BEFORE THE STATE OF WASHINGTON

ENERGY FACILITY SITE EVALUATION COUNCIL

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|---|---|
| In the Matter of the Application of:<br><br>Scout Clean Energy, LLC, for Horse Heaven Wind Farm, LLC, Applicant | Docket No. EF-210011<br><br>MOTION TO SUPPLEMENT THE RECORD |

ATTACHMENT C



**YAKAMA NATION**
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**In the Matter Of:**

In Re: Scout Clean Energy, LLC

# JASON FIDORRA

*July 20, 2023*

*Job Number: 995986*

BEFORE THE STATE OF WASHINGTON

ENERGY FACILITY SITE EVALUATION COUNCIL

| | |
|---|---|
| In the Matter of the Application of: | DOCKET EF-210011 |
| Scout Clean Energy, LLC, for Horse Heaven Wind Farm, LLC, Applicant. | |

CERTIFIED COPY

DEPOSITION UPON ORAL EXAMINATION OF JASON FIDORRA

July 20, 2023
9:01 a.m.
1030 North Center Parkway
Kennewick, Washington

TAKEN AT THE INSTANCE OF THE PETITIONER

REPORTED BY:
DANI WHITE, CCR NO. 3352

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MR. PAT LANDESS
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MR. TROY RAHMIG (via videoconference)
MR. ERIK JANSEN (via videoconference)

I N D E X

In the Matter of the Application of: SCOUT CLEAN ENERGY, LLC, FOR HORSE HEAVEN WIND FARM, LLC
DOCKET NO. EF-210011
July 20, 2023

T E S T I M O N Y



E X H I B I T S

BE IT REMEMBERED that on Thursday, July 20, 2023, at 9:01 a.m., at 1030 North Center Parkway, Kennewick, Washington, the deposition of JASON FIDORRA was taken before Dani White, Certified Court Reporter. The following proceedings took place:

(Exhibits 1 - 5 marked for identification.)

JASON FIDORRA, being first duly sworn to tell the truth, the whole truth and nothing but the truth, testified as follows:

EXAMINATION

BY MS. VOELCKERS:

**Q. Good morning, Mr. Fidorra. My name is Shona Voelckers. I'm an attorney for the Confederated Tribes and Bands of the Yakama Nation. And for the record, we have your legal counsel joining us remotely today, as well as counsel to other parties to the proceedings.**

**Can you please state and spell your full name for the record?**

A. It's Jason Fidorra, J-a-s-o-n F-i-d-o-r-r-a.

**Q. Thank you.**

**This deposition is being taken under the Washington State Rules of Civil Procedure. Have you ever been deposed before?**

A. No.

**Q. Okay. I'm going to start with just some ground rules for today's deposition to help us create a clean and clear record together.**

**Everything we both say is being recording by our court reporter so it's important that we speak clearly. Instead of saying "uh-huh" or "huh-uh," please say "yes" or "no" today; is that okay?**

A. Yep. Yes.

**Q. It is also important that we don't speak over each other today. So please wait until I finish each of my questions before answering, even if you think you know what I'm going to ask; is that okay?**

A. Okay.

**Q. You have just taken an oath that requires you to tell the whole truth and nothing but the truth during today's deposition. Do you understand that?**

A. Yes.

**Q. This is the same oath that you would take if you were testifying in court. Do you understand that?**

A. Yes.

**Q. We are here today to find out everything you**

know about the topics we discuss so please give full and complete answers. If you remember additional information later on in the deposition, will you tell me?

A. Yes.

Q. If I ask an unclear question, will you let me know so I can rephrase the question?

A. Yes.

Q. And when I use the acronym WDFW today, I'm referring to the Washington State Department of Fish and Wildlife. Do you understand that?

A. Yes.

Q. When I use the term "project" today, I'm referring to the Horse Heaven Wind and Solar Project. Do you understand?

A. Yes.

Q. When I refer to Scout for the applicant today, I'm referring to Scout Clean Energy, LLC. Do you understand that?

A. Yes.

Q. When I use the acronym EFSEC or E-F-S-E-C today, I'm referring to the Washington State Energy Facility Site Evaluation Council. Do you understand that?

A. Yes.

Q. I'm not going to ask you anything today about

**conversations between you and your legal counsel or information that is otherwise protected by attorney-client privilege. While I expect that your work on the project may have involved conversations with Mr. Jon Thompson, my understanding is that he represents EFSEC in this proceeding and does not represent you directly.**

**Therefore, any conversations between you and Mr. Thompson are not protected from attorney-client privilege in the same way that your direct communications with WDFD's legal counsel is. Do you understand that?**

A. Yes.

**Q. Unless an answer involves privileged communications with WDFW's legal counsel, I do ask that you answer every question, even if one of the attorneys makes an objection. Do you understand that request?**

A. Yes. I think.

**Q. Is there anything unclear about that request?**

A. I'm not sure. But, yeah, I'll do my best unless directed to not respond by my legal counsel.

**Q. Great. So unless directed to not respond by your legal counsel, you understand that you need to answer the questions that are asked today?**

A. Yes.

**Q. Great.**

**You were served with a subpoena for this deposition, which includes certain sideboards on what I will be asking you about today. Consistent with that amended subpoena, I do not intend to ask questions about your direct communications with EFSEC staff or EFSEC's consultants' thought processes regarding the project.**

**I also do not intend to ask for your opinions regarding the draft Environmental Impact Statement that was recently issued for the project. I do plan to ask about your personal scientific opinion and analysis of the project itself.**

**If your legal counsel has any concerns about the scope of a specific question that I ask, I ask that you still answer that question and then allow legal counsel to resolve any of those concerns.**

**I anticipate that between my questions and those of the parties who are with us today, we will be talking at least until lunch. I plan to take a break about every 60 minutes, but if you need a break before then, will you let me know?**

A. Yes.

**Q. And my only request will be that you answer the most recently-asked question before taking a break. Is that okay?**

A. Yep.

**Q. Is there any reason, medical or otherwise, why you cannot give full, complete, and accurate testimony during today's deposition?**

A. No.

**Q. Okay. I'm handing you what has been marked as Exhibit 1, and it was also emailed to those -- to counsel who are attending remotely as Exhibit 1.**

**Are you familiar with this document?**

MS. VOELCKERS: Sorry. I have copies if you want them.

MS. PERLMUTTER: That would be great, if you don't mind. It would just be easier, and we can all share.

MR. VOELCKERS: You can pass them down.

MR. PERLMUTTER: Awesome. Thank you so much.

A. Yes, I'm familiar with the document.

**Q. (By Ms. Voelckers) How are you familiar with this document?**

A. I wrote this document.

**Q. And what is Exhibit 1?**

A. And this is my resume or CV, recently updated.

**Q. And when was it last updated?**

A. I believe for the subpoena.

**Q. In response to the subpoena?**

A. Yeah.

**Q. I won't make you walk through this, this full CV, but is it fair to say that Exhibit 1 includes all of your professional work experience and publications?**

A. It's probably -- so yes, but there's, you know, similar publications that were excluded because they just, like, for instance, the pronghorn report. I have 2003, but there's also 2001, 2019, '20, et cetera, which I believe I also submitted for the subpoena. So there are iterations of publications that also are not listed here.

**Q. Okay.**

A. But are similar in context.

**Q. So sitting here today, you can't think of anything that was omitted that would not be, if not duplicative, similar to what is in Exhibit 1?**

A. Correct. Yep.

**Q. In Exhibit 1, your current position is listed as District Wildlife Biologist, and you provided there a helpful list of what your position entails. But could you explain today what types of work product you create as a District Wildlife Biologist?**

A. Yeah. A large part of my role is to conduct population monitoring surveys over the geographic area that's my district, which is Benton and Franklin

Counties. And often there's summary reports that are produced from those efforts. Formal surveys may have a more -- contribute to a statewide report, in which case I have tried to include some of those. But then -- and a lot of those, then, even if they're not authored by me, I might be reviewing or contributing to -- data to those reports.

And then other products I'm creating include, you know, documents such as emails, recommendations, you know, recommendations for different habitat projects, be it internal comments or, you know, helping to provide context to partners. And I create a lot of emails for both, you know -- I provide information to both the general public as well as internal staff and external partners with sort of any -- sort of, you know, wildlife questions that pertain to species in the district.

**Q. Is it fair to say that your work is an important part of WDFW's public education of the community within Benton and Franklin Counties?**

A. Our -- you know, we don't do as much outreach in terms of education as, you know, but that is probably a part that I'm not involved in as regularly.

But we do, you know, regularly respond to public inquiries of people contacting me with questions, but we don't do a lot of proactive outreach.

**Q. So the population monitoring surveys that you mention, is that more for internal purposes within WDFW or external education purposes?**

A. Maybe I misunderstood kind of the education component. But, you know, we collect that data, that's used in multiple ways: One is internal uses to help us understand, you know, to either look at a research question that we're trying to answer that will contribute to conservation on the ground or to monitor a population to inform how we might either use that information for species listing or recovery actions.

And all of that is valuable to the public and could be considered education, but it's information that's available to the public and other partners. So, you know, we're not going into schools and classrooms and doing as many -- you know, I'm not doing press releases about a lot of this stuff, but we are providing that information to the public and other general audiences. So yeah.

**Q. And I don't want to mischaracterize what I'm hearing, but is it fair to say that for internal purposes, the population monitoring surveys within the region is for informing WDFW's work to manage for those species?**

A. Yes, correct.

**Q. The population monitoring survey or surveys that your work -- you're conducting, is it fair to say that that's not often, itself, peer-reviewed and published in scholarly journals?**

A. Correct. Yeah. Many of the documents I have provided are just, you know, kind of white paper, you know, just self -- self-published. Some of them are on the website. Some of them are just kind of internal. But yeah.

**Q. So the work product that you are creating regarding the current conditions for species and habitat in Benton and Franklin County would still be considered best available science?**

A. Yes.

**Q. In what way?**

A. For most of our, you know, for our work we do employ scientifically rigorous techniques. You know, we do the best -- you know, we -- we look at potential biases. We try to make, you know, estimates and apply, you know, our own scrutiny to our methods.

Several of the documents feed into -- and, you know -- and, I guess -- and in terms of best available, in a lot of this information, it's probably the only available science as well. And, you know, there's little other information out there regarding occurrence

for species in Benton and Franklin County.

But, you know, we do have our own kind of internal reviews and comments on a lot of the documents that we create and feed in, you know.

So there is some QAQC on our, you know, collected observations and then reviews of some of the, you know, reports and things like that that are produced.

**Q. And could you -- QAQC, what does that mean?**

A. Oh, gosh. Quality -- is it quality -- and basically what I mean is that there are some data safeguards. Someone else kind of can review the data and ensure quality, accuracy, and -- QAQC -- quality control, I think, are the acronyms.

But basically, there are some guidelines that if we submit an occurrence or sighting of something that, you know, maybe wasn't there, we do update as stewards within the agency that they're the ones that feed things like the PHS, our Priority Habitats and Species database. That's often used by projects and partners for understanding where things are located on the landscape.

**Q. Is it fair to say, then, WDFW has internal standards and methodologies to ensure that there is a certain quality of product that's created when you are looking at something like a population monitoring**

**survey?**

A. Correct.

**Q. And if you were to be provided survey results from an outside entity, private or nonprofit, would you look for certain standards of methodology depending on the topic of the survey?**

A. Yes. Yeah. In order to -- I mean, I guess to confirm, if I was provided partner data, I would want to know how it was collected and create my own sort of understanding of the -- the value of that data and accuracy.

**Q. And you would want to know the method of collection because you would also want to assess that depending on the species itself; is that correct?**

A. Yes.

**Q. Different -- collecting information about different species might require different methodologies?**

A. Yep. Different methods, different annual time periods, and there's a lot of, you know, variables that go into detecting species.

**Q. What do you understand the goal or purpose of your work as District Wildlife Biologist to be?**

A. I do my best to fulfill the mission of the Department of Fish and Wildlife, which is to perpetuate and protect wildlife populations within the state as

well as provide for recreational opportunity and, therefore, you know, serve the public and provide the best of scientific and species data that I can.

**Q. What division and program at WDFW do you work within?**

A. I'm in the Wildlife Program, and my work spans both the game division and the nongame division, which we call our Diversity Division.

**Q. Who are your direct supervisors?**

A. My direct supervisor is Ross Huffman. He's the Region 3 Wildlife Program Manager.

**Q. Who's his supervisor?**

A. His supervisor is Mick Cope, who is the -- I believe his supervisor is Mick Cope, who's the Deputy Assistant Director in the department.

**Q. How is your position currently funded?**

A. I -- a lot of the -- I have several different funding streams, you know. We do have some money that comes from -- there's the Pittman-Robertson funding, which is what we call PR funding, that typically funds a lot of the game work that I do. That's, you know, that's...

And then there's -- we do have general state funding that comes from the legislature. And there's money that comes from personalized license plates and

other -- you know, I know that feeds into some of our diversity funding.

And there's also grant funding that comes in statewide or cooperative grants, SWG grants, State Wildlife Grants I believe is what that means. And sometimes those come in for certain projects, you know, maybe like, you know, a bat survey or bumblebee survey or something.

Some years we have a pot of money that funds -- so there's several various pots of money as far as I understand it.

**Q. Is any of your work funded by WDFW's contract with EFSEC?**

A. No, not that I'm aware of.

**Q. How often do you work with Michael Ritter?**

A. Probably on a -- we probably have meetings together at least monthly. With -- with the increase in applications for solar and energy development, we've had more frequent meetings in the past probably two years than we had prior to that.

