, not to interrupt your flow because you're going a great job, but Exhibit 5.03, Mr. Reams, I think is what we're talking about here, the map you were using that showed the turbine locations for survey purposes? It's attached to your testimony.

BY MR. CANTRELL:

Q. It's the one that you and I were talking about a moment ago.

A. Right. As you see, there's little triangles. And I only assumed that that would be where a turbine would be placed, but that was my assumption.

Q. So on that map where the key or the legend specifically refers to those little blue diamond-like things as proposed turbine locations?

A. Right.

Q. So that's what you were provided by the Applicant and what you assumed would be the locations?

A. Right.

Q. You're aware that the applicant has requested certification of the turbine strings with no specific turbine locations, are you aware of that either prior to today or at least having heard it mentioned earlier today?

A. No.

Q. You are aware of it now though, you heard about this earlier today, were you in the room when that was

discussed?

A. I don't think so, no.

JUDGE WALLIS: Let me interject. It's hard for me to hear sometimes what the witness is saying when his voice is lowered. And these particular microphones that we have require you to get pretty close. I want to make sure that everybody in the back of the room can hear as well as Council Members and lawyers. So if you could rearrange the microphone on the table we have for you so that you're within about six inches of the microphone. A little bit closer, please.

THE WITNESS: Okay.

BY MR. CANTRELL:

Q. So moving on then to page 9 of your testimony, looking at line 19, I just want to make sure I understand what you are saying here. Actually it's lines 17 through 21, that whole short paragraph. But specifically you state that you found no Spotted Owls during the day hike and three night calling visits in the two historical cores. I'm confused, I thought you in fact found one in your nighttime calling?

A. No. When I explained what the core was that was a half a mile or 500 acres surrounding the historical or active nest. So we never found the Spotted Owl within that area.

Q. Okay. So when you say that no Spotted Owls were found, that specifically suggested those two 500-acre cores not in --

A. Exactly.

Q. Okay. I just wanted to clarify that, because for the casual reader it may sound like everything above where you talk about the owls you found were not found?

A. Right.

Q. Great. On your Exhibit 5.01 on pages 1 and 2, this is your resume or your qualifications, the last paragraph on page 1, the first paragraph on page 2, it mentions among your responsibilities or skills are habitat delineations?

A. Right.

Q. Could you describe just briefly for everyone what that means?

A. Yeah. Well, it was the fore-criteria that I mentioned before where it's -- where a lot of times we do a GIS exercise trying to fair it out, the 12-inch DBH and the 60 percent canopy cover or greater. And then we look at the aerial photographs. And then we looked at stand data as well. And then we follow up with this field reconnaissance to make sure that meets all that criteria. And with that then we end up delineating out the habitat there that will be called in the future.

Q. Great. So keep that in mind for a moment. Let me just ask you if you're familiar with exhibit, or at least have seen, Exhibit 1.03R, which is not in your testimony, it's a series of photographs of the proposed habitat mitigation lands. Have you seen that at all?

MR. CANTRELL: Or can somebody give him a copy if he doesn't have one?

(Document handed to the witness.)

BY MR. CANTRELL:

Q. So take a second to look at those. I don't need a detailed habitat delineation, but I do want to ask you a question or two about it.

A. Okay.

Q. Would any of those pictures qualify, by your professional judgment, as potential or actual Spotted Owl habitats?

A. That's really out of the scope of our project involvement, Shawn. I really can't address that just based on four pictures. So I don't know how large the site is. I don't know vantage points. I don't know if there's habitat trees down in some of these drainages. I'm not sure I could comment on that.

Q. Let me ask it a different way then. If in your first approach to a project you were shown those photographs, would you say, yes, this is worth investigating

if I'm going to have somebody pay me to do owl surveys would I bother going to these places to look for owls?

A. Well, owls are boreal creatures and prefer conifer-type habitats. So I think I'd need more information.

Q. So barring more information you would say no? Again, I'm just trying to get clear of what you are saying and what you're not.

A. I feel uncomfortable looking at four photographs and making a judgment on whether this is a Spotted Owl habitat.

Q. I'll take one more run at it a different way then. Do you see the types of conditions that you describe? In these four photographs do you see the conifer forest, do you see the amount of canopy cover, do you see the different things that you would normally look for when looking for a owl habitat? Do you see any or all of those qualities in any of the pictures here?

A. I really think that the field reconnaissance portion of that habitat delineation would be very important before I could make a comment on it. Sorry.

Q. Fair enough, I'll give up on that. Well, I'll take a different stab, it's a related question.

Would you consider this habitat, to the extent that you can tell from the limited information you have, as

like-kind habitat to the project site?

A. It looks a bit different.

Q. That's probably as good as I'm going to get, so I'll take that. Thank you.

In your time on the ground on SDS lands related to this project or if there were other times, I don't know, did you see potential suitable Northern Spotted Owl habitat that might make for a good habitat mitigation to the land that is going to be lost in the project or going to be impacted?

A. I felt like most of it was industrial forestland which is a monoculture really of maybe dispersal habitat at best.

Q. So in that monoculture commercial land there was most -- I heard a qualifier or two in there. So are you saying you did not see any suitable things that make you think, wow, if I was going to protect something I would protect that piece?

A. Not currently, no, 40, 50 years from now maybe a different story.

Q. Okay. Aware of any other nice parcels that could be owl habitat on SDS lands that you think might be outside the project lands but that you had experience with related to --

A. Clearly the best habitat we found was really in the [redacted] activity centers.

Q. So it looks like we have the map now. So, again, if you could go back --

MR. CANTRELL: Your Honor, do you need or want me or somebody to do some kind of moving, or accepting, or asking that this be in the record or something?

JUDGE WALLIS: Why don't we try that now. Let's mark this document which bears a label of Whistling Ridge Wind Energy Project 2010 Northern Spotted Owl observations, and let's mark that as Exhibit 5.07.

(Whereupon, the documents referred to were marked as Exhibit No. 5.07.)

JUDGE WALLIS: And I'm wondering if Counsel or the witness could tell us basically what this is and what its origin is.

THE WITNESS: I can do that if --

JUDGE WALLIS: Very well. Could you move your chair a little bit closer to the microphone. Thank you.

THE WITNESS: So this map, and the red dots here indicate --

JUDGE WALLIS: The document that I have --

THE WITNESS: Oh, black and white.

JUDGE WALLIS: -- is black and white. So if you could use those terms, please.

THE WITNESS: Okay.

JUDGE WALLIS: There is little squares with

numbers.

THE WITNESS: That makes it a little more difficult.

MR. KAHN: Here's a laser if you want.

THE WITNESS: I'm having a hard time seeing that as well. It's a circle with a black dot in the middle, okay, where there's explanations of every location there are the responses that we received. Does that clear anything up?

JUDGE WALLIS: Is that under legend, the second item, 2010 --

THE WITNESS: Yes.

JUDGE WALLIS: -- as observations?

THE WITNESS: Yes.

JUDGE WALLIS: Very well. What would you call this map?

THE WITNESS: This would be a Spotted Owl response map.

JUDGE WALLIS: Very well.

MR. FRYHLING: Judge Wallis, I have a problem with this map. I don't have any idea whether this is in China, or here, or wherever. This tells me nothing. I don't know where this is, and it's just a piece of paper.

JUDGE WALLIS: Perhaps Mr. Cantrell can ask questions of the witness that identify the location.

MR. FRYHLING: Do we have another map that shows the relationship to this map?

MR. SUTHERLAND: 5.03.

MR. CANTRELL: I will ask the witness to help clarify how it relates to this map, and I hope the witness can do that.

THE WITNESS: Yes.

JUDGE WALLIS: Referring to 5.03?

MR. CANTRELL: Yes. Mr. Reams, could you -- are we, or me, or whomever done getting this into the file now, Your Honor, should I proceed with questions?

JUDGE WALLIS: Yes.

BY MR. CANTRELL:

Q. Mr. Reams, could you draw the relationship of this map here, which is now Exhibit No. 5.07, in relation to Exhibit No. 5.03, you know, where there's an overlap or which portions have commonality?

A. So the above circles in the -- I'm not sure what we're calling the new map, are the [redacted] activity centers or owl circles. And, unfortunately, it's not in color. But you can see here there's a big red half-moon which is the buffer that we created from the turbine row that was the [redacted]provincial range. Does that make sense, Shawn?

Q. So, again, if I could ask a question to hopefully

help clarify. If you look at the new, the most recently admitted map, 5.07 I believe it is, the spot where two of the circles, the [redacted] circle come together and they form a small little triangle that has the [redacted] immediately to the right, that corresponds with a similar little triangle on the map in Exhibit 5.03?

A. Right. That's the 15 percent overlap of the two owl circles.

Q. Great. So in looking at this map then it appears that the owl congregated much of its activity, at least when it was detected by your surveyors, in this upper drainage on the [redacted] of the circle here, but it did extend down and felt comfortable traveling -- I don't know how it felt.

It appeared to have no problems traveling from that location down into and outside of the [redacted] circle, or [redacted] range, into the [redacted] circle and into the [redacted] buffer areas. So it seems to, you know, be able and willing to travel, you know, beyond that one drainage; correct?

A. Yes. But I would factor a lot of that to the fact that we are eliciting territorial calls. And this particular Spotted Owl was very responsive. So, you know, it actually flew to the road to see what we were doing. So where it was before it flew I can't say.

Q. So if you were to overlay three different maps

that are now all in the record here, Figure 2.3-3 from the application which is this age stand map that looks like this; this map here which is Exhibit 5.07, the one that was just introduced that identifies where the owls responded to your calls; and that map on the foam cork board which is 1.11, I believe? I can't see from this angle.

JUDGE WALLIS: Yes.

BY MR. CANTRELL:

Q. Does there seem to be any correlation between habitat owl occurrence and how old the trees are?

A. If I understand you correctly, the six of the nine locations that we have in [redacted] was some of the best habitat that we found in that [redacted] owl circle.