**Q. Are you involved in any sort of assessment or response to a new energy development outside of getting involved by Mr. Ritter?**

A. No. I believe that anything that's come across my desk has gone through Mike Ritter first. He's

usually the first to find out about it and then disseminates or reaches out to internal staff as necessary to gain information about a particular area.

And if -- if -- and if I'd ever heard about something in the past, I would have directed them towards Mike Ritter if they were searching for information on how to do something.

So if some -- I don't believe this has happened, but if someone reached out and said, Hey, I'm looking to site this project here. Who do I get in touch with? Then I would have directed them to Mike Ritter before really responding so...

**Q. So it's fair to say that your involvement is secondary to Mr. Ritter's involvement on projects?**

A. Yeah. Mike heads up the group that's the primary respondent to energy development in the state.

**Q. And how does that internal coordination within WDFW work?**

A. So typically, Mike, you know, the way it has worked in the past year or so or two or -- or in the past is that that work kind of comes in through our Habitat Program. And Mike has now kind of taken on more specifically in the past maybe two years or so, just more specific to major energy projects.

And so whether it came in through Habitat or Mike

directly, you know, the Habitat Program, you know, they are the ones who kind of develop the recommendations and responses and the letters that go out to projects.

But to get information, you know, they do have some of the available PHS, Priority Habitat and Species database information that they can see. But oftentimes, that may not possess more recent information or have some historic information that may not have been entered.

So he typically will reach out to the local biologist or species expert to get feedback and comments on, you know, a project or a response, just to see if we have any concerns that maybe he hasn't -- wasn't, you know, didn't pop up on his initial take.

**Q. From your perspective, is it fair to say that in order to fulfill his responsibilities in his role that he needs to consult with local biologists and species experts?**

A. Yes.

**Q. Within WDFW?**

A. Yeah.

**Q. You are welcome to hold onto that, but we also don't need Exhibit 1 anymore.**

A. I'll probably destroy it in a few minutes.

**Q. We have to keep it, but you don't have to keep**

**it. Thank you.**

**So before talking about the project itself, I do want to better understand your familiarity with the Horse Heaven Hills area. Are you familiar with the Horse Heaven Hills area?**

A. Yes, though, there's -- it's hard to really define where, you know -- I think the general area of -- the project area or the Horse Heaven Hills in general throughout Benton County? Yes, I'm familiar with that area.

**Q. Okay. So I guess to drill in on that a little bit. So you are familiar with the project area in terms of --**

A. Yes.

**Q. -- you have a general idea of the boundary of that project?**

A. Yeah. Broadly.

**Q. Okay. So if I ask are you familiar with the project area and the surrounding vicinity in the Horse Heaven Hills --**

A. Yes.

**Q. -- and were you familiar with that area before you learned about the project?**

A. Yes.

**Q. And -- and why is that?**

A. I -- well, I began my position in 2015. I know that this project had started quite a while ago, but I don't recall -- you know, my job, you know, becoming familiar with the species and the landscape there was really regardless of any sort of project proposal or anything like that.

So my job was sort of to know about species and distributions of species in those areas. I was doing work with ferruginous hawks and other species prior to becoming looped in on the project.

**Q. Is it fair to say that that area is an important one for you to be aware of regardless of the project because of the habitat that is present?**

A. Yes. I think -- I think because of its location within Benton County, it's an area that, you know, I respond to, you know, that I'm responsible for understanding what's present there maybe regardless of the habitat but just because it's within my Benton County district.

**Q. What is your general understanding regarding wildlife species and habitat in the Horse Heaven Hills area?**

A. Can you repeat that?

**Q. What is your general understanding regarding wildlife species and habitat in the Horse Heaven Hills**

**area?**

A. You know, some of my information is limited due to the fact there is a lot of private land in that area. And as a DFW agent, we don't have full access to always do work wherever we want.

So a lot of my formal work has been, you know, limited to selected areas due to species -- you know, knowledge about what species might be there or, you know, public land or public roads.

So in general, you know, we've done -- there's some species I know a quite a bit more about than others in that area because of private land restrictions and just different priorities. So but in general, you know, there's -- I would say I have a fairly good understanding.

**Q. And I do want to talk about specific species later on, but maybe for now, just you said there is some that you know more about than others. Which ones are the ones that you are most familiar with?**

A. Sure. So, you know, I have done specific work with pronghorn in that area, ferruginous hawks, and we're doing some more, you know, Townsend's ground squirrels, although that data is also limited.

And then in general, you know, other, you know, raptors and bird species in general are probably my more

direct or personal area of expertise.

We do a little bit with mule deer in that area. And some -- I mean -- yeah. That's -- that's probably most of the species that we have done a lot of direct work with or that I'm most familiar with.

**Q. And you said raptors and other bird species. You submitted a number of materials in response to the subpoena around the burrowing owls.**

A. Yes.

**Q. Have you done any work specifically in the Horse Heaven Hills regarding burrowing owls?**

A. A little bit. We have not -- there have been some known burrow sites in the agricultural areas of the Horse Heaven Hills from time to time. It's not an area because of the private land kind of, you know -- it's not an area that I have spent a lot of time surveying for burrowing owls, but we do know that they exist in that landscape and have documented their presence.

**Q. So you know they exist in the landscape, but you haven't been able to fully survey the area because of the private landownership?**

A. In part because of the private ownership, but also we just -- it hasn't been -- you know, the agency is looking at ways to increase our knowledge of burrowing owls in the future. I've had a few project

sites, but none of them were really in the Horse Heaven Hills.

We do have some occupancy, you know, in southern Benton County, where we know of some active burrows, and then closer to the ridge line in some wheat producer lands, we've had -- we've responded to some sightings in there as well.

So it's more incidental information, and so we do know they are present in the landscape, but we don't have a good sense of their -- we haven't done any formal surveys.

**Q. Based on what you do know, if you were able to do formal surveys, would you expect to find burrowing owls in the project area?**

A. I would -- I would imagine that there would be. Part of a -- one of the issues, you know, is that, you know, the burrowing owls are somewhat -- their habitat in terms of actual burrow sites is ephemeral. And so they may be there one or two years. They may move in a few years.

But I have seen badgers, which are one of the primary burrowing creators for burrowing owls, just because they dig so many holes, you know, they -- I've had owls nesting in fallow wheat fields. And so, you know, it doesn't take very long for owls in establish in

an area in -- you know, fallow wheat fields, they only have about a year of -- you know, in between disturbance. So, you know, they can come into an area and establish a breeding site fairly rapidly.

So the fact that it's such a large area and burrowing owls are known to reside in that vicinity, yeah. There would -- I would anticipate you would be likely to find some.

**Q. What potential impacts for new solar development first come to mind when you think of the Horse Heaven Hills area?**

A. With solar development, my understanding is, you know, one of the impacts, from my understanding, is that they've been -- the projects have typically wanted to fence off areas for, I think, more for human security-type situations, but that generally creates a pretty impermeable, you know, obstacle for wildlife movement.

And so Horse Heaven Hills, pronghorn are a species that occupy that area. They're fairly kind of a species that I could imagine having conflict with, you know, extensive fencing projects. Mule deer and other kind of -- you know, other big game that move through the kind of habitat there.

The Horse Heaven Hills ridge, in general, is --

is an area that a lot of raptors use, both in the winter -- both for breeding, you know, cliff nesting birds, but also we see a lot of wintering foraging raptors in that area. They'll use, you know, the ridge line for uplift and things for migrating, but then the big, flat, open fields on top for foraging and hunting.

How solar, you know, would impact them, you know, it's kind of a larger, you know, impact of potential foraging habitat. And then, yeah, those are some of the first species that come to mind.

**Q. Would you have a different concern for a new solar development in native shrub-steppe versus an area of agricultural fields?**

A. Yeah. Definitely if I were to prioritize, you know, some of the -- native shrub-steppe is certainly one of our priority habitats in Washington and is, unfortunately, becoming a rarer habitat of suitable quality. So yeah, we -- I would certainly prioritize a protection of shrub-steppe over agricultural lands for the purpose of habitat protection or wildlife, not necessarily speaking to economics or something like that, but from a wildlife standpoint.

**Q. In your professional opinion, is it possible to fully mitigate loss of shrub-steppe habitat?**

A. I imagine that it is possible. I don't know

that I've seen it done. You know, it's a habitat that really -- it requires a lot of -- it's constantly under threat, and it requires a long time to establish, to reach a threshold that is suitable for some of the more obligate shrub-steppe species.

**Q. Do you know of any entity that successfully is restoring shrub-steppe habitat?**

A. I -- now, I'm -- I believe, you know, we have, as an agency, have done some restoration work. I know the folks with the Yakima Training Center have done some restoration work. I don't know -- and I know that on the Arid Lands Ecology Reserve, U.S. Fish and Wildlife, tried very hard to do restoration work.

A lot of those projects that I have been aware of have failed due to -- fire regime has been the issue with the arid lands and the Yakima Training Center. You know, trying to establish a healthy shrub-steppe stand, that can take, from my understanding, you know, 30 years to reach kind of maturity. But we are facing some fire intervals that are much less than that.

So but I believe -- I believe there's people trying or I know there's people trying. But, yeah, I guess I have not personally seen a place where they've -- I've seen, you know, intact shrub-steppe be restored that -- you know, but I imagine that there's

places out there where it's happened but...

**Q. And you mentioned the impacts of fire activity on efforts to restore shrub-steppe. So is it fair to say that native shrub-steppe is more fire resilient than reintroduced habitat? I think I'm using the wrong words.**

**Scientifically, like, is it fair to say that native shrub-steppe habitat is more fire resilient than reintroduced or restored habitat projects?**

A. So I'm not sure -- I don't think that's necessarily the issue, if I can just explain a little bit --

**Q. Please. Yeah.**

A. -- about the fire ecology with the shrub-steppe. So a native healthy shrub-steppe stand not only has the larger typical, in our area, sagebrush, but then it's those sagebrush are kind of interspersed with bunch grasses or forb species that typically have a low biomass and bunch grasses that kind of are more clustered.

The issue is that we have so much now degraded shrub-steppe you start to see cheatgrass and annual grasses and other annual invasive forbs invade. And once that happens, there's now kind of this carpet of flammable material that can carry through the

shrub-steppe, and that's where we see a problem.

So it might not be that, you know, a reintroduction, you know, of the restoration itself is failed but that maybe, you know, it hasn't had the -- you know, reached that necessary climax point. Because native shrub-steppe and healthy shrub-steppe also has this biotic soil crust.

So you basically have an area that, even with natural fire in the, you know, historic time, would have only been able to carry so far. So you'd be limited in the extent of how far the fire would burn because there was just such low vegetative material but you had the soil crust. You had extreme biodiversity with many different species of forbs and lichens and mosses and shrubs and bunch grasses.

But now we see more, even though there could be, you know, if there's just -- yeah, the invasive species of vegetation is really the issue.

I imagine that a restoration project that was really, you know, careful and heavy-handed might be able to overcome those problems and may eventually have a healthy stand. But, again, you know, the ones that I know of have had challenges.

**Q. Okay. Last question on this and I'll move on, but I just want to make sure I understand.**

**So if you've got a healthy stand of shrub-steppe -- so I heard a third thing that you are talking here, which is degraded. And I just want -- so let's talk about healthy and not healthy, whether it's degraded or whether it's not yet healthy.**

**You've got healthy and non-healthy shrub-steppe and a fire comes through the area. What would you expect to see in the difference between the healthy shrub-steppe and anything less than that?**

A. Sure. So in healthy -- in my -- you know, I'm kind of thinking of a -- just an undisturbed intact without invasive grasses, which is, you know, kind of the ideal shrub-steppe.

So if a fire were to start or impact an area like that, the expansion of that fire would be slow and, ideally, small in terms of how far it would burn because there's very -- there's a lot less vegetative material to ignite, and there's these gaps in between the vegetative material. You know, some of these bunch grasses, you know, they space themselves out. The shrubs often are spaced out a little bit more, and there's not, like, this understory of flammable material.

When you have a lot of invasive annual plants, you know, your tumble mustard and cheatgrass, when we

see fire come into that kind of a scenario, the fire typically is a complete burn until it hits the roadside or, yeah, is, you know, put out or whatever.

Sagebrush itself is not fire tolerant. And so you typically see the death of any of the shrub component from that fire as well.

**Q. Would you expect to see the healthy shrub-steppe recover faster from the fire than degraded or less healthy shrub-steppe?**

A. Yeah. In that there -- in a healthy shrub-steppe, you wouldn't have complete total loss of all the shrubs, you know. You would anticipate that there'd still be remaining seed sources for some of the species; where when you have a complete burn, we see almost a total loss of the shrub component.

**Q. What potential impacts of new wind power development first come to mind when you first think of the Horse Heaven Hills area?**

A. Again, some of the species that I'm more familiar with, there could be potential -- there'd be impacts for several of the nesting raptors species, prairie falcons, ferruginous hawks, you know, and then the species that we see in the winter, additional raptors, migratory species, migratory raptors.

With wind, you know, I'm also concerned in

general just with nocturnal migrants, migratory species. Most of the wind studies, I think the one in the initial reports, you know, they often document that the number, you know, the No. 1 mortality are passerine birds. You know, they find a lot of -- you know, they're not these giant -- they're not finding -- I mean, there's a large number of small birds that are actually impacted.

So a lot of these are the passerines, which are nocturnal migrants that migrate through the area because we have, you know, this kind of concourse of where all these rivering systems, these great rivers, the Columbia and the Snake, are coming together. The general vicinity around Tri-Cities might be, you know, an area where, you know, we have a lot of passage migrants coming through.

So these are bird species like your sparrows, your blackbirds, your buntings. Some of the species of concern could include things like sage thrasher, sagebrush sparrow and, you know, other -- and other, you know, a lot of our birds migrate in the Columbia Basin. So, you know, it does include also, you know, the raptors, but those are diurnal raptors. But the ones that, you know, are often not thought of initially are some of these other smaller ones that may not be breeding in the habitat in the area but are passing

through in large numbers during migration, the warblers and things like that.

You know, I know there's been some research coming out, you know, wind turbines and the avoidance for some species, like pronghorn. I believe one of the other western states, there was a recent study that -- I haven't looked into it deeply, but, you know, I'd be interested more in, you know, how pronghorn may move in the landscape differently with wind power.

And then I'm -- I would also be curious -- I'm less well -- I'm less familiar with the impacts to bats from wind power, but it's something that, you know, I know there's a potential impact there, but I'm, unfortunately, not as personally educated on those impacts. But we do have other folks in the state that work more on bat issues.

**Q. Who would be your go-to person to ask about bat impacts?**

A. We do have a bat specialist, who's Abby Tobin, Abigail T-o-b-i-n, and she's our statewide bat specialist.

**Q. Okay. I would like to shift gears to the project itself.**

A. Okay.

**Q. I think you might have mentioned this earlier,**

**but that was more in general terms.**

**So for this project, how did you first become aware of the project and when?**

A. I'm not certain of when, though. I think it probably would have been maybe five years ago or so. I know there was some initial meetings with Mike Ritter and some project constituents that I was either informed of, there was -- quite a while ago, met with some of the Scout contractors to just go over some initial thoughts and concerns.

So Mike Ritter, I believe, would have looped me in. And I don't know the actual date, but it was certainly a few years before 2020. So yeah, my best guess would be five years ago.

**Q. So it's fair to say that you were involved in conversations about the project before the applicant applied to EFSEC?**

A. Yes. Yeah.

**Q. Do you remember roughly how many meetings you participated with the applicant or its consultants?**

A. Prior to the application with EFSEC?

**Q. Yes.**

A. I'm not certain, but I would think -- I can think of maybe like two more of -- like, in the realm of less than five. Two or three, I think. But they are --

**Q. That's okay.**

A. Not extensively, but a handful.

**Q. A handful. Yeah. I'm not going to make you walk through any of them.**

A. Yeah.

**Q. But do you know roughly how many meetings you participated in with the applicant or their consultants since the application was submitted?**

A. Do you know when the application was submitted?

**Q. Yes, but --**

A. Which date are you -- I'm not sure when the application was submitted.

**Q. Okay. Do you know how many meetings you participated in, roughly, with the applicant or their consultants in the last two years?**

A. I'm not sure. Again, I'm sort of, you know, brought into these meetings with, you know, with Mike Ritter. And sometimes I get, I believe, direct invites from some of the applicants or their representatives and sometimes they have been with EFSEC, and I'm not sure who is on those calls. But I've probably been in maybe eight or ten meetings about this project, and I can't be certain that the project components were there or who was there.

**Q. Okay.**

A. Or who initiated it.

**Q. Is it fair to say, though, that your attendance at these meetings was more in the last couple years than when you initially found out about the project?**

A. Yeah.

**Q. And you attended meetings with EFSEC staff as well as the applicant?**

A. Yes.

**Q. When you think of the project itself and its current design -- well, are you familiar with the project's general design?**

A. Not -- I have seen some of the maps and layouts. I'm not sure if they have changed recently. But I'm familiar with the general project area more than the actual specifics of that site.

**Q. Have you reviewed the general location of the proposed solar fields or micrositing corridors for the wind turbines?**

A. I believe I've seen some of those maps. And, you know, but haven't -- I don't know that the micrositing corridors -- I mean, I don't know if I've seen the more recent ones with both of the layout options. But I guess I'm more concerned with, you know, the project layout and location or I'm more focused on the general area. And I know I've seen where the solar

layouts are, but offhand, I don't -- I think there were three, and I don't know if there's still three. So yeah, I'm not maybe up-to-speed with the exact locations.

**Q. Candidly, I don't know if there's still three, but I do know that there was three in the most-recently submitted amended site certification site application.**

**Is it fair to say that you are focused more on the cumulative or larger picture of impacts of the project?**

A. Yeah.

**Q. And when you referred to both options, were you referring to the -- what did you mean by both options?**

A. So my understanding was there was two layouts of different style of turbines that were -- wind turbines that were proposed or on the table. One was a larger blade rotor area but fewer number of actual structures, and one had more structures of smaller size. And I -- I know for a long time, a lot of the earlier maps didn't have the second option, which was the fewer number of structures.

**Q. Okay. So you're familiar with the two options of having fewer -- roughly 150 turbines versus more roughly 240 turbines?**

A. Uh-huh.

**Q. Okay. Were you in any meetings where WDFW voiced concerns regarding the project's design?**

A. Yeah. In terms of the specific layouts of, you know -- yeah.

**Q. How would you characterize the applicant's receptiveness to WDFW's concerns?**

A. I don't -- I can't say I -- I don't know that I can speak to that. I haven't really -- I think maybe Mike may have some more of those conversations, but I haven't really heard their responses.

**Q. Is it your perception that the applicant has been receptive to any recommendations to alter the project design in order to avoid impacts to ferruginous hawks?**

A. Not that I'm aware of.

**Q. Since you first learned of the project and its general design, have you had concerns about potential impacts to wildlife species?**

A. Yes.

**Q. And which species are you concerned about?**

A. Ferruginous hawks, pronghorn, migratory -- I mean, bird species sort of in general, migratory species, nocturnal migrants. I think, you know, the wintering or I guess -- yeah.

**Q. We're going to talk about them more --**

A. Those are some of the -- yeah.

**Q. It doesn't have to be an exhaustive list right this minute.**

**How have you communicated your concerns about the project impacts?**

A. Primarily, through sharing those with Mike Ritter. And occasionally, you know, he'll send out a document and submitting comments back to him on that, if it was, you know, whether it was a wildlife, you know, a wildlife report from the project or a -- the map or something like that, layout. So typically, to Mike Ritter.

**Q. Have you been able to share any of your concerns directly with EFSEC staff?**

A. I believe -- yeah. In some of them we have had -- I have been in meetings with Mike Ritter, where we've discussed ferruginous hawks and EFSEC staff have been present.

**Q. Have you been able to share any of your concerns directly with EFSEC's council?**

A. I don't believe. To my knowledge, their counsel was not present during those meetings.

**Q. And to be clear, so I'm not asking about their legal counsel. I'm asking about the council itself, the council that will decide the permit.**

**Have you been able to share any of your concerns directly with the council?**

A. I'm -- I'm not sure what -- I'm sorry. What was the last one? I guess I'm not sure of the difference between the EFSEC staff and the EFSEC council or EFSEC.

**Q. The council members?**

A. The council members, yeah. I'm not sure who the council members are. But we have had EFSEC staff present in -- do they have staff?

**Q. So you are not aware, as you sit here today, of any opportunity that you've had to communicate directly with the council members who will issue the decision on the project?**

A. I haven't -- yeah. I don't believe so in any of the, like, kind of formal meetings that they've had. I'm understanding of who is -- EFSEC, to me, is -- I don't have a total understanding.

I know that EFSEC members have been present in some of our meetings where we met with DFW and some of the, I think, Golder or some of their -- some of their other consultants. And I'm not sure the roles of who everybody was in those meetings.

MS. VOELCKERS: We're up at 10 o'clock. I think this is a good break point, if that works for you and Randy.

THE WITNESS: Works for me.

MS. VOELCKERS: Does ten minutes work?

THE WITNESS: That's fine.

MS. VOELCKERS: Can we go off the record?

(A short recess was had.)

MR. VOELCKERS: Go back on the record.

**Q. (By Ms. Voelckers) In your opinion, is the project as designed -- is it designed to avoid negative impacts to wildlife in the project vicinity?**

A. From what I recall, I don't think that I'm aware of them -- of seeing a design that took into account the wildlife impacts yet.

**Q. So in your opinion, then, is it fair so say that it's not designed to avoid negative impacts to wildlife in the project vicinity?**

A. Yes, I think that's correct.

**Q. And then I'm still talking about just design here. We're not talking about mitigation yet.**

**The applicant has maintained throughout the proceeding that the project's design complies with WDFW's own guidance. Do you agree with that statement?**

A. It -- I'm not sure -- I mean, no. I think we've created -- we've provided feedback and guidance that I don't think I've seen incorporated into the project design yet.

**Q. The applicant has maintained throughout the proceeding that the project's design complies with best available science. Do you agree?**

A. Again, I mean, I haven't seen a layout that takes into account some of the, you know, species concerns that have been raised and recommendations for changes so no.

**Q. Even if I were to represent to you today that the project does comply with WDFW's 2004 PHS Guidelines, does that mean that the project complies with best available science?**

A. No. I think, you know, 2004, the best available is going to be more recent than 2004.

**Q. Even if the project does comply with WDFW's 2009 wind development guidelines, does that necessarily mean that it complies with best available science?**

A. No.

**Q. And why not?**

A. I think we have new information for -- since 2009.

**Q. And is it fair to say that WDFW is working on updating its guidance based on that new information?**

A. Yes, I believe. So yeah -- we -- yes, we are.

**Q. In your opinion, should any new solar or wind development be approved before WDFW's formal guidelines**

**are updated?**

A. I think that if a project takes into account the information from, you know, the knowledge of the local biologists and the -- our habitat group, you know, I'm not sure what the -- I guess, can you repeat the question?

**Q. In your opinion, should any new solar or wind development be approved before WDFW's formal guidelines are updated?**

A. Well, I think it's probably -- would be ideal to wait until the guidelines are updated. I think that if there's, you know, responsiveness to, you know, the best available science and DFW input, you know, that we could consider moving forward with a project but that it'll certainly be a lot more clear and easy once those guidelines are updated.

**Q. So in the absence of those updates, it's possible to move forward in response to development as long as the best available science that's being developed is being incorporated in the project design?**

A. Yeah. Including recommendations for avoidance and mitigation.

**Q. Does the proposed location of the project and installation of hundreds of wind turbines within this portion of the Pacific Flyway pose a mortality threat**

**for migratory birds?**

A. Yes.

**Q. You mentioned pronghorn as one of the key species of concern that come to mind. I'm handing you what has been marked as Exhibit 2.**

A. Okay.

MS. PERLMUTTER: Can I have a copy?

MS. VOELCKERS: Yep.

**Q. (By Ms. Voelckers) Do you recognize Exhibit 2?**

A. Yes.

**Q. And what is Exhibit 2?**

A. It's a summary report from the pronghorn survey in 2019.

**Q. Did you coauthor Exhibit 2?**

A. Yes.

**Q. Exhibit 2 references aerial surveys that were conducted in February of 2019. Did you participate in those aerial surveys?**

A. Yes.

**Q. Do you recall those surveys, as you sit here today?**

A. Yes.

**Q. And I'm actually not going to ask you specifics about the document. I think it speaks for itself, but I'm asking you about your personal recollection of those**

**surveys.**

A. Yes.

**Q. So you participated in the aerial surveys in February of 2019?**

A. Uh-huh. Yes, I did.

**Q. And you recall those, as you sit here today?**

A. Yes.

**Q. Okay. So as you sit here today, do you recall personally observing pronghorn antelope in the Horse Heaven Hills area?**

A. Yes.

**Q. In 2019?**

A. Yes.

**Q. Do you know if the information contained within Exhibit 2 has been considered by EFSEC during its review of the project application?**

A. I do not know that.

**Q. In your professional opinion, should the opinion contained within Exhibit 2 inform EFSEC's review of the project application?**

A. Yes.

**Q. And why is that?**

A. Our winter surveys have shown that there's aggregations of pronghorn utilizing the project area, and that should be considered for siting.

**Q. And why is that important to consider?**

A. The pronghorn on this landscape have sort of a narrow band where we've identified their use in sort of that agricultural area over the crest of the Horse Heaven Hills, south of the crest of the Horse Heaven Hills. And fencing, in particular, could be an impact to their movements in the area.

And then potential avoidance or movement impacts might also be possible related to the wind structures.

**Q. Could construction activities within the project area also impact the pronghorn?**

A. Yes, I would assume so.

**Q. And why would you assume so?**

A. I would believe that, you know, they're going to, in general, avoid high activity areas with construction equipment and, you know, trucks and moving. So they may be displaced by high areas of activity.

**Q. So in a layperson's terms, you wouldn't expect to see them to keep walking through construction activity?**

A. Correct. Yeah.

**Q. Or you wouldn't expect to see them within the solar fields because of the fencing?**

A. Correct.

**Q. They would have to go around?**

A. Yeah.

**Q. I'll take that back and hand you what's been marked as Exhibit 3. Do you recognize this document?**

A. Yes, I do.

**Q. What is this document?**

A. This is the '21 summary report from our pronghorn survey in the area.

**Q. Did you coauthor Exhibit 3?**

A. Yes.

**Q. Is this the most recent pronghorn survey that you are aware of?**

A. No.

**Q. What is the most recent pronghorn survey that you are aware of?**

A. This winter of 2023.

**Q. Did you participate in aerial surveys this winter of 2023?**

A. Yes.

**Q. Who did you participate in those surveys with?**

A. We partnered with the Yakama Nation tribal biologists with those surveys as well as other DFW staff.

**Q. So turning back to Exhibit 3, it references aerial surveys that were conducted in March of 2021. Did you participate in those aerial surveys?**

A. No. The March of 2021 I believe I did not participate in the actual flights due to COVID restrictions, but the flights were carried out by the Yakama Nation biologists.