Q. So, yes, there is a clear correlation between good habitat and the presence of the owl?

A. Yes.

Q. Okay. Let me see if I have other questions on that line.

So I think I'm going to move on then to Exhibit 5.04. 5.04 is the U.S. Fish and Wildlife Service letter dated July 19th, do you have that in front of you?

A. Yeah.

Q. On pages 2 and 3 of that document in the second to the last paragraph, paragraph begins, "the estimated median annual home range," that paragraph about half-way down

there's a sentence that says, "Each of these territories contains more that 40 percent suitable Spotted Owl habitat," and that's based on a Jason Spadaro personal communication. Do you have any knowledge or information to say whether or not there's 40 percent habitat remaining in those two circles at this time?

A. We did not do the analysis of that, no.

Q. You can't say yes, it is or no, it's not, you just don't know?

A. No.

Q. Okay. Are you familiar with the revised draft Northern Spotted Owl recovery plan that was recently released?

A. Yes.

Q. Do you recall what it says regarding preserving occupied Spotted Owl habitat regardless of ownership?

A. One more time on that.

Q. Do you recall whether the latest draft recovery plan says regarding what the recommendations are for occupied Spotted Owl habitat regardless of it's on federal land, state land, private land, etc.?

A. I don't believe that's in the 2010 protocol, I don't recall that.

Q. No, not the survey protocol, the Spotted Owl recovery plan.

A. Oh, right. No, I don't recollect that, and that was out of the scope of our survey work.

Q. Okay. So, if you're not familiar with it that doesn't make sense to pursue that.

Then, again, the same letter from Fish and Wildlife Service, looking at the second paragraph on page 3 under Effects from Construction. Again, I have huge respect for the hard work that the U.S. Fish and Wildlife Service does, both Jim Michael who signed the letter and Ken Berg, under whose name the letter was produced. But I'm just wondering if you could look at that paragraph and tell me if you think it's an accurate description of what you did or what you found?

A. Which paragraph was that again?

Q. It's on page 3, the title Effects from Construction, it's one paragraph, starts off, "Approximately two acres," goes all the way down to the Effects of Maintenance, just that section. If you could read that and tell me if you think that's accurate to the extent you have knowledge of it.

A. Yeah, I'm not sure that my opinion matters in this particular case, but I guess I would agree that that's a true statement.

Q. So, again, I'm not trying to bash either of those individuals or the agency, but doesn't it say here on looks

like about the fifth or sixth line, it says, "The discovery of the new owl in 2010 in the extreme [redacted] of the [redacted] [redacted] owl circle," I'm not aware of an owl discovered in the [redacted]Creek circle was there?

A. I noticed that, that's an error.

Q. It says, "[redacted] most turbine," elsewhere you said it was [redacted] miles?

A. Right, our testimony is different.

Q. It says, "the remainder of the project does not contain any suitable Spotted Owl habitat." I thought you had testified that there was not huge amounts that were in scattered patches but there was in fact.

A. Yeah, dispersal versal habitat I would say. I guess that was the broad brush that we had used; right.

Q. But, again, dispersal habitat is owl habitat; right? There's nesting, roosting, foraging, dispersal, those are all owl habitats that serve different purposes --

A. But very rarely used, I guess, would be the point I would make.

Q. Would you agree that it would be used more if we had more owls?

A. I think --

Q. I withdraw the question.

A. Okay.

Q. I'm just trying to testify, sir. Also, if you

look through the letter do you notice that nowhere in here does the U.S. Fish and Wildlife Service make any mention or seem to know that you detected this owl at multiple locations on multiple dates going into July?

A. Right, because I'm not sure they were privy to all the data that we had collected by the end of the field season because I think --

Q. Some of the data that you collected is in the time frame when they talk about May 29, May 7, May 6, those were all very different locations where you spotted the owl; correct?

A. You need to repeat that one more time, Shawn, I'm sorry.

Q. So, if you look on page 3 of the Fish and Wildlife Service letter they make note of detections on May 6th, on May 7th, on May 29th, but nowhere in their letter do they note that this owl is moving around, that it's not just stationary on the [redacted] of the circle, but it moved to multiple locations in the span of less than a month?

A. Yeah, with the data that we collected at the time it looks like we had shown that it was a male and it was non-nesting based on the Spotted Owl protocol, but it looks like we had not confirmed that it was a territorial male at that time.

Q. So given these four or five different typographical errors, factual mistakes, omissions, whatever one wants to refer to them as, do you feel that this letter still stands as a quality document that represents the best that our federal agencies can produce?

I'll give you an alternative, do you want to take responsibility for the errors in here and say your company failed to provide them the adequate information?

I'm trying to understand here, because we have to rely on the Fish and Wildlife Service, but it feels like they didn't do a very good job of understanding what happened on the ground, what the possibilities are and therefore what conclusions one should reach.

A. Yeah. As I read this it seems like there was some misinterpretations, but I don't think that they were significant in matters that changes the outcome of this letter.

Q. Okay. On page 3 of that same letter, third paragraph, it's under the title of Effects from Maintenance, the last sentence, I'll pick it up in the middle there, it says, "we do not expect disturbance to nesting owls from maintenance because owls are not likely to nest in these younger forest stands" because it's "non-habitat." Do you agree with that statement?

A. Right, I don't believe you would find nesting owls

in that habitat.

Q. I agree with you. Do you think that owls may utilize this for dispersal or for foraging?

A. I really don't, Shawn.

Q. Elaborate. Why don't you think owls might use this for dispersal in particular but foraging?

A. Because Spotted Owls prefer a more mature forested environment that's multilayered, multispecies. They need to be able to fly underneath the canopy. This is a big monoculture, very densely positioned trees where I think it would be difficult for an owl to sort of get around if there were other options.

Q. You anticipated my next question. In this vicinity how many other options do the owls have?

A. I would think the owl would avoid this whole general area and make a living more to the [redacted] of this site.

Q. And yet the owl is here. This area in general as you testified hasn't had owls for a long time?

A. Right.

Q. Do you find it an encouraging sign that owls have returned, or an owl at least has returned to this habitat?

A. Yeah, I think it's interesting, absolutely. But, you know, it's in [redacted] portions of those activity centers where the habitat is best.

Q. So if we've got an endangered species that's looking for a mate, looking for food, is it your professional opinion that we can and should try to help it at least find some food if not fix him up on a date?

A. That's outside of my project involvement.

Q. I'll just pass and move on then.

MR. SUTHERLAND: Don't ask, don't tell.

BY MR. CANTRELL:

Q. In your opinion, would this project pose the potential for disturbing the owl that's in this, you know, assuming that this owl that you have detected in the area to the [redacted] of the project site, do you think that the project either construction or operation is likely to cause any disruptions or problems for that owl if it stays on that parcel?

A. I think that's out of the scope of my project involvement, Shawn, because really I consulted with the U.S. Fish and Wildlife and Washington Department of Fish and Wildlife and we came up with a survey plan, so I really stuck to that. So I don't feel comfortable talking about where this owl could potentially fly or go.

Q. I'm not trying to ask you to do that. I'm sorry if I framed the question the wrong way. I realize this isn't what you were hired by the Applicant to do, but you are a Northern Spotted Owl professional expert witness?

A. Right.

Q. So I'm asking you in that capacity, not what the Applicant's hired you to do --

A. Okay.

Q. -- but just providing your expertise to the assembled group here is. Is there a potential for this project, if it were to be constructed and then operated, that construction activity and the operation of that wind turbine string in the adjacent parcel to where this owl has been detected, is that ongoing activity both construction and operation likely going to have an impact on that owl assuming that owl stays in that vicinity?

A. I think there's a large enough distance where the Spotted Owl will make a living and not be involved or impacting the turbine area.

Q. Okay. That's a good answer to a question I didn't ask though.

A. Okay.

Q. I'm not worried about the owl flying into the turbines, I have faith in the Fish and Wildlife's estimation that they're not going to do that, that's not where they're going to fly. But the habitat fragmentation by having the large crane that needs to be kept open for the turbines, the turbine blade moving itself, the sounds associated with it, the ongoing maintenance and operation activities associated

with sustaining that over 20 or 30 years or longer, are any of those activities likely to have an adverse impact, you know, not a take under section --

A. Right.

Q. -- under the ESA, but all things being equal would it be better for the owl for that not to be there or --

A. I simply don't know the answer to that question.

Q. Are you familiar with how owls hunt?

A. Yes.

Q. Do they utilize, you know, as a primary way of hunting do they rely upon sound as a primary means of locating prey?

A. Yes.

Q. Do you have any sense of the sound that a wind turbine would make and whether or not that would be in any way detrimental to the ability of an owl to hunt?

A. Yeah, I don't know the answer to that question.

Q. Do you have any suggestions for the Council on how to answer a question like that or who to ask?

A. Unfortunately not.

Q. Oh, darn. Almost done. So are you aware of the Department of Natural Resource's management strategy for the parcels immediately [redacted] of the project site?

A. No.

MR. CANTRELL: So, Your Honor, I don't know what

exhibit number got assigned to it, but on Monday amongst the piles of paper that were distributed there was a letter to the Energy Facility Site Evaluation Council dated July 19th from the State Department of Natural Resources that looked like this. I apologize, I don't know what the exhibit number for it is.

JUDGE WALLIS: Let's be off the record for a minute.

(Discussion held off the record.)

JUDGE WALLIS: Let's be back on the record. The representative from the Audubon Society has identified a possible question based upon a paragraph in Exhibit 1.16C and would like to ask the witness a question about that paragraph. And if you wish to do so counsel has no objection and you can proceed.

BY MR. CANTRELL:

Q. Do you have a copy of that plan?

A. I don't.

(Witness is handed a copy of the document.)