**Q. Okay. What was the extent of your participation?**

A. I worked to secure funding and facilitate design of the surveys, the summary of the data, and writing of the report.

**Q. Were you out on the ground during the aerial surveys?**

A. No. I was also flight following, which is a safety procedure, where we're monitoring the aircraft from the computer. So I was in the office.

**Q. Okay.**

A. But I do believe we may have had ground crews active in 2021.

**Q. It just wasn't you?**

A. Yeah. No.

**Q. Have you personally observed pronghorn antelopes in the project area since 2019?**

A. Yes.

**Q. When was that?**

A. I don't recall specific dates, although, I know I have seen them this past spring.

**Q. 2023?**

A. Of, yes, 2023.

**Q. Do you know if the information contained within Exhibit 3 has been considered by EFSEC during its review of the project application?**

A. I do not know.

**Q. In your professional opinion, should the information contained within Exhibit 3 inform EFSEC's review of the project application?**

A. Yes.

**Q. And why is that?**

A. Because of potential impacts to pronghorn that include fencing and potential -- fencing is a barrier to movement and loss of habitat -- and then potential avoidance to wind structures.

**Q. We talked earlier this morning about how population monitoring surveys could be the best available science. In your opinion, are these summary reports coauthored by WDFW and Yakama Nation, are those the best available science on the presence of pronghorn antelope in the Horse Heaven Hills area?**

A. Yes.

**Q. And why is that?**

A. We have conducted systematic surveys, in addition to logging, you know, incidental observations

as well. And that data is not only the most recent and up-to-date distribution information that we have, it also has been verified to the extent that it should be considered best available science.

Meaning that we are not just taking -- you know, sometimes we get calls from the public that say we saw something here, you know. We don't necessarily include that without any sort of verification of we know this was a species. And with this information, we have trained biologists conducting the surveys as well. So we're confident in the results.

**Q. And if there's GPS collar data that documents presence of pronghorn individuals in the area, would you consider that supportive of the summary report in Exhibit 2 and 3?**

A. Yes.

**Q. Even if it was for different years?**

A. Yes.

**Q. And why is that?**

A. I think that these reports are only a snapshot. We're flying these over the project area in one day. Collar data, even though it's one individual, it can show a more complete annual cycle or monthly seasonal cycle of how an animal's using the landscape and can be really informative for understanding how this population

uses that area.

**Q. Do you --**

A. Yeah.

**Q. Do you know why previous efforts to reintroduce the pronghorn antelope were unsuccessful?**

A. I -- there is a summary report that kind of highlights some of those. I was not around during those reintroductions.

My understanding or recollection of those reports is that only a small number of antelopes were reintroduced, and they -- and they were in areas different than the current existing area of -- I can't remember where those reintroductions were, but there were several -- a handful of reintroduction efforts.

But my recollection is that they were small numbers of animals, and I'm not familiar with the methods -- methodology and exactly why they did not succeed but...

**Q. Is it fair to say you are pretty familiar with the current range reintroduction efforts?**

A. Yes.

**Q. And based on what you know about the current reintroduction program, would you expect the species to be negatively or positively impacted if it was -- if it was confined to the reservation?**

A. I think that would be a negative impact for the population. Since we've been doing these surveys, you know, the initial collar data that the tribe has shows that the animals are actively using land outside of the tribal reservation boundary. I would say roughly half of the population, at least during our surveys, shows use outside the reservation boundary.

**Q. And is it fair to say they generally are using the area east of the reservation rather than west of it?**

A. Yes.

**Q. And why do you think that is?**

A. Because of the -- this is a lower elevation area, you know. Our surveys are conducted in the winter. Pronghorn do group up in the winter. It can be a challenging time for them. Like most species, they find forage. And so moving from the higher elevations down to the lower elevations is something that they do to avoid exposure to snow levels or find food resources.

**Q. Based upon your professional experience and the information you've been gathering, would you expect a decrease in available habitat to either increase or decrease the abilities for the pronghorn population to persist?**

A. I'm sorry. Can you -- based on relative to -- or just over time -- I'm sorry. Can you repeat the

question?

**Q. Yeah. Based upon your professional experience and the information available to you, would you expect a decrease in available habitat to either increase or decrease the ability of the pronghorn population to persist?**

A. So I'm not sure if I understand. So if there was less habitat, would I anticipate the pronghorn to have a less likely chance of -- would the population decrease with less available habitat? Yes, I believe so.

**Q. And why is that?**

A. You know, a habitat is kind of the basic requirement for a species. Once -- now, we don't know that the pronghorn have reached a maximum population. So but, you know, they would certainly -- over what we've seen from our counts over the past six years or so, it appears to be a fairly -- we're not seeing rapid growth, rapid decline. It seems somewhat stable at best we can tell.

And so a loss of available habitat would mean less potential food resources or escape cover or something of that nature. That would have a negative impact on individual survival.

**Q. Well, there's still unknowns, but you know, as**

**you sit here today, that the less of available habitat would have some measure of negative impact on the long-term viability of the population?**

A. Yes.

**Q. And same question for the loss of available migration corridors. Would you expect that the loss or decrease in available migration corridors to either increase or decrease the ability for the pronghorns to persist in the long-term?**

A. Decrease.

**Q. And why is that?**

A. Because loss of a corridor can effectively cut off larger areas of habitat than is directly impacted by simply the structure or impediment on the corridor. So it's directly related to habitat availability, forage availability, and, therefore, survival.

**Q. And what are we using the term "migration" for today? What do you understand that to mean?**

A. Basically, a route at which an animal can move from one area to another. You know, migration is kind of a cyclical annualized cycle.

So we might be thinking of pronghorn leaving higher -- you know, animals from higher elevation annually coming down to lower elevation and returning. And so the path at which those animals are able to cross

that landscape from their winter range to summer range or breeding range to farming range or, you know, whatever to kind of seasonal periods they're trying to move, change habitats between.

**Q. Are you aware that there is no mitigation proposed for the project's impacts to pronghorn?**

A. No, I'm not aware of that.

**Q. I represent to you today that there's no mitigation proposed to the impacts to pronghorn in the company's mitigation plan. Does that concern you?**

A. Yes.

**Q. And why is that?**

A. I mean, I think there will be impacts to pronghorn. And so if there's not a -- you know, we typically look at -- you know, if avoidance is not a -- so our first recommendation is always to avoid potential impacts, minimize potential impacts. But if an impact cannot be avoided or minimized, then there would be a plan to mitigate potential impacts.

So unless the plan satisfactorily avoids impacts, then there would be some mitigation ideally.

**Q. And are you aware of any part of the project design that avoids or minimizes impacts to the pronghorn?**

A. Not that I'm aware of.

**Q. Both the applicant and EFSEC have cited a lack of available data regarding pronghorn presence in the project area. Are you aware of any time that WDFW recommended that the applicant reach out directly to the Yakama Nation of obtaining additional information?**

A. I'm not aware of that. No.

**Q. Are you aware --**

A. Oh, wait. Has DFW recommended they do that? I know that we've talked about -- I know that we've -- I -- I can't -- I don't recall specific to this project.

**Q. Do you recall any time that WDFW recommended that EFSEC staff communicate directly with the Yakama Nation regarding impacts to pronghorn?**

A. Not that I recall. Although, I'm not in a lot of those -- yeah. Not that I'm aware of or not that I recall.

**Q. Mike Ritter might be the better person to ask that question of?**

A. Yeah. Yeah. Most of that goes through -- you know, Mike's typically in those meetings more.

**Q. Okay. If I represent to you that the only information available to EFSEC are Exhibits 2 and 3 regarding the pronghorn and their presence in the project area, is it your professional opinion that EFSEC should obtain additional information regarding pronghorn**

**presence in the project area in order to evaluate impacts?**

A. Yes.

**Q. And why is that?**

A. Exhibit 2 and 3 are only winter surveys, which are a snapshot of pronghorn distribution at a given time. The project will have year-round impacts in that area that could impact -- that could result in impacts to pronghorn.

The documents that -- Exhibit 2 and 3 document pronghorn presence in the project area, but I think that that does not tell the complete story and that either alternative information already does exist, including some of the Yakama collar data, or could be obtained through targeted studies.

**Q. What kind of targeted studies?**

A. I mean, there could be opportunities to look at, you know, additional collar data. I'm not familiar entirely with the breadth of the Yakama Nation's collar data.

You know, unfortunately, with pronghorn, we haven't done extensive research on this population, you know. We are not familiar exactly where they're fawning, the areas that are important to them for, you know, rearing young, what the biggest threats to them

are on the landscape. And so there's still a lot that we don't know.

So there's -- you know, specifically, you know, while we know they're in this project area in the winter and we have incidental observations that they're there at other times of the year, including the spring and summer, we don't know to what extent they are present there. So any studies that elicit that information could be valuable. But again, yeah.

**Q. But to be clear, when you say "targeted studies," you are not referring to modeling just based upon the summer reports?**

A. No. No.

**Q. I don't have any more questions about the Exhibit 3 on the pronghorn. You are welcome to hold onto it, but you can put it here.**

**So we talked a little bit about the burrowing owl earlier so I apologize if this is repetitive or imprecise, but I want to talk a little more about that.**

**Are you -- is it fair to say that you are the main WDFW biologist studying burrowing owls in Benton County?**

A. Yes.

**Q. And in your role, have you observed any general trends in the burrowing owl population in Benton County?**

A. We don't have a lot of data specific to Benton County, but across the Columbia basin, there's a clear range restriction of burrowing owls that's occurred over the past several decades, just looking at past distribution data.

And we've also seen a loss locally of burrowing owls in, you know, specifically, closer to the Tri-Cities area, where incidental observations, you know, just -- I regularly hear from folks that there used to be owls all along this road and all along that road and all around here and blah, blah, blah.

But we don't -- we know that it appears that there's probably a population reduction and range contraction for burrowing owls in Washington. And that would -- and Benton County would likely have experienced similar and included in those trends.

**Q. And you say "range restriction" or "range contraction," are you referring to the same thing?**

A. Yeah. Just the known occupied geographic area that we have burrowing owls in Washington seems to be shrinking. But, yes, I mean those interchangeably, I guess, range restriction or contraction.

**Q. I apologize. I'm just trying to understand the term.**

A. Sure.

**Q. So when you say "range restriction," is it the population is shrinking or the populations range in terms of, like, where they can move is being restricted? What does range restriction mean?**

A. So the geographic area that we know burrowing owls are occupying and breeding seems to be shrinking. Now, that means counties like Walla Walla County, we don't see burrowing owls in Walla Walla County in the past few decades. Lincoln County, Okanogan Valley. So we're seeing this geographic shrinking of area in the Columbia Basin that we know owls are present. So that also likely means that the population of owls has decreased.

**Q. And do you know why that is?**

A. There's several, probably, factors that contribute to it. One would be the loss of habitat for the -- so one would be persecution of fossorial mammals, so burrowing mammals that owls rely upon. These are things like badgers, ground squirrels, and, to a lesser extent, things like coyotes and marmots. But the owls nest in these burrows that are created by mammals.

So some of these mammals have more specific habitat needs, like a lot of the ground squirrels require or do better in shrub-steppe habitat. Badgers and ground squirrels have been persecuted for various

reasons. That's -- that's one part of the equation.

Loss of conversion of these deep soil habitats, you know. Most of the soil that's suitable for farming would have been suitable for burrowing animals as well so they've lost their most ideal habitat to habitat conversion.

And then I believe that there's an aspect of the nonnative vegetation, cheatgrass, you know, this denser ground cover is -- likely plays a role in foraging for burrowing owls. So in short, you know, it's a loss of habitat in general for the burrowing owls but through various means.

**Q. But you talked earlier about burrowing, I believe, in fallow wheat fields?**

A. Yeah.

**Q. So it's possible they can burrow in both -- well, so I guess I'll ask first: Is it a preferred habitat for them to be in shrub-steppe?**

A. So the owls themselves prefer short -- they're -- the owls need two things, from what I -- from what we're seeing: They need holes in the ground and they need prey. And to get prey, they need suitable foraging habitat where there is pray, and then also, that pray has to be accessible. So it can't be in dense -- dense, tall grass and stuff like that, that

they're not good at foraging in.

I don't believe that their preferred habitat is going to be a fallow wheat field. That could be a population -- it could be a hazard to breeding there based on when farmers come through to plant or plow.

So ideally, they'd be in bunch grass, grasslands, or sagebrush shrub-steppe.

**Q. But they've adapted an ability to nest in arid agriculture?**

A. Yeah. They're able to, as long as they have food and burrows, it seems that they can persist.

**Q. I apologize for this question, but they can't dig their own burrows, then?**

A. So what we typically see is that they utilize a -- so typically, they -- they can modify some burrows, you know, that something else has usually made for them. So primarily, we see them in badger burrows or coyotes' -- like, old coyote dens.

While they do have some ability to dig a little bit, we don't -- typically, we don't see that happen in the Columbia Basin. So they do need some animal to start a burrow for them, basically.

**Q. So you wouldn't find them where there's just prey or forage, you need prey and burrowing holes?**

A. Uh-huh. Yes.

**Q. Point count surveys that were done by the applicant did not record observations of burrowing owls within the project area. Are surveys of 13 random points used for 10-minute timed surveys a preferred method for detecting burrowing owls?**

A. No.

**Q. And why is that?**

A. Burrowing owls are primarily crepuscular, so active in the dawn, dusk, or nocturnal. My understanding was that the applicant was doing daytime surveys, looking for, you know, diurnal raptors, so daytime raptors. And the nature of the burrowing owl really quires species-specific surveys for burrowing owls.

**Q. So is it fair to say, then, that those point count surveys aren't very helpful in determining whether or not to expect burrowing owls to be present in the project area?**

A. Correct. And there's documented evidence that, you know, point counts in general are -- are insufficient for burrowing owl detection from, you know, the Breeding Bird Survey and other nationwide research groups.

**Q. Do you believe that further information is needed regarding the presence of Burrowing owls within**

**the project area?**

A. Yes.

**Q. And why is that?**

A. I don't think that we currently have information about burrowing owls in the project area, other than that they are likely to occur.

At minimum, you know, preconstruction -- because owls can be -- burrowing owls are kind of unique in that to avoid impacts to them, you -- you know, they don't necessarily fly away from, you know, a truck or construction activity. You know, they -- they may be underground. And so knowing where -- at minimum, there would need to be preconstruction surveys or monitoring in impacted areas.

But then also to know the cumulative impacts to burrowing owls, yeah, we don't have that information currently so...

**Q. What time of the year would be the best time to survey -- to conduct preconstruction surveys for burrowing owls?**

A. Well, so if you're trying to understand if owls are present at a site or on the landscape, the best time to survey for burrowing owls is probably going to be May, sometime in that window, in the spring window. This is when they may be more responsive to a targeted

survey that might use playback, you know, broadcasting an owl call and seeing if owls respond. That's one of the methods that's probably most successful at identifying Burrowing owl presence.

But a preconstruction survey is just another level and something that, you know, regardless of, you know, if they do -- if anyone wants to build something, they might do a survey a year or two ahead of time. But, you know, if you know there's owls there, you can mitigate for, okay, we've lost some habitat that's important to owls or we can avoid this area.

But, you know, a lot of these species, if you're doing construction activities, you can destroy an owl burrow and cause a, you know, mortality event if you aren't doing, you know, preconstruction survey within a few weeks of, you know, breaking ground in an area.

So it depends on when the construction activity is, and we found that owls can be present year round in the Columbia Basin.

So if you're looking for a population-type survey or understanding the -- I don't know if that helps answer the question, but a targeted owl survey would probably be conducted in May, in the spring. We see them present in our area at the latest returning mid-April and then conducting breeding activities through

May and June so...

**Q. And so understanding the goal for WDFW is to avoid and minimize when possible, would it then be best to do this population surveying before finalizing the project design and then do site-specific surveys before beginning construction?**

A. I think if they can avoid, you know -- yes, it would be ideal to avoid areas that are known to be important for burrowing owls or other species.

But then you'd still want to do a site-specific survey before construction to just -- and that could be, depending on how big the area is that they're actually doing -- you know, this is ground disturbance kind of stuff, and that can be a walking foot survey, you don't have to do playback and all that stuff, but just identifying, you know, burrows that look occupied by owls within the actual footprint.

So that's what I mean by preconstruction. Maybe the word for "preconstruction" was not the standard term for that but...

**Q. I guess I'm just trying to understand. There's really two tiers of information gathering that I'm hearing about, and to avoid impacts of the project, there isn't currently any information known about where those populations might be within the project area. So**

**you would need to have further information to avoid and minimize impacts through the project's design?**

A. Correct. Correct.

**Q. And then in order to also be protective of the population, you would need to do additional site specific --**

A. Yeah.

**Q. I don't know if it's survey or ground survey but --**

A. Maybe you call it like a sweep before you come in and do ground disturbing activities, right? So...

**Q. What time of year are burrowing owls most vulnerable to disturbance?**

A. Probably, you know, there's a couple -- it depends on what you mean by "disturbance" and, probably, "vulnerable."

I think the biggest impacts to burrowing owl would be adult mortality during the breeding season because then you lose, potentially, the entire nest clutch and those individuals that would have perpetuated the population.

So the breeding season for burrowing owls is -- probably starts in our area mid-March through -- through the end of July, though, I think, young adults can even stay around into August. But that's sort of a window

when they're conducting breeding activities there, yeah.

**Q. The applicant has stated in both its application and the proposed mitigation plan that, quote, If impacts to suitable habitat cannot be avoided during final design, the applicant will consult with WDFW regarding the need for burrowing owl surveys prior to construction.**

**Do you know who will determine whether or not impacts to suitable habitat can be avoided during final design?**

A. Can you repeat that?

**Q. Do you want me to read the whole quote or just the question?**

A. Yeah. The first part again -- yeah, the whole thing.

**Q. So the application and the mitigation plan states that, quote, If impacts to suitable habitat cannot be avoided during final design, the applicant will consult with WDFW regarding the need for burrowing owl surveys prior to construction.**

**But do you know who will determine whether or not impacts to suitable habitat can be avoided?**

A. No, I don't know who.

**Q. Do you know how that determination would be made?**

A. Not with the information that we have right now.

**Q. Is it not possible to determine if impacts will be made to suitable habitat without gathering additional information?**

A. Yes, correct.

**Q. The applicant's habitat management plan also indicates that during construction, WDFW recommended seasonal buffers from the 2004 PHS Guidelines for burrowing owl nests to be observed to avoid disturbing the owls, if they are present.**

**In your opinion, is avoidance of occupied nest sites only during construction only adequate mitigation for project impacts?**

A. Specific -- I mean, so I think those -- those buffers are kind of -- it depends upon the -- the impact and the duration of what happens after. Because I think those buffers are primarily, you know, meant to avoid direct impact disturbance to a nest, but they aren't the entire required habitat -- it doesn't buffer enough for the habitat for that species.

So, for example, you know, if you have a buffer around a nest that you're trying not to disturb, you know, you might be able to get within 100 feet and not disturb that nest and cause it to fail, but that species needs more than that 100-foot buffer to survive and, you

know, in terms of habitat for foraging and all of its life, you know, needs throughout the breeding season.

So if only adhering to the buffer, you know, they need more than just that buffer, potentially. If that -- does that make sense?

**Q. Well, it sounds to me -- correct me if I'm wrong, but it sounds to me like that doesn't provide full mitigation to adhere to the buffers around nest locations?**

A. Right. If there is a -- yeah. A buffer around, you know, that would be avoiding direct -- my -- my thoughts on it would be that would avoid direct take from the nest, you know, failure, causing the nest to fail or whatnot, but it doesn't necessarily address mitigation to impacts to habitat foraging sites and other things over the project footprint. So yeah.

MS. VOELCKERS: I want to switch gears to the ground squirrel but we're almost to a break. So if we could take our break a little bit early --

THE WITNESS: Oh, okay.

MS. VOELCKERS: If that's okay with you or do you want to keep going and take a later break?

THE WITNESS: I'm okay to keep going if everybody else is.

**Q. (By Ms. Voelckers) Okay. Is it fair to say**

**that Townsend's ground squirrel population is in decline?**

A. Yes.

**Q. Is it a concerning decline?**

A. From what we've seen, from what I've seen locally, yes.

**Q. And why is it concerning?**

A. Townsend's ground squirrel is, I believe, endemic to Washington in the south -- the south Columbia Basin, basically. So it's a range-restricted species. They've gone from, you know, five years ago being quite abundant to being very difficult to find, even in places, you know, where they were really abundant in the past.

So it's been a marked decline over a very short period of time for ground squirrels, and that's concerning, not just for the ground squirrel, but they are sort of a species -- they're kind of the basic building block for a lot of the shrub-steppe ecosystem. They have important roles for -- as prey for ferruginous hawks, as prey -- they're primary prey for badgers. Badgers, as we mentioned, are the primary habitat builders for burrowing owls.

Ground squirrels also have some sort of role in, you know, in, you know, seed dis -- you know -- I

don't -- they also play other roles in the ecosystem themselves in the shrub-steppe. So they're sort of a foundation block for some of our other species of concerns. So it goes beyond just the ground squirrel itself.

**Q. And is the biggest factor in the decline of the Townsend's ground squirrel in Washington State a loss of shrub-steppe habitat?**

A. I can't be -- I can't say that I fully understand their decline. I think, again, there's -- there's certainly various aspects, and part of that would be loss and conversion of deep soil habitat, shrub-steppe. The ground squirrels in general seem to do well when they do have sage -- the shrub component provides protection from some predators, you know, provide some cover, diverse forbs that allow them to forage. You know, I'm not sure how the invasive -- the nonnative annual plants and grasses are impacting them. That's probably part of it.

As well as there's potentially a disease component that's occurred. And there's several, several factors, including direct persecution. They're very, have been in the past, a common target of farmers, irrigation districts, and others for poisoning, shooting.

So there's many, many impacts that are affecting the population. So it's hard for me to say which one is the most important.

**Q. Is that information that WDFW is actively working to develop internally?**

A. We -- we are -- we are certainly elevating ground squirrels over the past few years as species that we are trying to get more information on. We are looking at -- the past several years, we've done more species-specific surveys, including Townsend's ground squirrel, this year. And we are actively working with partners to understand ways to enhance squirrel populations. We haven't solved the problem yet.

**Q. In your opinion, how should the applicant mitigate for impacts to existing colonies of Townsend's ground squirrels?**

A. So again, you know, the preference would be to avoid and minimize impacts to existing colonies. If direct impacts to a colony were to occur, I would -- I would probably need to consult with other DFW staff on, you know, what we found as options in the past.

There's -- there's a variety of things that could occur, I mean, from, you know, there's places where folks have tried to trap and relocate animals. That's fairly intensive; not necessarily always successful. So

there'd be -- there'd be concerns on the direct -- the direct acute population impact, you know, okay, if we're going to clear this land and till this soil that has an active colony, you know, how -- we're going to, basically, have direct mortality of certain individuals.

But then you're also -- you'd want some way to kind of minimize that and then recreate a suitable habitat elsewhere, either on site or off site, that replaced that -- the permanent or at least project life loss of the habitat. So yeah.

If there's actually a direct take in of colonies, that's harder to -- to mitigate. I don't have an exact solution figured out yet, but we'd have to come up with something.

**Q. Well, stepping back to avoidance and minimization, what's the best way to avoid direct take of ground squirrel colonies?**

A. To avoid permanent construction or alteration to the habitat where there's known colonies present.

**Q. And how do you determine whether there's a known colony present?**

A. Surveys.

**Q. So we're back to needing site-specific surveys in order to best inform project design?**

A. Yes.

**Q. And -- or to avoid impacts specifically to the ground squirrels?**

A. Correct.

**Q. Are you aware of any successful efforts to relocate ground squirrel colonies?**

A. We have at least two partners that have been working on that. WDFW and U.S. Fish and Wildlife have had mixed success relocating squirrels from a golf course in Grant County -- these are not Townsend's ground squirrels but they are Washington ground squirrels, which are closely related -- and trying to establish them on Columbia National Wildlife Refuge.

I believe that's had mixed success in that they've been able to get squirrels to stay on site and breed within an enclosure, but they haven't necessarily expanded beyond the enclosure. The context that U.S. Fish would have more information specific to that.

As well with Townsend's ground squirrel in the past few years, contractors for Department of Energy on Central Hanford have created an enclosure and have been translocating Townsend's ground squirrels from a site in Benton County to the Central Hanford area, and the project is probably too soon to know how they're -- what success they've had. So its somewhat initial results seem potentially promising, but I'm not up-to-date on

those results.

**Q. So is it fair to say that then there's a certain amount of risk involved in using that as a mitigation measure for a ground squirrel colony identified in the Horse Heaven Hills area?**

A. Yeah. Moving animals is always a risk and it's more -- and a lot of work with a lot of risk.

**Q. So it's fair to say a high risk?**

A. Yeah.

**Q. The applicant stated that special status species, such as the black-tailed jackrabbit and white-tailed jackrabbit were not observed during the surveys of the project area. Would you expect daytime surveys to detect jackrabbits?**

A. I'm not sure exactly what survey methodology they used. You could -- you could walk through an area in the daytime and detect scat of jackrabbit, but I'm not sure what methods they used.

As far as I know, there's -- I don't know the best method for detecting jackrabbits. I know partners, including U.S. Fish, have experimented with some spotlight surveys and other methods and have had challenges. Jackrabbits are primarily nocturnal in terms of their movements and foraging, though, so...

**Q. So as you sit here today, you don't know one way**

**or the other whether a spotlight survey would be more effective than a daytime survey in terms of identifying jackrabbit presence in the area?**

A. I think if you were -- if you were actively looking for scat of the animal in the daytime, that could be sufficient. If you're only looking to detect the animal itself, a nighttime survey would be more likely to detect an animal.

**Q. Is it fair to say that you would generally expect to see jackrabbits more in shrub-steppe habitat than areas of agricultural land?**

A. I believe so, yes.

**Q. And why?**

A. From -- I have a -- I believe a lot of it would have to do with cover as well as foraging opportunity. I think my presumption is that jackrabbits prefer more cover from the shrub overstory, and it may also relate to, you know, they are foraging on different forbs and things like that that aren't going to be present in great numbers in some of the agricultural area.

**Q. Are there others within WDFW that would be able to speak more to the jackrabbits, whether or not they would expect to see them in this area?**

A. I don't know that there's anyone else who would -- you know, that would know more about the

likeliness of jackrabbits in this area. We don't see a lot of jackrabbits in -- in much of my district anymore. But where we have had them is usually intact sagebrush steppe.

Externally, I have a feeling some of those landowners would have a lot more information on where they've seen jackrabbits and if they have in the past. I would probably check with -- I don't -- I don't know that there's anyone else to check with at DFW.

**Q. Okay. That's fair.**

**If there was -- if there were others -- if there were Yakama Nation members that had the opinion that jackrabbits were once plentiful in this area based upon their history, would you have any reason to disbelieve or dispute that?**

A. I would be very inclined to agree with that, as I think they have been more historically abundant.

**Q. And why do you think that?**

A. Even our own game reports from when jackrabbits were a hunted species in Washington show that they were once very numerous throughout the Columbia Basin.