BY MR. CANTRELL:

Q. The specific paragraph on page 3 of 6 is near the bottom, it's labeled Comment, "this project may interfere," you see that paragraph?

A. Yes.

Q. You want to take a second to read that paragraph, then I'll ask a question or two.

A. (Witness reviews the document.)

Q. So my question is pretty straightforward. Again, my interpretation of this paragraph is that they, DNR, is saying that this project "may" interfere. It didn't say will but it may interfere with the Spotted Owl's ability to disperse and use other areas in the vicinity. It goes on to give more examples and more details. But my question for you is do you have any reason with your best professional judgment to disagree with that?

A. I guess I'm confused, Shawn, with the context of the -- I don't know where the HCP planing unit is and it's adjacency to the project site.

Q. It's the two circles that you surveyed.

A. Okay.

Q. It's beyond that as well, but it fully capsulates DNR lands.

A. So you're suggesting then if SDS then grew habitat to support Spotted Owls that they would disperse into those areas?

Q. I'm suggesting that DNR made a good observation that as this project is currently laid out may interfere with dispersal of owls. You know, owls may not want to disburse on SDS land. They may just want to take a shortcut

to some place else. The presence of this project in such close proximity may cause problems for owl disbursement?

A. I think the fact that it's industrial forestland that that would potentially impact the owl's ability to disperse into those areas.

Q. Would commercial forest activity likely impact it more or less than commercial wind turbines in your judgment?

A. Yeah, I don't know. I can't answer that question, I don't have the knowledge.

Q. Not a good situation now, but you're not able to say if it would be better or worse by putting wind turbines instead of clear-cuts there?

A. Right.

MR. CANTRELL: Appreciate your patience. I think that's all I have. Thank you.

JUDGE WALLIS: Thank you. Do we have volunteers to go next?

MR. MARVIN: I have nothing for Mr. Reams.

JUDGE WALLIS: Mr. Baker.

CROSS-EXAMINATION

BY MR. BAKER:

Q. All right. Your Honor, we have just a couple of questions following up on the point made by Mr. Fryhling regarding the exhibit that was circulated today, Exhibit

5.07.

A. That's the new nap.

Q. This is the map on the overhead projector. Could you clarify where this is located in relation to the project? It appears that we have a black and white copy that's been circulated. But there's a project area buffer that's on this map, could you use the laser pointer to show where that is on the map, the project area buffer?

A. Yeah. It's the red, the buffer is here.

Q. And this is due [redacted] of the project site?

JUDGE WALLIS: Could we have the witness describe that in terms of the map.

THE WITNESS: Sure.

JUDGE WALLIS: It is --

THE WITNESS: I can -- what's this? The Exhibit No. 5.03. If you were to look up, the red is the [redacted] range that we used as the buffer to survey the project site. And then if you go up to the [redacted] owl circle you see that there's a [redacted] kind of to the --

JUDGE WALLIS: What I'm trying to do is get a description so that someone reading the testimony and looking at Exhibit 5.07 for identification can identify what your little red dot was pointing to on the map. So basically there's an arc appearing to be the [redacted] portion of

a circle whose center is below the area of the map going from numbered [redacted] in the [redacted] corner up through [redacted] and down ending in [redacted] in the lower row; is that correct?

THE WITNESS: Yes.

BY MR. BAKER:

Q. So this is due [redacted] of the project site, this project area buffer?

A. Yeah. The cluster of responses that we have in [redacted] is to the [redacted] of the owl circle.

Q. The project area buffer is [redacted]. So it's safe to say that at least two of the Northern Spotted Owl observations were within [redacted] of the project?

A. Are you referring to the 5-7-2010 night response?

Q. I'm referring to the two observations that are furthest [redacted] on the map, in the [redacted] portion of the map. One is labeled 6-17-2010 night, the other one is 6-17-2010 night, they're both the same?

A. Right, it was the same night.

Q. So is it safe to say two of the observations were within [redacted] of the project site?

A. I would have to measure that but it -- to be accurate but...

Q. On the legend it says project area buffer and then in parentheses [redacted]?

A. Right, so it would be less than [redacted].

MR. BAKER: Okay. We have no further questions. And we have no objection to this exhibit being admitted as long as color copies are circulated to all the parties and to the Council.

(Exhibit No. 5.07 offered.)

MR. MARVIN: No objection.

JUDGE WALLIS: Very well. Exhibit 5.07 is received. And I'm going to ask staff to see about arranging for color copies being made available from the originator of this document.

(Exhibit No. 5.07 admitted.)

JUDGE WALLIS: Do you have anything more, Mr. Baker?

MR. BAKER: No, Your Honor.

JUDGE WALLIS: Redirect.

MR. MCMAHAN: Thank you, Your Honor.

REDIRECT EXAMINATION

BY MR. MCMAHAN:

Q. Mr. Reams, thank you for your testimony. Just a few questions as a follow up.

You've indicated many times that the SDS properties that we're talking about here, the Whistling Ridge project site, is indeed a commercial industrial

forest; is that correct?

A. Yes.

Q. So any and all portions of this project can be, likely will be logged, clear-cut at any time; is that correct?

A. Yes.

Q. And are you aware that that area to the [redacted] that we focused on a fair amount today, the [redacted] most area of the project has in fact been logged as of today?

A. No. I guess maybe you could point that out.

Q. Yeah. The [redacted] most portion of the project just [redacted] of the DNR parcel that Mr. Cantrell was discussing pretty heavily, an area where you have a calling station?

A. Okay.

MR. CANTRELL: Can I object? He said he didn't know. So if we could have -- Mr. Spadaro would probably be a great witness on that point.

MR. MCMAHAN: I completely agree with you. I wasn't aware whether he knew or not. That's right. Let me read my own notes here.

BY MR. MCMAHAN:

Q. Oh, yeah, the 2010 survey effort. To be clear, I believe it was your testimony that this Applicant did not need, he was not required under any protocol to actually

conduct that survey; is that correct?

A. Correct.

Q. So how was it volunteered, how did that happen?

A. Well, I suggested to the client that we continue to gather data in an effort to kind of meld this all together. We have data dated back to 1994, and I felt like if there was a delay in the project we could potentially push that out another two seasons.

Q. Okay. I'm wondering about what sort of happened during--and I'm on page 9 of your prefiled testimony here, lines 5 through 16. I'm wondering about the sequence of events and how that owl moved in the nights of your survey. I note from Exhibit 5.07 most of the sightings kind of clustered--a lot of the sightings I would say--clustered around a certain number of dates with only one night where that critter flew [redacted]. Do you have any sense of why, in your opinion, why the owl may have gone down into that [redacted] area during that night?

A. Well, I believe it was because we were soliciting responses from Spotted Owls. And this territorial owl came to the truck where we were calling. And just to sort of clarify these 6-17 detections, the surveyor heard the response initially from the [redacted] which was the direction of the drainage. And once he saw the bird we're required again to do a follow-up visit.

So on 6-18, that next morning, we went to this exact same location that we got the response, the 6-17 night response, and we walked the area, and we couldn't find the bird. So, intuitively, the biologist went to the drainage, and you can see this dated 6-18, he located that same owl back in that drain, back in that drainage.

Q. On the 18th. It looks like also the following month on the 23rd; is that correct?

A. Right. So then there was -- then we found it on the 23rd, yeah, 6-24 beyond the 6-18 date as well.

Q. So if you weren't down saying here, honey, come find us [redacted] of there, this little guy didn't come back down into that area on the 17th; is that right?

A. Right, I don't believe that. Even the 5-7 in [redacted] there was a night visit where the biologist continued to carry on his surveys after doing a follow-up visit. The Spotted Owl came to this specific location, and in an effort to alleviate harassment of the Spotted Owl we left the entire area and started calling further [redacted].

Q. What do you mean by that, alleviate harassments?

A. A lot of times when you're calling these birds, and they're very territorial, they'll chase you around the forest all night. So it's best to make distance out of earshot to get away from the owl so you can continue your Spotted Owl calling.

Q. So it's your opinion that he actually just followed you down into the [redacted] area?

A. Yes.

Q. I want to be clear about the [redacted] area. You called it a buffer several times, a whole bunch of times today. When you use that word buffer what does it mean in terms of your survey effort?

A. That's just standard procedure based on linear projects like that that we buffered it out appropriately and we call the area based on the [redacted] range and the specific area. But this particular area here in [redacted] like I stated, we have over six sightings in this particular area. So we would -- and all we need is three sights in a general area to call that a territorial bird. So with all of these responses and visuals that we have in [redacted] we would intuitively then put that bird in that exact location.

Q. But the [redacted] buffer is not regulatory buffer; is that right?

A. It's just standard procedures that we work with the U.S. Fish and Wildlife and Washington Department of Fish and Wildlife.

Q. Just to determine call stations; is that correct?

A. Right.

Q. So I'm curious about the fact that the center of the circle appears to be in [redacted]. So does that imply

the center of the circle should actually be moved up to [redacted]?

A. Usually the regulatory procedure there is a pair, and you would move that particular owl circle centrally to that area, but we haven't had a response in ten years in this particular area. So the best biological evidence that we have here is a bird is residing here as a territorial male in [redacted].

Q. Okay. Did you ever come back and have no calls at all?

A. Yes.

Q. And when was that?

A. Well, I would have to look at -- you mean in this particular area?

Q. Yeah. I'm sorry.

A. Never, never, he always responded.

Q. Through the end of your survey efforts?

A. Uh-huh.

Q. And concentrated in [redacted]?

A. Yes.

Q. So I guess what you're saying is if he hooks up with a partner and they become a nesting pair that circle as a regulatory matter could move up into [redacted]?

A. That's beyond the scope of -- I don't make those sort of policies, I guess. Yeah, that's something that

could be seriously looked at.