Through -- I want to say in the -- around the '70s at some point, the numbers dropped off to where they closed the season and that they have not been harvested since. But that -- there used to be numbers

in the tens of thousands or maybe hundreds of thousands harvested earlier in the 1900s.

**Q. And if you were to hear that Yakama members, based upon their oral tradition, that badgers were once plentiful in the Horse Heavens Hills area, would you have any reason to dispute that?**

A. No.

**Q. Would you have reason to agree with that?**

A. Yes.

**Q. And why is that?**

A. For similar -- well, no, not for similar reasons because we never -- well, I don't think we were ever hunting badgers or tracking them.

You know, there's been a lot of conversion of deep soil habitats in the Columbia Basin. Badgers prey primarily on ground squirrels. Ground squirrels, you know, do have a soil requirement. Most of the deep soil habitats that are suitable for badgers, ground squirrels have been converted for agriculture. And so there's been a non -- a disproportional loss of deep soil habitat for species in the Columbia Basin.

**Q. And is it fair to say these species we've been talking about this morning, they really coexist together in the habitat?**

A. Yeah. Yeah. They all -- yeah. They are all --

yes.

MS. VOELCKERS: I'd like to take another break, and then I think I can wrap us up before noon.

THE WITNESS: Okay.

MS. VOELCKERS: Does 10 minutes work for you?

THE WITNESS: Yep.

MS. VOELCKERS: Okay. Come back at 11 -- well, let's say 11:25, 12 minutes. We can go off the record. Thank you.

(A short recess was had.)

MS. VOELCKERS: We can go back on the record, if you are ready.

THE WITNESS: Yep.

**Q. (By Ms. Voelckers) Okay. So there are a number of other species that have been identified as potentially impacted by the project through this application project, and I'm not going to walk through every one of them. We've certainly had an opportunity to hear a lot more about the raptors from Mr. Watson, but I do have a few more species that I want to ask about.**

**What is your understanding about the project's potential impacts to the striped whipsnake?**

A. I'm not very familiar with the species or range. The PHS database or our, you know, our Priority Habitats

and Species database would probably have the -- the most information on that species.

**Q. Do you have an opinion today on whether additional surveys or research should be conducted about the project's potential impact to the striped whipsnake before EFSEC concludes its review of the application?**

A. Unfortunately, it's a species I'm not too familiar with and unable to provide a useful comment.

**Q. So you don't have an opinion one way or the other today?**

A. No.

**Q. What is your understanding of the project's potential impacts to the sagebrush lizard?**

A. Sagebrush lizard, my -- my understanding would be, you know, to potentially exist wherever there's remaining intact sagebrush shrub-steppe habitat. I'd imagine it might be fairly minimal in that landscape, that impact, and the -- but I haven't done any -- I'm not familiar with the historic records or occurrences that the PHS database would have.

**Q. So as you sit here today, you don't have an opinion one way or the other about the project's potential impact to the sagebrush lizard?**

A. No.

**Q. What is your understanding of the project's**

**potential impacts to the sagebrush sparrow?**

A. From my understanding, you know, we don't know of any -- they are fairly obligate. They require fairly intact sagebrush habitat. I don't believe there's existing suitable habitat in that project area; although, I think that any minimizing of impacts, direct impacts, to mature sagebrush would be the best way to avoid impacts to the sagebrush sparrow.

The only other interaction would be that this is one of those nocturnal migrant species. They migrate in and out of Washington seasonally, and would be subject, like all migratory birds, to potential collision.

**Q. So there are potential impacts to sagebrush sparrow, both through impacts to habitat as well as structure strikes?**

A. Yeah. Potentially.

**Q. But you would need to know more information in order to form an opinion about the project's impacts?**

A. I mean, I -- I think there's -- I don't know that I have any information about the nocturnal migrant impacts. I don't know that that was studied by the project proponents or not. I don't believe -- I don't believe I've seen anything on that.

**Q. But if that happened, say, would that be important information to assess the potential impacts to**

**the project?**

A. Overall, I think it would be important for assessing the potential impacts. I think for sagebrush sparrow, it would probably be a very small impact, but there's certainly other species that migrate for cumulative impact.

**Q. Would you have the same response for potential impacts to the sage thrasher?**

A. Yeah. It's more likely, in my opinion, it's more -- sage thrashers can tolerate somewhat maybe less expansive sagebrush. So it's possible that they could be -- there could be breeding habitat within the project boundary, but I don't know of any recent records in that area. And again, they are a nocturnal passage migrant as they move further north seasonally into the Columbia Basin.

**Q. Would you need additional surveys or research regarding the presence of the thrasher -- sage thrasher in the project area in order to assess its impacts?**

A. If there -- you know, if they have conducted point counts in areas where this sage shrub-steppe habitat existed on site, that might -- that would be suitable. Whether that was conducted or not, I'm not familiar with how they conducted the point counts.

**Q. What is your understanding of the project's**

**potential impacts to the ring-necked pheasant?**

A. I imagine there would be not -- I don't think there would be substantial impacts that would supersede the -- you know, any loss of kind of shrub cover or no escape cover for the species out there. So potentially minimal, minor impacts, but, again, kind of just I think that species -- that species breeds, you know, it gets minimum habitat benefit from some of the dry land wheat. Less of shrub-steppe habitat and older CRP land would probably have some impact or survival of broods or loss of nesting habitat for pheasant up there.

**Q. So is it your understanding that the applicant has declined to follow WDFW's recommendations regarding siting of wind turbines within identified ferruginous hawk territories?**

A. I'm aware we've made our recommendations, but I'm not aware of what their response has been to them.

**Q. Mr. Watson and Mr. Ritter would be the better ones to ask?**

A. Yeah. Yeah. I believe so. I mean, I guess I don't know what the -- yeah. Yeah. I'm not familiar with what the project's response to our recommendations have been.

**Q. Are you aware of any project designs that were made in response to WDFW's recommendations?**

A. I'm not aware of any.

**Q. Okay.**

A. And I have asked a number of questions of Mr. Watson and Mr. Ritter already regarding ferruginous hawks. So I don't have too many for you today, but I do want to ask about the potential for reoccupation of nests.

**Q. So I'm going to hand you what has been marked as Exhibit 4, I think. Yes.**

**Do you recognize Exhibit 4?**

A. Yes, I do.

**Q. And are you -- how are you familiar with Exhibit 4?**

A. Exhibit 4 is a series of emails that -- that I was included on and includes a response that I wrote between Michael Ritter, James Watson, and Erik Jansen with the West consultants.

**Q. Do you believe that this is a true and correct copy of that email exchange?**

A. Based on a brief review, it doesn't -- it does look to be -- it looks correct.

**Q. And then the email exchange references a hawk nest that was reoccupied after a couple decades. Are you aware of any other hawk nests that were reoccupied after more than 20 years?**

A. Hmm. Offhand, you know, I haven't looked specifically for that in the data. I don't think that it's unlikely that other territories like that exist.

This is -- was specifically a site that was known to be occupied for a period of time, and, I think, it was at least maybe 20 years or so that they were -- that was not known to be occupied. And I think it's pretty standard for, as a population and individuals change, they -- they reoccupy old sites.

So I don't -- I haven't looked at all the data to know if this is -- how abnormal this is in it, but I don't expect that it would be the only case.

**Q. Do you have any other information that you can provide about this, the nest that's referenced in this email chain, that wasn't provided in response to the subpoena?**

A. I am -- I would -- we have historic data that covers all the occupied territories that's within the -- our -- what we call our wisdom database. And typically, that -- some of that information is sensitive, but with the data sharing agreement, I would be surprised if it wasn't provided to the tribe or other proponents of the project already.

But there is data out there that shows nest history and occupancy for all the nests of Washington

that we've monitored so...

**Q. So I'll ask it another way: You don't have any additional information about this specific reoccupation of the historic nest that's in addition to the email, the information in the email that you sent?**

A. Let me check for a minute.

**Q. Yeah.**

A. Yeah. It looks like I gave you the full history or I gave Erik a full history on June 22 that I pulled out of that database, and that's mostly what I know.

I did check that nest this spring, and it was occupied again. So that -- as it says, in 2023, so yeah. That's the history that I'm aware of.

**Q. Okay. That's the most up-to-date and complete information that you have?**

A. Yes. The only -- with each year, we do have data on what exactly was happening. Did they have nestlings? Were they successful? Some of that additional data might be in the database, but in terms of occupancy, this is -- those are the years they were available.

**Q. Okay. I'll take that back. And I'm going to hand you what's been marked as Exhibit 5 and ask you to turn to page 11.**

MR. HEAD: I'm sorry. I wasn't able to hear you

there.

MS. VOELCKERS: Sorry, Randy. Exhibit 5. It should be the last one in my email.

MR. HEAD: And has he been directed to a page in Exhibit 5?

MS. VOELCKERS: Yes, sorry. Page 11.

MR. HEAD: Okay.

**Q. (By Ms. Voelckers) Actually, before we talk about page 11, if we could -- have you seen this document before?**

A. I don't -- I'm not -- I'm not sure if I have seen the entire document, but I think I have seen parts of it.

**Q. What is this document?**

A. This is the Draft Wildlife and Habitat Mitigation Plan for the Horse Heaven Wind Farm.

**Q. So you've reviewed portions of the mitigation plan for the project?**

A. Yes. I believe -- through -- through, I think, excerpts from Mike Ritter.

**Q. And I'm not going to ask you about your --**

A. I don't know if I've -- I don't know if I've seen it in its entirety or not.

**Q. So you've reviewed the portions of the mitigation plan for this project that Mr. Ritter asked**

**you to look at?**

A. Yes.

**Q. Okay. And I'm not going to ask you for your recollection of it.**

A. Yeah.

**Q. But I just want to make sure that we have established what it is.**

**Okay. So turning to page 11 and at the end of that last paragraph, if you could read the last two sentences to yourself that says "As summarized."**

A. Okay.

**Q. So in the last two sentences, it says that, quote, Replacement habitat would be provided such that there would be no cumulative loss in function or value or habitat from project development.**

**Based on everything that you know about the project, do you agree with that statement?**

A. No.

**Q. And why not?**

A. It appears that that they are looking to replace habitat. So with the mitigation that's proposed in these sentences basically as payment for mitigation is different than actual mitigation.

So in my mind, to say that there's no cumulative loss in function or value of habitat, you would have to

have that habitat in place prior to the loss of the function.

So I don't know if that makes sense but -- but to say there's no net loss, but there would be at least a temporal loss, at least, from the time that money was provided as mitigation and land was identified and sagebrush were planted and the land was recovered, you could be 30 years from having an, you know, an intact sagebrush steppe ecosystem to replace what was lost.

**Q. Even if you -- and I'm just asking your opinion, not based on the rest of the document -- but even if you were able to identify appropriate mitigation for the project in terms of exact acreage or monetary compensation, if that was how you were defining mitigation, is it really possible to ensure no cumulative loss in function or value of habitat from the project's development as a whole?**

A. I mean, there's -- there's certain things that aren't mitigatable. You know, I don't know how to replace a, you know, a -- you know, in this case, with say, pronghorn. If -- and I don't know that this is the case in this situation, but if there was a, you know, one of the solar panels, arrays, and fencing blocked off this migratory corridor, we don't have more geography to expand, you know. I don't know if your, you know, you

can't recreate, you know, habitat attached to the current population at a certain elevation that would, you know, replace that habitat.

You know, with, say, ferruginous hawks, you know, we can't create -- you know, there's nowhere to create new, you know, geography to offset what might be lost, right?

So it's unlikely we'll be reclaiming large portions of, you know, agricultural land or suburban area to convert it into habitat.

So I mean, to off -- I'm not sure -- in my opinion, you know, we have -- mitigation really needs to recreate something to replace what's being lost and take into effect the time that there's a lag between that new thing being created and what's being lost so...

**Q. And if you can't recreate what's lost ahead of the loss, then is it fair to say it's your opinion that you should just avoid the impact, from a biological perspective?**

A. Yeah. For -- so yeah. If your -- if your goal is to have no cumulative loss, it's -- the priority -- the priority is always to avoid the impact. Mitigation is never the priority -- never the preferred way to deal with the impact, right? We're always looking to hope to avoid the impact before looking at mitigation first,

right? So mitigation is like the last, you know -- avoid, minimize, and mitigate.

So these unavoidable impacts, you know, there is -- if they are truly unavoidable, then you're left with mitigation. If they are avoidable, then we're not worried about mitigation.

**Q. Are you familiar with the proposed role of the Technical Advisory Team for this project?**

A. I've seen the term in some of these documents, yes; although, to say that I understand their role would be incorrect. But I have heard -- I have heard -- I've seen the proposal for it.

**Q. Is it fair to say that the proposal does not well define the role of the Technical Advisory Team, based upon your recollection?**

A. Yes. I believe based -- yeah. I don't believe I'm -- the role was very clear.

**Q. Do you know why the applicant has not yet put forward final designs for the specific wind turbine locations?**

A. No.

**Q. In your experience, does a delay in siting detail, such as a specific wind turbine location, increase the risk of inadequate mitigation for impacts?**

A. I think it's hard to inform mitigation plans

without knowing the impacts and the siting. So it's hard to know what's being -- you can't talk about mitigation until you know what the impacts are.

**Q. And you can't know if you have achieved avoidance without knowing the exact location of the project components, correct?**

A. Yes. Correct.

**Q. How much more shrub-steppe habitat can we afford to lose before the species that depended on it are unable to survive?**

A. I mean, I wish I knew the answer to that. That's a -- that's a -- a difficult question that, you know, different species are going to have different thresholds. And then when you're looking at a population -- I think I could talk a lot about this without giving you, probably, an answer that would -- that would be useful for you. So I guess I don't know is probably the best answer.

**Q. Is there -- is there any additional loss that would not be concerning?**

A. No. I agree that any loss is -- is a concern.

**Q. I know we've talked about this a lot, but if you could just summarize why any further loss of shrub-steppe is a concern?**

A. Sure. We've already had disproportional loss of

certain shrub-steppe habitats, especially deep soil habitats. It's really difficult to recreate mature sagebrush in the shrub-steppe stands. So there's a time lag whenever we do have a loss and restoration of shrub-steppe is pretty challenging, especially in Benton County, where we have really low precipitation. It's harder to do than other parts of the Columbia Basin in Washington, and we have a lot of species of concern that are dependent upon shrub-steppe.

**Q. In your opinion, should there be a cumulative analysis of the impacts that current and proposed renewable energy projects will have on shrub-steppe?**

A. Yes.

**Q. And why is that?**

A. It's really hard to look at all these projects and independently isolated projects. It's -- we've had challenges with -- you know, there's -- there's projects proposed, you know, in -- you know, we're looking at the footprint of this project, but there could be a similar project adjacent to this property boundary that, without seeing the cumulative impacts -- let me think for a second on how to respond to this.

We're seeing -- these projects are landscape level projects that are going to impact species within Washington at population levels. When you look at all

of the solar, all of the wind, all of the renewable energies, there's -- there's -- it would be much more effective to look at all these projects as a whole and identify ways to maintain habitat continuity for corridors and areas that we're looking for mitigation to do the best -- have the best outcome.

And it would be great to create projects that actually are a net benefit to wildlife, and I think that's only possible if we're really looking at the whole picture.

Property projects like this and neighboring projects really need to be considerate at the same time to be able to have space in between, basically, for movement habitat.

**Q. And when you say "neighboring," do you mean immediately adjacent or within a certain regional area?**

A. I would say that both, you know, projects that may come online adjacent to this one or further down in Benton County or elsewhere in, you know, even elsewhere in Washington in the Columbia Basin.

**Q. So we don't have that analysis today. So --**

A. Yeah.

**Q. -- what information, in your opinion, is most critical for EFSEC to consider when evaluating the impacts of the project as it is designed?**

A. Can you repeat the last part of that? What...

**Q. What information is most critical for EFSEC to consider when evaluating the project as it is currently designed?**

A. I think first knowing the existing and historic species distributions in the project area in order to understand what the impacts would be, the proposed layouts, and understanding, you know, species like ferruginous hawk, state-endangered species, you know, the importance of, you know, not only these recently occupied sites that are within, you know, the vicinity of the project, but, you know, historic breeding habitat that will be critical for recovering species. So it's not just, you know, what's there exactly today.

Because if you, like we said, if the hawks -- property -- territories come on and off as a population and individuals move. So if you came in at any time -- well, anyways.

So species, status and distribution, and the layout of the properties, those are going to be the first step of understanding what's -- what's necessary for mitigation.

**Q. Will short-term monitoring accurately identify the project's impacts on the species that are present?**

A. Is this prior to development of the project or

postconstruction monitoring?

**Q. Postconstruction monitoring.**

A. Oh. I mean, so postconstruction monitoring, I think you will be able to -- I think there's a lot of flaws in -- you know, you really need to have a rigorous study design for postconstruction monitoring, and sometimes that's lacking.

But I could see, you know, we're seeing this is going to have long-term impacts. I don't know if it's a 30-year or 50-year project life that's being proposed. So I think it will be hard to tell over that 50 years what the impacts will be with monitoring over one or two years.

So the answer, I think, yes, it would be difficult with a short-term monitoring.

**Q. As it's currently designed, do you believe that the project will preserve and protect the quality of the environment?**

A. I'm not sure if I have seen the latest design, but I know that we have -- so no. Because I believe we've provided recommendations to improve the design so...

**Q. So assuming that the -- the turbine siting corridors are consistent with the designs that you have reviewed?**

A. Yeah. I haven't seen designs that took into account our recommendations yet, so the designs I've seen are not consistent with minimizing impacts.

**Q. And by "recommendations," are you referring to the recommendations regarding avoidance of ferruginous hawk territories?**

A. Yes, and others.

**Q. Is it your opinion that the project will enhance the public's opportunity to enjoy the aesthetic and recreational benefits of air, water, and land resources?**

A. Sorry. Can you repeat that?

**Q. Is it your opinion that the project will enhance the public's opportunity to enjoy the aesthetic and recreational benefits of the air, water, and land resources?**

A. No.

**Q. And why not?**

A. My -- I know for some of these areas -- well, it's difficult to answer as, I guess, that could be defined differently by different people.

But, you know, to -- for folks who -- you know, I'm not sure what the -- you know, I believe we have some recreation area and agreements on for, you know, things like hunting on some of the -- within the project territory or project boundary. I'm not sure what the

impacts of that, those contracts, will be long-term with the project or if they are compatible.

Beyond that and more broadly, you know, I know this is an area where people regularly go for, you know, observing, you know, bird watchers go out to observe winter raptors, snowy owls, things like that that appear in the area of the project of, you know, the potential impacts to those species would be a loss and -- yeah. And, you know, these would be, you know, just -- yeah. I guess I'll keep it at that.

**Q. In your opinion, will the project result in beneficial changes in the environment?**

A. Optimistically, I envision a design that could create, you know -- minimize direct impacts and provide the project benefits of, you know, being a -- a renewable energy source that reduces carbon emissions and things like that that these alternative energy projects have the potential to do. And as an agency, I know we are in favor of this type of a project, but in -- that need to be compatible with existing habitat species and land cover.

So I think that without alterations to the designs I have seen, I would say no.

**Q. Do you believe that it's important for EFSEC to hear directly from WDFW when considering the project's**

**design?**

A. Yes.

**Q. And why is that?**

A. I think we have the most-up-to-date information and designs for most of the species -- the species impacts that should be considered when siting these.

**Q. Do you think that -- do you believe it is important for EFSEC to hear directly from WDFW when considering the project's mitigation plan?**

A. Yes.

**Q. And why is that?**

A. Again, you know, we have the most-up-to-date information on species occurrence and distribution and status. So knowing what needs mitigated and recommendations for where to mitigate would be impossible without that information.

**Q. Do you know why WDFW declined to participate directly in the Horse Heaven Hills adjudication?**

A. No, I'm not -- or I'm not aware.

**Q. Okay.**

A. Yeah.

MS. VOELCKERS: Those are my questions for this morning. I would -- we can go off the record and talk about a break, unless there -- you have a good idea of how long you'll need.

(A short recess was had.)

MS. PERLMUTTER: We can go back on record, if everyone else is ready.

THE WITNESS: I'm ready.

EXAMINATION

BY MS. PERLMUTTER:

**Q. Hi, Mr. Fidorra. We met earlier. I'm Willa Perlmutter, and I'm the attorney for the applicant, one of a team of attorneys for the applicant. And the same ground rules apply for when I'm questioning you as when to Ms. Voelckers was questioning you.**

**I will warn you, as I told the court reporter, I'm from the east coast. I tend to move a little faster than people around here. If I take off and I lose you, just give me a hand signal, and I'll slow down in a big way.**

**And also I'd like to apologize in advance. This is going to be very disjoined because I'll be handling exhibits plus your prior testimony, the million emails I've been getting, and then some prepared questions that I had for you. But I'll keep this as short as I can.**

**So first of all, you said that you were asked about whether or not the project, as you've seen it, would be beneficial to the environment and you said --**

**you certainly tipped your hat to the greenhouse gas kind of, what I took as climate change impact, of a wind project and renewable energies. But you also said that, based on what you've seen, without alterations to the design, the project would not be beneficial. Am I right that that's what your testimony was?**

A. Yes.

**Q. But you don't know if you've seen the most recent draft of the application; is that correct?**

A. Correct. Yeah. I'm not sure if I've seen it.

**Q. And so you don't know whether or not the applicant has taken into account the DFW recommendations?**

A. Correct.

**Q. Okay. You also said that that -- that among the information that it's most critical for EFSEC to consider, you would include the historic breeding habitat, the information about historic breeding habits that would be critical for recovering the species, not just what's there today, but what the historic breeding habitat looked like; am I right?**

A. Yeah. I think I said something along those lines.

**Q. So am I right in interpreting that what you were saying was, essentially, that EFSEC shouldn't just be**

**looking at who's there now and what their habitat is but what happened in the past before we ever got to this point?**

A. So what I meant by that -- and obviously, historic is not very clear, and so I don't mean, you know -- what I meant was in terms of our data, historic, within the department, you know, we have sites that have within the past decade or two had occupied ferruginous hawk sites, for instance. When we're tasked with recovering the species and everybody wants, you know, the goal to, you know, recover a species, you know, those sites, even though maybe this season they weren't occupied, but they're still important sites to protect to assume that hawks will occupy them in the future. And so that's -- that's what I meant by -- by history or by past.

**Q. So let me say this back to you and make sure I understand. And I understand that the data that DFW has -- you do have a significant amount of historical data going back, you just said, maybe as much as 20 years?**

A. Yeah. Probably '60s or '70s. '70s is some of the older stuff for the hawk data, I believe, but there might be older.

**Q. So but let's work with that. So is your**

**testimony, then, that if -- and let's not talk specifically about the project -- but in general terms, if EFSEC had information that said that a particular species was not present at a project site currently but 60 years ago had been, that they should be looking at opportunities to restore the species, even though for 60 years there hasn't been any evidence of occupation?**

A. I don't know if I know -- you know, I think it would depend species by species. There's been a lot of change in the landscape and things over time.

But I guess my main point was more probably specific to some of these sensitive species that are restricted to only more or less finite areas, like the nesting bluffs and cliffs of the Horse Heaven Hills, where we have some of the recently-occupied ferruginous hawk sites.

So -- so while some -- yeah. Well, so for some other species, it's hard to, you know, those -- those areas that have been historically significant to that population should be considered in the future as we're recovering -- going to be significant to that population again.

**Q. Let me say it even less specifically. See if we can get to the same place, which is EFSEC should look at something and say, hey, there's nobody there now and**

**there hasn't been anybody there of this particular species for quite some time, but EFSEC should take into account the possibility that, in the future, a species might return?**

A. Yeah. I think that's the goal of recovery, right? So yes.

**Q. Okay. You also -- there was some questions about whether or not -- whether you would be concerned with loss of habitat, and you said -- it was a wonderful thing -- you said that any loss of habitat is a concern. Do you remember saying that?**

A. I remember agreeing to it, I think.

**Q. Okay. And a loss of habitat can happen in any number of a bajillion different ways. You can have a loss of habitat?**

A. Uh-huh.

**Q. For example, you live in a house, right?**

A. Uh-huh.

**Q. Most the time?**

A. Yes.

**Q. When your house was built, that engendered a loss of habitat, didn't it?**

A. Yes.

**Q. Okay. I'd like to -- now I really am jumping around.**

**I'd like to look at Exhibit 1, which was your -- your -- you referred to it as a CV, I think. And it looks as though prior to -- prior to March of 2015, it looks as though all of your employment was for private entities, not for the government; am I right?**

A. Yeah. Private or nonprofit. Yeah.

**Q. Okay. But not government agencies?**

A. No. Correct.

**Q. Yes, that's correct, not government?**

A. Correct, not government.

**Q. And in the course of these employments that you had, you were out there doing the same kind of research and studies that you currently do for WFW -- or DFW; am I right?**

A. There were similarities, yes.

**Q. And so you were collecting data about the species you were studying?**

A. Uh-huh.

**Q. And you were looking at population migrations and density of population and the existence of habitats; am I right about all those things?**

A. Yes.

**Q. And at the time that you were doing these, you liked the work that you were doing in terms of your -- your -- let me say it a better way.**

**You had faith in the scientific efficacy of the work that you were doing for those private and nonprofit companies; am I right?**

A. Yes.

**Q. Okay. And certainly, pick any one of those, at the time you were doing that work, you considered your work the best available science, didn't you?**

**Let me say it a better way.**

A. Right. Yes.

**Q. You weren't out there doing your research collecting your data and going, well, this stuff is pretty good, but let's see what the guys at the state have to say because theirs is going to be better available science. You would never had said that, would you?**

A. Let's see. Who was I working for? I mean, I don't -- yeah. I would not -- I don't think I would have discredited, you know, any of the other guys' or state agencies' data at that time.

**Q. But you would expect them to accord respect to your data as well?**

A. I think I would expect, you know, if it was collected in the -- you know, I think I would expect that they would critically review my data and agree with it if it held up to, you know, the accepted -- you know,

the scientific muster, more or less.

**Q. Fair enough. Okay. I'm going to jump back. You talked about -- oh, this was right at the very beginning of your testimony, the questions about whether the work that you did would be considered providing education. And you said the information that you relied on or that you collected is publicly available and available to other partners. What do you mean when you talk about other partners?**

A. Other partners include the tribes or, I believe, for all -- you know, for the data that goes into the PHS database that project proponents can access, U.S. Fish and Wildlife. I mean, it's available to anyone who requests it, for the most part, with some sideboards on sensitive data.

**Q. And but, I guess, I'm focused on when you talked about partners.**

A. Oh --

**Q. And that's the word you used. Who do you mean when you talk about partners?**

A. I think by partners I just meant, I guess, other interested parties.

**Q. And you said that the population surveys you conducted are to inform DFW in their efforts to manage species. You said the population species -- population**

**surveys are not often peer-reviewed?**

A. Not through the typical rigorous -- what I would consider the, quote, unquote, peer-reviewed of a scientific journal.

**Q. Okay. And you said there are internal standards and methodologies to ensure the quality of data when looking at population surveys. What are those internal standards and methodologies?**

A. Well, typically, we do have, like, a team of, maybe, subject experts that might, you know -- reviewing literature and stuff come up with the survey methodology following that. We have, you know, folks -- you know, we have trained folks in collecting the data who are collecting the data. And then that data gets synthesized through either a project manager or data steward, who then can flag out anomalies or reach back out and, you know, just basically collect -- clear up any discrepancies or, you know, so as opposed to, perhaps, just, you know, incidental observations collected by someone in the public or something like that or, you know, public reports or even, you know, other reports we did.