Q. Well, if I'm one guy in the room that should know better than to ask you a policy question it would be me. I think that's it, just let me doublecheck here.

A. And is --

Q. Yeah, do you want to explain something further?

A. No.

Q. I thought you might.

MR. MCMAHAN: Nothing more from me, Your Honor.

JUDGE WALLIS: Are there any questions from Council Members. Mr. Sutherland. Can we pass the microphone to Mr. Sutherland, please.

MR. SUTHERLAND: Thank you, Your Honor. A couple of questions.

CROSS-EXAMINATION

BY MR. SUTHERLAND:

Q. You had mentioned that you looked at ground where 12-inch DBH was typical. In this area how long would it take for a tree to gain that dimension? Years?

A. I'm not a civil culturist, so I'd have a hard time to answer that question, but it takes a while.

Q. So the difference between a 12 and a 30-inch DBH could be a number of years?

A. Absolutely.

Q. Typically they look for habitat for Spotted Owls in the older where you would typically find a lot more 30 inch DBH with a heavier canopy; is that not correct?

A. That's true.

Q. How much of that heavier canopy and the larger trees did you find in this general area?

A. According to my biologist he said that that was the best habitat in that whole owl circle there.

Q. In [redacted]?

A. Yes.

Q. Which is beyond the area that you were -- buffer area that you were typically looking?

A. Yes.

Q. You know that the Barred Owl and the Spotted Owl are not very friendly?

A. I'm familiar with that.

Q. Was there any indications that there's Barred Owls anywhere near this area?

A. Yeah. In this particular area there were Barred Owls that were surrounding that particular drainage.

Q. So it could very well be that this territorial male that you found, or that responded to you, he could be down in this marginal area as a result of altercations with his cousin the Barred Owl?

A. Well, I can tell you this particular owl is very

interesting. We actually would get responses from Barred Owls and this particular Spotted Owl at the same time. So we actually had them both come to the road, and so he seemed not too particularly agitated by Barred Owls.

Q. I was just wondered if that had some impact as to why he was on the margin of the area as opposed to into the better, as you indicated, habitat?

A. I guess to reiterate, we felt like the best habitat was where that Spotted Owl was located.

MR. SUTHERLAND: Good. Thank you very much. Thank you, Your Honor.

JUDGE WALLIS: Any other questions from Council Members?

MR. MCMAHAN: I have a couple follow-ups that kind of follow Mr. Sutherland's questions if I may.

FURTHER REDIRECT EXAMINATION

BY MR. MCMAHAN:

Q. Mr. Reams, back to Exhibit No. 5.04, which is the U.S. Fish and Wildlife Service letter, I'm on page 3. You got it? And I'm onto the same sentence that Mr. Cantrell was quoting that begins with the word "because" on the middle of that page. Got that? "Because of this, and since the remainder of the project," etc?

A. Yes.

Q. So U.S. Fish and Wildlife Service opines about suitable Spotted Owl habitat. Were they talking about your 12-inch DBH or the more standard understanding from U.S. Fish and Wildlife Service about 30 DBH?

A. It would only be an assumption from my part that they would probably take the recovery planning criteria and use that.

Q. And that's 30 DBH?

A. Yes.

Q. Okay. Are you aware if that DNR property to the [redacted] has undergone any logging timber harvest activity during the whole course of your survey work or after?

A. In [redacted]?

Q. In [redacted] or anywhere else [redacted] of the site?

A. There has been logging that has occurred in these owl circles.

Q. Even [redacted]?

A. No, not in [redacted], but in the owl circle in general.

Q. So within the circles do you know what sections?

A. No, I don't recollect.

Q. So that's during the pendency of your own survey work DNR was approving or conducting logging activity within those circles?

A. Yeah, the owl circle, yep.

Q. Right. The larger one?

A. Not the core or the nest patch, right.

MR. MCMAHAN: Does everyone understand core and nest patch and circle here? Okay. I think we're on terms with the definitions.

I have nothing further, Mr. Reams.

MR. CANTRELL: Your Honor, may I follow-up?

JUDGE WALLIS: Mr. Cantrell.

RECROSS-EXAMINATION

BY MR. CANTRELL:

Q. A couple different things just on that last point. The logging on DNR land in the owl circle that you just mentioned, would that be harvesting of suitable habitat to your knowledge or would it be harvesting younger stands that would not be a habitat --

A. Younger stands.

Q. So if there's good habitat or potentially good habitat, as far as you know, DNR has not been harvested?

A. Yes.

Q. You talked about being out of earshot of the owl so as to not stress it or harass it. How far is that? How far away from an owl do you have to get before he's not going to hear you?

A. It's clearly based on topography, but in general

we say about a half a mile.

Q. Okay. So when you say that on June 17th you found an owl that was [redacted] miles from the drainage, and you thought that he had come on down because he was responding to your call, so you think that this owl had better than average hearing or better/different topography? How do you get from [redacted] to almost [redacted] miles?

A. I said in general, because on the night of 5-7 we were able to elicit the response of the Spotted Owl which was, you know, over [redacted] as well. We've elicited Spotted Owls [redacted] and [redacted] if we're on a ridge and it's a clear night, and that voice box goes a long way.

Q. So on June 17th were you on a ridge on a clear night?

A. Yes.

Q. Okay. The habitat conditions in the area where you did that calling on July 17th, and had the detection, what's your basic description? You talked about among the best habitat is up in that drainage where you originally found him, what's the habitat conditions generally speaking in the July 17th detection site?

A. I don't recollect what the habitat looked like in this particular area. So I would just have to generally say it was greater than 12-inch DBH and 60 percent canopy cover,

because I don't recollect what that area looked like.

Q. So a bit of a hypothetical, if you would have started your surveys the first time -- if the first time not when you started -- if the first detection you had of this owl would have been the June 17th location, if that was the first place that you detected him would, you know, which just as easily could have happened if I'm understanding your testimony, you could have first encountered it there as opposed to some other place, would you then under Mr. McMahan's line of reasoning move the circle [redacted] and have that be the site center for the circle?

A. Well, again, as I stated to him, that was a policy question that was above my expertise.

Q. Understood. I'm just trying to make sure I understand what's behind Mr. McMahan's question and your response to it.

I realize this may be a policy that's outside of your realm. Are you aware that the detects an owl that's -- you know, it's been ten years since the last time they found an owl in this circle -- let me ask first, what's the likelihood it's the same owl that was there ten years ago?

A. Yeah, again, I can't -- it was an adult owl. And I couldn't tell how old the owl was. Is it possible it came from that specific activity center? Or is it a new owl? I don't know.

Q. Let me ask it a different way. Could you share with us your knowledge of the approximate lifespan of an owl in the wild, a Northern Spotted Owl?

A. It's fairly long, it's 17, 20, 20-plus years.

Q. So it's possible this owl was the same, one of the two that was at the nest site center there previously, or it could be an offspring, but it could just as easily be something else, there's not a good way to determine that?

A. Unlikely but possible.

Q. Okay. Are you aware that if you get a new owl in there that you could also -- instead of just moving the site circle you could create a new circle that could overlay? Isn't that how oftentimes you get multiple circles where you have it looks like a really badly done diagram with too many circles overlaid?

A. Usually that's based on a nesting pair where you have an AC center, and this particular bird is a single territorial male.

Q. So unlikely to move the site center if there's not a nesting pair then or created a new one either way; right?

A. Usually you'll have a nesting pair before you reach the discussion of moving the circle.

Q. Last, Mr. McMahan asked you about why you did a survey in 2010, and I heard your answer. Is there any additional reasons that you discussed on the value for the

Applicant on why you would have done a survey again in 2010?

A. No.

Q. Are you aware of the decertification for owl circle protocol and the process in the state of Washington?

A. I have a vague familiarity that it's in moratorium at this point.

Q. It's not, but it was at one point, but it no longer is in a moratorium.

A. Okay.

Q. Are you familiar in general terms that in order to get recertified that you need three years worth of --

A. I'm familiar with that.

Q. Was that any discussion between you and the Applicant regarding doing surveys in 2010 that it might have any connection to that?

A. No, absolutely not. At the time the moratorium was in place so we didn't even think that was an option.

Q. The moratorium went away in 2009. So, again, it doesn't change the fact that you didn't speak with them about that, I appreciate that, but just to be clear that the moratorium changed in 2010 to -- still not easy to be certified but one can.

MR. CANTRELL: I believe that's all.

JUDGE WALLIS: Is there anything further of the witness?

MR. MARVIN: Just one quick follow-up.

///

CROSS-EXAMINATION

BY MR. MARVIN:

Q. Mr. Reams, I'm Bruce Marvin, Counsel for the environment in this matter. I'm curious within your protocol are there decibel levels that are used or set when doing bird calls?

A. You mean like when we elicit responses from Spotted Owls or like environmental conditions?

Q. Well, when you're eliciting responses from Spotted Owls, I mean is there some kind of standard that's used in terms of the loudness, the duration, those kinds of parameters that would capture this noise that you're making?

A. No. 8 on the call box.

Q. Not 11. But that's not calibrated in any way in terms of the testing --

A. Yeah, I'm sure they aren't specifically calibrated, but I don't know what the decibel rate is at that level.

Q. And I know this may be in areas kind of out of your expertise, but how would you -- it's probably within your expertise, but I don't know if I want to embarrass you to do it, but can you describe or give us perhaps a sample of what a call sounds like? Or you can submit a recording

and we can put it in the record?

A. Typically it's a territorial call. So it's just -- (Witness makes the sound.)

JUDGE WALLIS: Could you spell that for the court reporter?

THE WITNESS: Dry mouth. I could typically do better.

BY MR. MARVIN:

Q. Did anybody respond? Anyway, but your testimony is that on a clear day from a ridge granted, you know, that that call can be effective up to a mile and a half away?

A. Yes.

MR. MARVIN: Thank you.

JUDGE WALLIS: Very well. I see no other hands raised to pose additional questions. The witness is excused from the stand.

I believe we have received Exhibit 5.07; is that correct? Yes, that is. And we want to take a recess at this point.

(Break taken from 2:55 to 3:25 p.m.)

JUDGE WALLIS: During the recess it was pointed out to us that some of the language and testimony of the prior witness may be highly confidential information. And the parties have agreed to excise those portions from the record. And I would like Mr. Cantrell and Mr. McMahan to

review the transcript to identify those portions. And we will avoid release of that volume of the transcript until that's done. So upon availability if you would accomplish that and consult with attorneys for the Friends and SOSA and Mr. Marvin in doing so.

MR. CANTRELL: Okay.

JUDGE WALLIS: And get back to us.

MR. SUTHERLAND: Judge, would that also remove this?

JUDGE WALLIS: That would also remove Exhibit 5.07.

(Exhibit No. 5.07 rejected.)

MR. MCMAHAN: That's the most important piece that ought not be in the record.

MR. CANTRELL: The actual transcript is unlikely to be problematic unless it's referencing specific transects or quadrants, but the map is probably the most problematic.

JUDGE WALLIS: Very well. So is there any question about what needs to be done?

MR. SUTHERLAND: You want mine back?

JUDGE WALLIS: All right. Thank you very much for calling that to our attention and allowing us to correct it.

The next matter I would like to address is Exhibit 5.06 -- no, it was the prior witness, back in which Ms. Anderson offered three documents purported to be

letters, and there was objection by Mr. Kahn.

MR. MOSS: Judge Wallis, it's 6.08.

JUDGE WALLIS: 6.08. Thank you. And Council has --

MR. KAHN: No, I think 6.08 was one of our exhibits already.

JUDGE WALLIS: Let's be off the record.

(Discussion held off the record.)

JUDGE WALLIS: 6.08C was received and Ms. Anderson responded with three documents which we will call 6.10 for identification. Mr. Kahn objected to receipt of those documents and we reserved a ruling on that. Council has met and considered those documents, and in context the Council believes that they are admissible and that contrary to Mr. Kahn's suggestion further examination into them or response would be unnecessary.

MR. KAHN: Okay.

(Whereupon, the documents referred to were marked as Exhibit No. 6.10.)

(Exhibit No. 6.10 admitted.)

JUDGE WALLIS: So are we prepared to proceed with Mr. McIvor?

MR. MARVIN: Yes, Your Honor.

JUDGE WALLIS: Very well. Mr. McIvor, would you raise your right hand?

///

///

DONALD EDWARD MCIVOR,

having been first duly sworn on oath,

testified as follows:

DIRECT EXAMINATION

BY MR. MARVIN:

Q. Don, would you please state and spell your name for the record?

A. My name is Donald Edward McIvor. Last name is spelled M-c-I-v-o-r.

Q. Do you have a copy of what's been previously marked as Exhibit 31 in front of you?

A. Yes, I do.

Q. Does this document constitute your direct testimony on the application in this matter?

A. Yes, it does.

Q. If you were asked the same questions today would your answers differ in any way?

A. No.

Q. Are there any revisions or corrections that you would like to make to this testimony?

A. I would like to offer a very minor correction if I could, please, page 11, line 17. I would like to suggest

changing the word "forest," second to the last word in the sentence, change the word "forest" to "tree." So that sentence will then read, "This is especially a concern in light of the disproportionate impact wind energy facilities are believed to have on tree bats." It's a matter of using the appropriate nomenclature.

Q. Thank you. Are you familiar with the exhibits marked 31.02 and 31.03 which accompany your direct testimony?

A. I have 31.01 in front of me and 31.02.

Q. I'm sorry, accept your correction on the numbering there. And is 31.01 a true and accurate copy of your resume?

A. Yes, it is.

Q. Is 31.02 a table that you created for purposes of today's testimony?

A. Yes, it is.

MR. MARVIN: I have nothing further.

JUDGE WALLIS: Is there objection to any of the exhibits?

(Exhibit Nos. 31.00, 31.01 & 31.02 offered.)

MS. ANDERSON: Your Honor, I would like to voir dire the witness.

JUDGE WALLIS: Ms. Anderson, I'm having trouble

hearing you.

MS. ANDERSON: I would like to voir dire very briefly.

VOIR DIRE EXAMINATION

BY MS. ANDERSON:

Q. Mr. McIvor, with regard to the errata that you offered up on the change between tree and forest bats, are those different subsets of species?

A. No. Apparently in misspeaking and using the term forest it appears that I may have created some confusion based on the written rebuttal testimony of Mr. Johnson. And tree bats are particularly of concern in association with wind energy facilities because some of those bats which roost typically singly in trees tend to show up in at least greater mortality, the mortalities at wind energy facilities. In speaking, in providing this testimony I simply used the wrong term when I said forest. Not distinguishing forest from the trees as it were. And I just wanted to make sure that we're all using the same nomenclature in the same subset of bats.

MS. ANDERSON: Very good, thank you. I have no objections, Your Honor.

MR. KAHN: No objections.

JUDGE WALLIS: Very well. Exhibits are received.

(Exhibit Nos. 31.00, 31.01 & 31.02 admitted.)

JUDGE WALLIS: The witness is available for cross.

MS. ANDERSON: Your Honor, I'm going to reserve. I may not have any questions after the other parties are done.

MR. KAHN: I'm in the same boat. I may not have any questions unless others ask. Actually, that's not true, I have two questions I'll ask.

CROSS-EXAMINATION

BY MR. KAHN:

Q. Mr. McIvor, are you aware of what I'll call the mitigation parcel that the Applicant has proposed to use as mitigation for this project?

A. Information on the mitigation parcel is fairly new to me. I've seen it only within the past couple of days. So I have some familiarity with it, but I cannot claim to be intimate with the details, and I have not visited the site.

Q. Based on whatever familiarity you have, do you have any concerns that the parcel is not adequate mitigation for the permanent impacts that will be caused from the Whistling Ridge project?

A. I have some questions/concerns in that regard that at this stage of my knowledge and understanding of the

parcel I feel like I still need to have addressed before I can fully understand the appropriateness of the parcel for mitigation. And I would note that the WDFW wind energy guidelines 2009 specified that mitigation parcel should improve in habitat function and value over time as degrading forces are reduced on a protected area.

So not knowing enough about the parcel I don't know if that's the case if it will continue to improve over time as its management changes.

I'm also concerned about the type and quality of the Western Gray Squirrel habitat that the parcel provides. That's -- I'm going to hopefully head off Mr. Cantrell having me examine the photos and suggest that that's not something I can evaluate based on the photos. But, you know, it's important that in this area, if not on the actual mitigation parcel, that there be available both nesting and foraging habitat for the squirrel, it certainly needs both to survive.

I understand that the mitigation parcel is adjacent to a 40-acre DNR parcel, and I understand there's some question about whether or not DNR may be interested in disposing of that 40-acre parcel. I also understand that there is residential development adjacent to the mitigation parcel. And so a long-term concern that I would have is those two factors, potential disposal of the DNR property in

conjunction with the residential habitat, could leave us with a block of isolated habitat that is lessened in its habitat function and quality for mitigation over the long-term.

Q. And if the residential development occurs and DNR disposes of its parcel would you have an opinion as to whether the remaining, the 100-acre parcel that's now as mitigation would adequately compensate for the impacts in this project?

A. I don't have enough information to provide an opinion. I can only raise concerns at this point and things I feel need to be further explored.

If I may add one thing to this discussion?

Q. Please.

A. This is a very important component of this project, whether or not it can be appropriately mitigated. And I would just urge the Council to make the opportunity to go out and see the site for themselves and have that firsthand knowledge contribute to your decision-making process.

Q. Okay. Are you familiar with the protocol and the bat surveys that were done for this project?

A. I am based on the materials provided in the application and the appendices to the DEIS and the DEIS itself.

Q. Do you have any concerns about either the protocols or the results?

A. I do. I think many of these concerns have been raised this morning in discussions with Mr. Johnson. But let me quickly summarize my perception of some of the shortcomings and then perhaps talk about what might be done to redress those.

As Mr. Johnson has indicated, and as the record shows, a variety of sites were used over the three years of data gathering to deploy the Anabat detectors. And as a result it becomes rather difficult to compare results between years because of the different nature of the locations in which the detectors were deployed. The information is still helpful to us in increasing our understanding of how bats are using the site, but it makes it difficult to do a year-to-year comparison to determine whether or not bat activity is consistent at the site from year to year or varies over time.

In addition, as Mr. Johnson mentioned, there was an equipment failure in the first year of data collection. So they were only able to collect data for the fall migration period. And, again, that body of data will speak to that time period but does not allow us to compare bat activity over the whole year for that first year that data were collected with subsequent years.

Only one of the potential 14 species of bats that could have occurred at the site, only one species was identified down to the species level. So that leaves quite a bit of uncertainty about the bat fauna and how we can characterize it.

Two of the bat species have status, mentioned this morning, that's Townsend's Big-eared Bat and Keen's Myotis. One of the things about this site being in Western Coniferous Forest is that it appears to me that it could be the first wind site located in the breeding range of Keen's Myotis. So this species being a myotis is at a relatively lower risk of being wind tower mortality. But this is a novel project from that standpoint. As near as I can tell we have never had a wind farm located in the breeding range of this species. So it introduces, you know, some -- an open-ended question; what could be the impact to any breeding of Keen's Myotis in this area? And because, again, this site is located in a novel habitat from the wind energy generation standpoint, and is, again, as Mr. Johnson described this morning, we have very little data upon which to base a cumulative impacts analysis. And that's certainly the case when exploring the potential impacts to bats.

So one other thing I would like to point out relative to the bats is Exhibit 31.02, which is -- I'm not sure, I think you can see this, I hope everyone has this

available to them. I took the bat data that were presented both in the application and in the draft EIS by Mr. Johnson. And he reported in the table there some data that were collected at five WRAs around the country wherein bat activity was recorded, number of bats per detector night as well as follow up indicating how much mortality results from that activity. So, again, there were five WRAs. And I plotted those data, and then I ran a regression analysis, generated a regression line. And you can see that line crossing essentially through the center of the graph.

Now, what this regression analysis suggests is that there is a relationship between bat activity at WRAs and bat mortality. And the R-squared value, which is shown in the graph up here, indicates that 63 percent of the mortality in bats can be explained by bat activity. The remainder of that variance, the other 37 percent, would be presumably explainable by other factors that aren't incorporated in this model.

Now, if you're a biologist or a statistician that relationship or the strength of that relationship, 63 percent of the variance being explained, is interesting, that would catch your attention. It's not overwhelming, but it does suggest that there is a relationship.

So against those five data I then took the two full seasons of data that Mr. Johnson's team generated at

the Whistling Ridge site and used that predictive line to project, to predict what bat mortality could be at Whistling Ridge. So at the lower end of the scale the 2009 data suggested that there could be about 8.4 bats killed per turbine per year at Whistling Ridge. The 2008 data which recorded considerably more bat activity suggested that mortality could be as high as 97.2 bats per turbine per year.

Now, the testimony that we heard from Mr. Johnson this morning revealed that very recently some peer reviewed papers came to light indicating that data collected at elevation is much more likely to be predictive of bat mortality at wind energy sites. And that would be reflected in this graph down at the 8.4 bats per turbine per year. And that's encouraging, you know, in the context of this project.

However, we can't simply pick and choose the data that we would like and think might fit our story. We have to work with what was generated here. And I just -- my point in this, and in all of these questions that I've raised around the bat data, are that there's enough ambiguity in the data that we have collected for this site, and enough lack of understanding about the bat fauna at the site, and how it's going to respond in this novel environment, that we really need to continue -- if the site

is permitted we really need to continue studies to better understand this bat community and better understand what the impacts may be of this facility. So, certainly, it would be my suggestion that that be a priority for future work at the site is to continue the bat studies.

Q. As I look at this, and please correct me if I understood it wrong.

JUDGE WALLIS: Mr. Kahn, would you bring that microphone up, please.

MR. KAHN: Yes.

BY MR. KAHN:

Q. In 2008 there was 138.4 under the column of activity, number of detectors at night; whereas, in 2009 it was 11.6. To me, a layperson, that seems like quite a bit of variation. Does that cause any concern for you of the accuracy of any of this data?

A. Well, I would not call the accuracy into question. I think that accurately reflects the number of bat passes that were recorded. The question that does raise, or the issue that I think it does point to is the difficulty of comparing data year to year that are collected at different locations and different elevations within the site.

MR. KAHN: Okay. Thank you. That's all I have.

CROSS-EXAMINATION

BY MR. CANTRELL:

Q. Mr. McIvor, thank you. Shawn Cantrell with Seattle Audubon. First, I would just reference your resume and disclose for the record that in your past employment you have worked for Audubon; is that correct?

A. Yes. And I believe I've reminded you several times, having witnessed your cross-examination, that we have been colleagues in the recent past.

Q. My point being though that while we both worked for organizations that had Audubon in the name they were legally separate entities, you and I had no professional colleague relationship? We did have a loose alliance between our two organizations, but they were separate; is that correct?

A. I would say that's an accurate depiction of the relationship, yes.

Q. Great. You preempted me, I was going to give you the opportunity to comment on the photos in Exhibit 1.03R. Could I at least get you to clarify, to correct a misstatement that was made by, I believe Mr. Reams, who said there was three pictures. There is in fact ten pictures, which is a magnitude of three times more information than he suggested I was offering him to make a professional judgment on?

A. I will confirm that discrepancy, yes.

Q. Thank you. Then one other clarifying question at the front here is that when you were talking about the proposed mitigation site and other activities you stated that you had not visited the site. I wanted to clarify by that you meant the proposed mitigation site, you were not referring to the actual project site which you have visited; is that correct?

A. I was referring to the proposed mitigation site which I have not visited, nor have I had the opportunity to visit the project site.

Q. Okay. I just wanted to understand and clarify that. So just a few questions on your testimony. On page 7 of your testimony, lines 14 through 16, the second half of the sentence it reads, "but it is important that a postproject monitoring program should assess this risk, and competent site management actions could mitigate such situations through proactive curtailment." That's the part I'm really interested in if you need to add any context, but can you describe to me what you're talking about here?

A. Right. So one of the holes in the data, in our understanding of the site, revolves around nighttime migration activity of songbirds. And songbirds do migrate predominately at night. And Mr. Johnson did not conduct surveys for nighttime migration. And the fact that he did not do that is actually pretty consistent with the wind

energy guidelines in the since that it's recommended that those types of surveys be conducted if it appears that the site is one which supports an important passerine migration.

And based on my understanding of the site I would tend to concur that there are not any obvious features which would funnel songbirds to concentrate in that area. Nonetheless, some diffuse migration could certainly be expected through the site.

My point in this paragraph of my testimony is that there are potentially some extenuating circumstances which could concentrate songbirds migrating through to the site. And this is a hypothetical, but it certainly is known to occur elsewhere where storm passage can encourage birds to shift their migration pattern in order to avoid storm systems with which they would otherwise have to expand energy to get through.

So, you know, it's certainly not beyond the realm of conception that some significant storm system would come through concentrating birds on the east side of the Cascades and there could be a strike of that. I think this would be very unlikely, but, again, not beyond the realm of possibility. It's something to be aware of. And if that type of event were to take place it seems to me that a TAC could evaluate the outcome, and then suggest that in future similar meteorological events that the towers be curtailed,

for example, to reduce the likelihood of mortality.

Q. So in the first part of the sentence -- or the first part of the last half of the sentence there on line I guess it would be 14, highlighting the importance of postproject monitoring program, is it your testimony that this would be a good issue for postproject, postconstruction monitoring of a TAC or EFSEC or some other entity should suggest if not require?

A. Well, I do think that, again, the situation at the site with songbirds has some parallels to the bat situation in the sense that this is a new habitat-type that we are considering for siting this wind facility. And the -- it's new to the Pacific Northwest, and predominantly our experience here has been with facilities sited in shrub-steppe and agricultural settings. And, you know, my concern is that the resident bird community in the Western Coniferous Forest is a different suite of birds then one would encounter, and, therefore, have experience with out in the shrub-steppe.

I looked at the list of bird species that was gathered on site for this project. I came up with a count of 87 species, slightly lower than the number Mr. Johnson reported this morning, but I dropped the unidentified species of which there were a few. So 87 species.

In a very informal review of that list I

identified 62 of those birds as being forest associated birds. So some of them like the Olive-sided Flycatcher is a forest dependent bird, the distinction being that it has to have forest or you're not going to find it. Forest associated birds would include those that are most likely to occur in the forest, you might encounter them in lower numbers out in the shrub-steppe or in different habitat types.

So 71 percent of the birds on the site are forest associate birds. And it simply suggests that should this project be permitted we've got a new suite of bird species that may be reacting differently or out of the range of our experience with what we have recorded in the past. So, yes, based on those concerns I would certainly recommend that bird monitoring at the site continue both as a way of expanding our knowledge of how birds are going to react to these new features as well as a way to inform, better inform cumulative impacts analysis in the future.

Q. Along those lines, if I have you turn to page 15 of your testimony, which talks about potential mitigation measures to be suggested?

A. Uh-huh.

Q. Lines 11 through 15, 16 you talk about some of the postconstruction studies, you specifically talk about mortality studies. I'm wondering just based on the response

you just gave a moment ago about other studies it doesn't seem like you say explicitly here in the testimony, if I asked you to verbalize your opinion on whether or not live bird avian use studies at the site would be appropriate and valuable postconstruction?

A. Well, I think they would, although I think some consideration should be given to whether those studies focus on a handful of species rather than continuing to try to characterize the entire avifaunal community.

And in particular there are some status species that have been documented at the site which would, if the project were permitted, encounter wind towers for the first time, particularly in their breeding range. And those include the Pileated Woodpecker, Vaux's Swift, Western Bluebird, and I would put the Northern Goshawk in there as well. And although they don't have status I would include the Cooper's Hawk and the Sharp-shinned Hawk in there, because the Cooper's Hawk, Sharp-shinned Hawk, Northern Goshawk are all forest dependent accipiters. And, again, this would be a unique experience, we really don't know how those birds are going to be able to navigate a wind energy facility. So we certainly need to improve our understanding on that aspect.

Q. Thank you. Then the last question I have for you is in your testimony on page 9, lines beginning at 18 going

to the end of that paragraph at 21, you say, "It is worth noting that all 21 of the birds," this is specifically referring to Olive-sided Flycatchers, "all 21 of the birds recorded at the site during the 2006 surveys were within the rotor-swept area (this metric"--whether or not they were in the rotor-swept area--"was not recorded during the 2009 surveys.)"

So is it your understanding that every single Olive-sided Flycatcher that was noted, if they noted where it was, was right where the turbines are going to be spinning?

A. That was my interpretation of the data that was presented, yes.

Q. Does this cause you concern, alarm, no big deal, what's your reaction to this?

A. Well, I have some concerns about the collision risk model that was developed for this project. And Mr. Johnson has responded to those concerns in his rebuttal testimony, and I'm fairly confident that my concerns regarding the model are largely going to be addressed in the final EIS.

So that being said, I don't think I'm ready to defend the findings of the collision risk index which is what's reflected here. However, that being said, yeah, the fact that 100 percent of Olive-sided Flycatchers were seen

in the rotor-swept zone is, you know, does seem to suggest that they could be at risk of collision.

Q. Thank you. Just one other question that occurred to me. Were you in the hearing room this morning when Mr. Johnson testified regarding, in response to a number of questions I asked him about abundance of number of species, particularly Olive-sided Flycatcher, and whether or not this project site was a relatively low number, high number compared to other comparable commercial industrial forestlands in the region, were you here for that?

A. Yes, I was.

Q. Do you have any thoughts or response to that same question that I was asking him, either knowledge you have or the challenge that the application has by failing to have comparable abundance for other comparable areas?

A. Well, I would be more comfortable if it were -- if we had a dataset that would allow us to place this site in context, that would allow us to understand if there are a lot of birds here or not many compared to other similar sites. So it is a little bit challenging on that front because of that. Those data were not presented, either weren't available or weren't collected, weren't presented. We don't have them.

I also have I guess I would describe it as a logic problem with one of the premises presented in the bird

analysis, which is that if a bird is rare it's of less concern because it's less likely to encounter a rotor. And the problem that I have with that is that if -- and I think you elucidated this point this morning, if you have a small population, just a few birds, a single mortality event can disproportionately affect that small population. So in the case of the Northern Goshawk they don't occur in high densities anywhere within their range, wherever you find them they're very low density. Only a few were seen at this site. But one would expect probably at most one or two breeding pairs in the vicinity. And I know surveys were done and no nests were found on the site but adjacent to.

Well, if you have four birds and one gets killed you've lost 75 percent of your local population. Now, I know the focus and the concern is the overall population, but there's still potentially a local impact.

MR. CANTRELL: Thank you. I have no other questions at this point.

MS. ANDERSON: Very briefly, Mr. McIvor.

CROSS-EXAMINATION

BY MS. ANDERSON:

Q. Taking a look at your Exhibit 31.02, page 1. Were you present this morning to hear Mr. Johnson's explanation for the three years worth of -- let me rephrase that. Were

you here to hear his explanation for the different location of bat data gathering devices over three years worth of studies?

A. Yes, I did hear that.

Q. Did you understand his explanation?

A. Yes, I did.

Q. Do you have any opinion as to whether or not his explanation correlates with the studies on bat behavior and measurement at flight heights?

A. Could I ask you to rephrase the last question?

Q. Sure. Are you familiar with the studies that he cited?

A. Yes.

Q. Very recent studies that suggest we should be monitoring them at a place where they're more likely to be found, i.e., in their flight path?

A. I have read two of those studies. I think he cited either three or four, but, yes, I am familiar with this new information.

Q. Do you have any reason to disagree with it?

A. No, intuitively, it makes sense.

Q. Okay. Would it be correct to say that the Anabat data devices that were located at the swamp is not in an area that is consistent with those recent surveys?

A. That's correct. And the data collected at the

swamp are not included in these numbers.

Q. Which numbers are you referring to?

A. That would be the 2008 activity numbers per detector night.

Q. Are you also familiar with the forest corridor numbers that Mr. Johnson collected and explained this morning?

A. I am aware of them. I couldn't tell you what they are. But I know that they are a significant part of the activity that was recorded.

Q. Did you hear his explanation for them?

A. Yes.

Q. Any reason to disagree with that?

A. No.

Q. To be clear, on Exhibit 31.02, that data is included in your regression analysis; isn't that correct?

A. Yes, that's correct.

Q. If you were to remove the data that Mr. Johnson suggests is not analogous to the data generated on the other site what happens to this regression analysis?

A. Well, the line would not change because that's based on the five other WRAs from around the country. What would change, however, is the number of predicted mortalities at this site, Whistling Ridge. So that number that you see there, 97.2 bats per turbine per year, would

drop concomitantly with the removal of that body of data reflective of what was collected in the corridor. Without running the numbers I couldn't tell you where it would drop, but it would certainly be quite a bit less than what's seen there.

Q. Okay. The 8.4 that you show on this regression analysis, that is the bat data that was taken in 2009 after the Anabats were adjusted for height as all the studies recommend?

A. That's correct.

Q. Would it be fair to stay then that if we remove the forest corridor icon from this regression analysis the bat mortality at the project using the 2009 numbers is squarely within the range of all the other projects studied?

A. It is.

Q. You indicated earlier some, I'll use the phrase dissatisfaction, you may disagree with me, about the inter-year variability in this data. How many years of bat surveys are typically performed on a wind project in the state of Washington?

A. Fewer than three.

Q. In fact, is there a requirement for any bat surveys on a project?

A. That I don't know.

Q. Have you ever seen a project in the state of

Washington do three full years of bat studies?

A. No.

MS. ANDERSON: I have nothing further.

MR. MARVIN: Just one redirect.

REDIRECT EXAMINATION

BY MR. MARVIN:

Q. Is this case a case where we have three full years of bat studies that were performed?

A. Well, we have -- I would characterize them as two and a half, two and some fraction.

Q. And when you perform bat studies, typically in a preconstruction setting, you are looking to determine or assess or predict the potential risk posed to bat populations posed by the wind turbines; correct?

A. That's correct.

Q. So presumably in 2008 when the bat studies were performed they weren't doing a bat study simply to study bat activity at ground level; correct?

A. Correct.

Q. Why do you think that study was performed?

A. I'm not sure why particular sites -- I mean I understand why what's being called the swamp site was chosen because that is an area where bats would be expected to congregate. But why within the site particularly places

other than the swamp were chosen to locate Anabats I don't know.

Q. And do you still stand by your testimony that there's ambiguity with regard to the results of these bat surveys?

A. I do. And, you know, one of the points that I don't want getting lost here is that I feel that the data that were collected are very hard to compare from year to year. So I would be a lot more confident about the way the bat activity was characterized if we had two or more years of data that were collected in the same fashion, so all elevated sites, which I think would be appropriate given what we're trying to predict.

MR. MARVIN: I have nothing further.

MS. ANDERSON: One follow-up.

RECROSS-EXAMINATION

BY MS. ANDERSON:

Q. Mr. McIvor, has anybody in the state of Washington on a wind project ever put Anabats on a met tower to most accurately predict the flight path for bats?

A. I think this is a new approach as far as I know.

MS. ANDERSON: Nothing further.

JUDGE WALLIS: Is there anything further of the witness?

Any questions from Council Members? Mr. Tayler.

///

CROSS-EXAMINATION

BY MR. TAYLER:

Q. Mr. McIvor, you mention this was the first time wind farms has been in the vicinity of bluebirds. I'm curious, the Bickelton Wind Farms seem to be surrounded by bluebirds?

A. No, you're correct. I misspoke. That is a bird which you would expect to encounter in shrub-steppe. They would be more likely to be breeding in this sort of area because they are cavity nestors. And they would -- they like these interfaces between forest that have cavities and open areas where they can forage. So I stand corrected.

Q. Thank you. The other question I had was related to the swamp and bats. It was mentioned a number of times in terms of the data collected there not being appropriate because it elevated -- there's a lot of bats there. Can you speak to the relationship between the turbine strings and the swamp and the distance and you know.

A. I can't. Yeah, I can't tell you the metrics of how far apart those are. I am aware that there is an effort to separate the features, but I don't know by what distance and how that would relate to bat activity.

Q. Let me ask another question about the swamp. On

this site how important based on the data that you've seen is the swamp to bats? If you were going to try to conserve bats how important is that swamp area?

A. I think it would be very important. It's an area where you would expect bats to focus their foraging efforts based on the availability of the water for drinking, but also the presence of the water tends to support good insect community.

MR. TAYLER: Thank you.

MR. KAHN: I have one.

JUDGE WALLIS: Any other questions from Council Members? No.

RECROSS-EXAMINATION

BY MR. KAHN:

Q. Mr. McIvor, on what is Figure 2.1 which is Exhibit 1.11, I believe, do you know where this swamp is located?

A. You know, I could point to the general area but I would have to study the map to relocate it.

MR. KAHN: Okay. That's all. Thank you.

MR. MCMAHAN: Your Honor, Members of the Council, I might suggest, and I haven't asked my client about this, but if you want a better understanding of where the swamp is located when he takes the stand again let's have him point

that out for you.

JUDGE WALLIS: Thank you. Anything further for the witness? Let the record show there's no response. Mr. McIvor, thank you for appearing, you're excused from the stand. Let's be off the record to assess where we are and where we want to go.

(Brief discussion held off the record.)

(Mr. Smallwood takes the stand.)

JUDGE WALLIS: Let's go back on the record. Mr. Smallwood has taken the stand. Would you raise your right hand, please?

KENNETH SHAWN SMALLWOOD,

having been first duly sworn on oath,

testified as follows:

DIRECT EXAMINATION

BY MR. KAHN:

Q. Dr. Smallwood, would you spell your name for the record, please?

A. K-e-n-n-e-t-h, Kenneth, Shawn, S-h-a-w-n, Smallwood, S-m-a-l-l-w-o-o-d.

Q. And did you submit testimony in this matter?

A. Yes.

Q. Both direct and rebuttal?

A. Yes.

Q. And if you were asked the same questions now that you're under oath that you were asked in that testimony would your answers be the same?

A. Not exactly.

Q. You have a couple corrections to make?

A. Yes.

Q. As a result of that did you prepare an errata sheet which is entitled Exhibit No. 22.00E?

A. Yes.

Q. I believe that was distributed to all the parties and to the council earlier. Are these the corrections that you wish to make to your testimony?

A. Yes.

MR. KAHN: At this point I would ask for the admission of Exhibits 22.0, 22.00E, 22.05R, 22.01 through 22.04?

(Exhibit Nos. 22.00, 22.00E, 22.01, 22.02, 22.03, 22.04 & 22.05R offered.)

JUDGE WALLIS: Is there an objection?

MS. ANDERSON: I would like to voir dire the witness, please.

JUDGE WALLIS: Yes.

VOIR DIRE EXAMINATION

BY MS. ANDERSON:

Q. Mr. Smallwood, were you responsible for preparing your direct testimony in this matter?

A. Yes.

Q. Did you rely on anybody else to prepare that?

A. No.

Q. Did you conduct all of the analysis and mathematical calculations yourself?

A. I did.

Q. Did you read the baseline avian data contained in the application for site certification?

A. Yes.

Q. Did you read the supporting wildlife and avian data in the draft Environmental Impact Statement?

A. Yes.

Q. Did you read Mr. Johnson's prefiled testimony?

MR. KAHN: Your Honor, I'm not sure what the point of this is. If it's to try to impeach the witness with something else that's not an appropriate line of questioning for the admission of this document.

MS. ANDERSON: It is the purpose of voir dire, however, to determine the nature of the documents that they're offering.

JUDGE WALLIS: I'll allow the questions.

BY MS. ANDERSON:

Q. Mr. Smallwood, did you pre -- let me ask you this. Did you read Mr. Johnson's materials prior to preparing your direct testimony?

A. Which materials?

Q. The materials in the ASC, the draft EIS and his declaration, prefiled testimony?

A. I read what was in the EIS.

Q. You didn't read the application for site certification materials?

A. Yeah, I did. Yes, I did.

Q. Are you now changing your opinion as to the lines of evidence that WEST used in order to generate their avian data, their avian mortality data?

A. No, I'm changing the perception I mistakenly made, because I changed the wording basically from one draft to another draft. And I inadvertently gave the impression that the lines of evidence I was talking about were for Whistling Ridge specifically.

Q. Where did you form your impression then that has now changed?

A. Oh, well, I read rebuttal testimony from Mr. Johnson who pointed out that I didn't rely on nest density, and I went back and looked at the wording, I realized, yeah, I misworded that.

Q. However, you proceeded to analyze his use of the nest density data in critiquing his initial analysis; isn't that correct?

A. Not for Whistling Ridge in particular, but for the way they go about -- well, one of the possible ways you can go about predicting fatality rates, yes.

Q. So you're extrapolating prior history of WEST's work in your understanding and applying it to what you think he did here; is that correct?

A. Yeah. I'm trying to get at -- I'm trying to understand how you can come to a prediction of fatality rates. There's several ways you can do it. I've read all the WEST reports I can get my hands on, and I've identified those approaches that are possible.

Q. Is it your testimony today that on Whistling Ridge he in fact did not use nesting data despite your original testimony?

A. I don't see any evidence that he used any nesting density data in Whistling Ridge.

Q. And your critique and analysis of his use of nesting data on this project then is in error?

A. That was in error.

MR. KAHN: Your Honor, again, this seems like it's more appropriate for cross-examination than voir dire.

MS. ANDERSON: I am concerned with either

correcting a mistake or changing our opinions, because I don't believe that the Council's intention in its various prehearing orders was that up until the very last minute we got to change our opinions through errata. We can correct mistakes. That's my intent here. Is he changing his philosophy about Mr. Johnson's work or is he simply correcting a mistake? I'm going to move on. There are two items in the errata sheet. The second one is a mathematical calculation. Did you make the original --

JUDGE WALLIS: I'm tending to agree with Mr. Kahn here that this is more appropriate for cross than it is for voir dire. Let's get the exhibits introduced or described and offered and then you can engage in examination.

MS. ANDERSON: Okay. I won't object then, let's get them in.

JUDGE WALLIS: With the exceptions noted is there any objection to the documents? Let the record show there is no response and the exhibits of this witness in the 22 series are received in evidence.

(Exhibit Nos. 22.00, 22.00E, 22.01, 22.02, 22.03, 22.04 & 22.05R admitted.)

MR. KAHN: And that would include the errata sheet?

JUDGE WALLIS: Yes.

MR. KAHN: I have no further questions.

JUDGE WALLIS: Very well. Now cross.

MS. ANDERSON: Your Honor, I'm going to defer to Mr. Cantrell. He's done an excellent job of eliciting testimony today. So if I may go behind him I'm going to take advantage of it.

MR. CANTRELL: I guess I would refer this back to your prehearing order, or I don't know if it was a formal order or suggestion, that we would proceed in order of the most involved parties, and then myself or other less involved parties would have the opportunity. I was more then happy since it seemed like I was the only one who was going to ask some questions of the earlier witnesses, but my sense is that given the volume that's in here my questions are going to be much less than others. And rather than me repeat them all from other people I would rather just do it once.

JUDGE WALLIS: Very well.

MS. ANDERSON: At this time I have no questions of the witness. I will see what Mr. Cantrell has to elicit and should I need to make any follow-up I will.

MR. CANTRELL: Here comes Bruce, he's before me. I'm not sure that I have questions that merit our time at 4:25 given the volume of information that's already on the record. If people are going to not spend a lot of time then I probably want to jump in, but I'm less inclined to lead

the charge.

MR. MOSS: Judge Wallis, I have one question for clarification in this errata which I just received I see the very last "Q" and "A" asks you to explain a correction, and you indicate that you made a math error, etc., and so forth. You say, I mistakenly calculated a number of my statements in the rest of the paragraph based on the mistaken number and therefore unfounded. I would like you to identify the paragraph so we can find it in your testimony and perhaps excise it from our own.

THE WITNESS: All right. It was page 27, beginning of the paragraph beginning line 16. So paragraph was good down to line 18 and a half.

MR. MOSS: But after line 18 we should just strike it or ignore it?

THE WITNESS: Yes.

MR. MCMAHAN: I'm sorry, I didn't quite get that, Mr. Smallwood. So what's the last word of the sentence that's good and the first word of the sentence that's bad?

THE WITNESS: 1,700 is the last good one. And the first bad one is "for."

MR. MCMAHAN: For how many sentences do we have bad text?

THE WITNESS: More than I would like.

MR. KAHN: The rest of the paragraph.

MR. MCMAHAN: All the way into the next page then?

THE WITNESS: It goes to the next page, page 28 down to line 6.

MR. MCMAHAN: Got it. Thank you.

MR. MOSS: That's all I have, Judge Wallis. Thank you.

JUDGE WALLIS: Thank you. Mr. Marvin, do you have questions of the witness?

MR. MARVIN: No, Your Honor. Thank you.

JUDGE WALLIS: Are there questions from Council Members?

MS. ANDERSON: Very good. I have none. I have no questions, Your Honor. I'm done.

JUDGE WALLIS: Very well. It looks like redirect will be limited.

MR. KAHN: I have none.

JUDGE WALLIS: Very well. So, Mr. Smallwood, I believe you may be excused from the stand at this point. Thank you for appearing before the Council.

Let's be off the record, please.

(Discussion held off the record.)

JUDGE WALLIS: Let's be back on the record, please.

Brief update on schedule. Mr. Michaels will not be appearing next week but will be available in the event

that cross-examination is desired at a later date by telephone. We have asked that the parties provide information by tomorrow that would allow us to schedule facilities as necessary for next week. We will start tomorrow morning at 8:00 with the testimony on limited areas by Mr. Spadaro. And I believe that covers the items that are necessary for the record. Is there anything further?

Let the record show that there's no response. And we are in recess.

* * * * *

(Whereupon, the proceedings went off the record at 4:40 p.m.)

I N D E X

I N D E X (Cont'd)

E X H I B I T S

NO.	DESCRIPTION	ID	OF	AD	REJ
6.00	Direct testimony of Greg Johnson		618	618	
6.01	Resume of Greg Johnson		618	618	
6.02	Raptor comparison by Greg Johnson		618	618	
6.03	All birds comparison by Greg Johnson		618	618	
6.04R	Rebuttal testimony of Greg Johnson		618	618	
6.05C	Committee Conference Onshore Wildlife Interactions with Wind Developments		668	669	
6.07C	Excerpt from Postconstruction Avian & Bat Fatality Monitoring Study, Tuolumne Wind Project, Klickitat County, Washington		668	669	
6.08C	WDFW email exchange No. 3		668	669	

///

E X H I B I T S (Cont'd)

NO.	DESCRIPTION	ID	OF	AD	REJ
6.09C	WDFW Wind Power Guidelines, April 2009	722	734	734	
6.10C	Three letters from WDFW	813		813	
5.00	Direct testimony of Jeff Reams		754	754	
5.01	Resume of Jeff Reams		754	754	
5.02	Owl history at activity centers by Jeff Reams		754	754	
5.03	Barred Owl locations by Jeff Reams		754	754	
5.04	USFWS ESA letter dated 7-19-10		754	754	
5.05	Goshawk survey areas by Jeff Reams		754	754	
5.06	Goshawk survey results by Jeff Reams		754	754	
5.07	WRWEP 2010 Northern Spotted Owl Observations by Jeff Reams	776	795	795	812
31.00	Direct testimony of Don McIvor		815	816	
31.01	Resume of Don McIvor		815	816	
31.02	Bat activity by Don McIvor		815	816	
22.00	Direct testimony of K. Shawn Smallwood		842	846	
22.00E	Errata sheet by K. Shawn Smallwood		842	846	
22.01	Resume of K. Shawn Smallwood		842	846	

E X H I B I T S (Cont'd)

NO.	DESCRIPTION	ID	OF	AD	REJ
22.02	Klickitat County Energy Overlay by K. Shawn Smallwood		842	846	
22.03	Avian & Bat Mortality at the Big Horn Wind Energy Project, Klickitat County, Washington		842	846	
22.04	Siting Repowered Wind Turbines to Minimize Raptor Collisions		842	846	
22.05R	Rebuttal testimony of K. Shawn Smallwood		842	846	

In re: Whistling Ridge Energy Project

A F F I D A V I T

I, Tami Lynn Vondran, CCR, do hereby certify that the foregoing transcript prepared under my direction is a full and complete transcript of proceedings held on January 6, 2011, in Stevenson, Washington.

_____
TAMI LYNN VONDRAN, CCR 2157