But yeah, those are the, I guess, the methods that we have internally.

**Q. And when you talked about incidental**

**observations, I think you referred in your deposition to the guy who calls up and said, Hey, I saw an owl?**

A. Right. And so yeah. That would be an example of something that maybe, without further information, you know, we're not entering all that into our database.

**Q. And what differentiates that from -- I know you didn't do it in 2021 -- but in 2019, you flying over an area and saying, Hey, we see pronghorn.**

A. Uh-huh.

**Q. Is there a check on -- I mean, I know -- and I've reviewed the summary reports where you say we saw 65 pronghorn in this area. Nobody checks that, do they? You just fly over and make the count and that becomes the report?**

A. Yeah. And I would say the difference there is that without -- when you deal with public reports, you know, we have gone out to look at follow-up on morality of bald eagles that turned out to be barnyard chickens. I mean, we've seen -- I've had people -- I mean, I can entertain you for a while, but I won't, on some of the misidentifications we've had.

So we, you know, have -- we have control over who are the observers in our studies. And in addition to that, you know, and to be fair, if the person who says they've seen an owl in their yard provides photo

evidence or are -- you know, we do have -- we do sometimes use -- there's resources like eBird out there that has some data, like, you know, there's some concerns on accuracy and there's, you know...

But so I guess -- so in my mind, there is a difference in that in some way it substantiated -- we do have multiple observers in the plain, and I consider myself trained in the background for species identification to be an authority to provide that information.

**Q. Okay. Thank you.**

**You said -- you were talking about the habitat program developing recommendations and responses and the ways in which you get information. And you said sometimes if you don't have enough information, you would typically reach out to the local biologist or species expert?**

A. So the Habitat Program -- so in this case, Mike Ritter would fall into that. When the Habitat Program needs more information, they would reach out to someone like myself, who would be the local biologist for that area.

**Q. And are you --**

A. Within -- yeah.

**Q. Sorry. Just what I promised I wouldn't do.**

**Are you a species expert?**

A. I think for certain species, yes, but I can't be an expert on everything.

**Q. Would it be fair to call you a generalist?**

A. Yeah. Yeah. Over -- well, I'd say my primary expertise through my career is focused more on bird species, but that -- I'm becoming more and more of a expert on the species I get involved with here. Over the past eight years or so would add pronghorn and, you know, mule deer to some of those.

**Q. In fact, let's go to that. You said that the species that you could imagine having conflict with -- you could imagine certain species having conflict with extensive fencing projects, and you said mule deer and other big game that move through the habitat.**

A. Yes. Pronghorn, mule deer, and other species.

**Q. And this is going to sound like a stupid question and it's actually not, I tell you. Do you use the phrase "big game" as a term of art? When you talk about big game, what do you mean?**

A. So most of that -- so big game in this area probably doesn't include many other species that would be in the project area. Mule deer, pronghorn, elk would be included in that. I mean, big game, you know, in the agency we have -- you know, you need a big game license

to harvest certain species. Game, typically, refers to huntable wildlife.

So I would be corrected in saying that pronghorn technically aren't. But they are a game species, but we don't have a season. So anyways, we're kind of nitpicking there.

But I guess I was just, for more of a general -- more a general term of describing some of the --

**Q. Let me --**

A. -- larger species.

**Q. Sorry. I apologize.**

**Let me say this as somebody who doesn't hunt: When you talk about big game, would it be fair to say those are animals -- large animals that people hunt?**

A. Yes.

**Q. Okay. And even though there's no pronghorn season here, there are other places in the west where we do, in fact, hunt pronghorn?**

A. Correct.

**Q. Okay.**

A. Yeah.

**Q. And just to touch on one thing, you said you did imagine it's possible to fully mitigate for shrub-steppe habitat?**

A. I -- I --

**Q. I understand --**

A. I think. Yeah. At certain -- depending on the context, I think -- I like to -- yes, I think that it's possible to -- you know, we have to do better than we have -- better than I've seen in other places, but I imagine that it's possible.

**Q. And, in fact, this was pretty interesting to me, you talked about ideal shrub-steppe and, specifically, the way fire would have an impact on shrub-steppe restoration. Do you remember that discussion?**

A. Yeah.

**Q. Okay. So you would agree with me that fire is a threat to the habitat, to shrub-steppe habitat?**

A. Yes.

**Q. And, in fact, would you also agree -- I hope you would -- that fire has become an increasingly great threat, an increasingly dire threat to this habitat?**

A. Yes, correct.

**Q. You said that you hadn't looked into it deeply, but there has been a study someplace about how pronghorn move differently around wind power?**

A. Yeah. I believe one of the tribal biologists sent me that in the past, who I work with the pronghorn on. I know that -- and I -- you know, to be -- but, yes, I did say that.

**Q. Do you know where that study was conducted?**

A. Yeah. I -- offhand, no. But I believe it was one of the other western states that -- possibly Wyoming or Montana.

**Q. Okay.**

A. But I would be happy to provide some of that if...

**Q. You said that you, quite a while ago, you met with Scout's contractors to go over thoughts and concerns. Were those your thoughts and concerns or theirs?**

A. I know -- oh, I mean, I think they were some initial -- I think it was one of the first meetings I had was with some of their consultants, just wondering what kind of wildlife concerns we had.

**Q. Again, I just want to make sure I understand the direction of information flow here. The Scout consultants were asking you what your concerns were about the wildlife in the project area?**

A. Oh, gosh. I don't really recall. You know, if you're referring to -- some of the early -- there's certainly been meetings where that's happened, I believe. Okay.

Yeah. I don't recall exactly what the original meetings were around. I believe they had to do with

Scout wondering -- yeah, asking for some initial concerns, yes.

**Q. Try it again from a different direction, which is that your recollection is that the consultants for Scout were coming to you to say, We're looking at this project, tell us what worries you about it?**

A. Yeah. That's -- it's most likely the case. That's typically how these initial consultants that get brought in, how they start.

**Q. Okay. So we'll let that go.**

**You said from what you recalled, you were unaware of seeing a design for the project that took into account the wildlife impacts; is that right?**

A. Yes.

**Q. Okay. But there may be such a design that you just haven't seen?**

A. Yes.

**Q. Okay. I kind of hate to open this can of worms, but in response to questions, you were asked whether it would be best for EFSEC to wait until the guidelines were updated before doing any permitting. You waited a very long time before you answered that question. Can you elaborate on where you were going?**

MS. VOELCKERS: Object to form.

**Q. (By Ms. Perlmutter) You can answer.**

A. Okay.

MR. HEAD: Yeah, you can answer the question.

A. Oh, okay. Yeah. I'm not familiar with what -- where our agency is on reviewing these -- all of the -- the guidelines. The guidelines will hopefully standardize this type of process.

If the information that's going to be presented in those guidelines can be presented -- my hesitancy was not knowing -- not knowing about our timeline with these guidelines, not being sure where our agency is on them. And if we have all the information that's being -- you know, if we can take all that information into account and provide those recommendations, then I could foresee a way that there wouldn't be a need to necessarily wait, as long as, you know, presumably, if what we're talking about and recommending now will be included in those guidelines in the future.

**Q. Am I correct in understanding that the guidelines that are under review now are an updating of earlier guidelines?**

A. I'm not currently involved in those guidelines, and I'm not sure what their -- what's being done.

**Q. You would say -- you said that it would be best to know where the burrowing owl -- where burrowing owls are located during the project design. Do you remember**

**saying that? You talked about the various times where you would need to --**

A. Yeah.

**Q. Do you know whether the applicant has information about where the burrowing owl is located at this point?**

A. I do not know if they have information.

**Q. And you talked about buffers, the possibility of using buffers to avoid nest sites during project construction. And you said that the buffers would avoid direct takes from the nest, but that they didn't address other things. And you specifically referenced habitat and foraging sites, you said, and other things. Besides habitat and foraging sites, what did you mean?**

A. Well, I guess habitat kind of encapsulates everything, but there would also be maybe a, you know -- so other things -- there's going to be movements, right? So in and out. So whether that's migratory or postbreeding movements, you know, the animal will have to move through space.

Whether or not that's -- I mean, that might be habitat, but it might be through stuff that we consider not habitat typically for this species.

And then the -- yeah. So that probably -- habitat kind of encapsulates all that, and subsequently,

you've got your foraging and things like that. But, yeah, I think that's suffice.

**Q. And with regard -- you were talking specifically about, I think, the Townsend's ground squirrels, and you said you couldn't fully understand their decline. And you said there were a number of factors, which makes sense.**

**And one of those things that you talked about was loss or conversion of deep soil habitat and shrub-steppe. Am I right in understanding that a big contributor to that is the conversion of land to agricultural land?**

A. Yeah. Historically, yes.

**Q. Does DFW play any role in determining when land can be converted to agricultural land?**

A. I'm not sure. I don't know. I'm not aware.

**Q. Do you know whether DFW makes recommendations for conditions of conversion of land to agricultural land?**

A. I -- I'm not aware. I'm not sure.

**Q. Okay. And can I also -- would I be correct also in believing that that loss in conversion of deep soil habitat, that also might be the result of residential development?**

A. Yes.

**Q. Okay. And does DFW play any role determining when land can be developed for residences?**

A. Yes, and -- well, as far I -- yes. I do know that -- I do know that we provide comment on anything that comes under like the SEPA or that type of thing.

Again, this mostly goes through our Habitat Program, and as a wildlife biologist, they may tap me for specific things. So unfortunately, I'm not the best person to ask about how -- some of this. So I'm not totally sure, but I have been brought in a couple of times when they were looking to build a development and to ask about impacts and things there.

**Q. Does DFW put conditions on the development of residential properties?**

A. I know that we make recommendations. I don't know to what role they are considered conditions.

**Q. And you stated that with ferruginous hawks, there's nowhere to create new geography to offset what's going to be lost. And you said it's unlikely that you will be able to reclaim lost sections -- areas that were lost to agriculture; is that right?**

A. Yeah. Yeah. Well, yes.

**Q. And you also said that it's unlikely we'll be able to reclaim lost habitat that was lost to suburban development; is that right?**

A. Correct.

**Q. Okay.**

A. Typically, we don't see that reverting to shrub-steppe.

**Q. That's -- as a homeowner, that would be a bad thing. Okay.**

**You talked about documented -- you talked about bird fatalities, bird strike fatalities. And am I right that the majority of those bird fatalities in the U.S., in the western U.S., is to horned larks?**

A. I believe there was a -- I think it was a -- one of the project reports that had summarized some of that. I don't know if it was west, but I think I remember seeing a document that they had summarized strike fatalities. And I don't know over the geography, but horned larks was certainly one of the higher species I've seen in those lists.

**Q. And I don't mean in any way to minimize bird fatalities. I truly don't, but would you agree with me that as far as horned larks are concerned, it's a pretty widespread species?**

A. Yeah. It's geography widely distributed, yes.

**Q. And it's a robust species?**

A. Meaning they're...

**Q. Meaning that there's -- that it's a species that**

**doesn't necessarily have threats to the overall survival of the species?**

A. They're currently not listed. Now, in general, the main -- I don't know the subspecies, but the subspecies we have in the Columbia Basin is not under any, that I'm aware of, listing concern.

Now, there are horned larks in western Washington and Oregon that are state endangered.

**Q. But around here --**

A. But here, we're dealing with the more abundant common subspecies that is not of conservation risk.

**Q. And the --**

A. Currently.

**Q. And the population is pretty stable around here?**

A. I don't have information on that.

**Q. Okay. Certainly, you'd agree with me that siting decisions are part of the design for a project like this?**

A. Yeah.

**Q. And -- and are you aware of the extent to which this project is intentionally sited on agricultural land?**

A. I -- yes -- I mean, can you repeat the question?

**Q. Yeah. Well, let me take it back.**

**The siting decisions have an impact on -- or**

**siting decisions affect the extent to which the habitats are impacted, right?**

A. Yes.

**Q. And we've already talked about the impact of agricultural lands on local habitat. Are you aware of the extent to which the Scout project, the project we are talking about, is intentionally sited on agricultural lands specifically for the purpose of minimizing habitat impacts?**

A. I don't know the exact numbers, but I am aware that most of the project boundary is in agriculture.

**Q. Okay. Let's talk about pronghorns for a minute. And I just have to say, in 40 years of practicing law, this is the first time I've ever heard the word "ungulate" as part of my professional activities.**

**So in Washington state, pronghorns are not a species of concern; am I right?**

A. That is difficult to answer.

**Q. Are they listed by the Washington PHS program?**

A. No.

**Q. Okay. Do they have a federal classification?**

A. No.

**Q. Is there a state classification?**

A. They are classified as a game species with no open season.

**Q. Okay. But, again, we've talked about the fact that they're pretty commonly hunted elsewhere?**

A. Yeah. Yeah.

**Q. And there have been attempts to reintroduce pronghorn, right?**

A. Correct.

**Q. And I think your testimony was that they've been partly successful but not completely successful?**

A. Prior efforts, to my knowledge, were completely unsuccessful. There -- well, okay. Wait.

Prior to -- so at some point, early efforts were, to my knowledge, completely unsuccessful. There have been recent efforts, like by two tribes in Washington, that have appeared to have been tentatively successful.

**Q. And the failure, that could be the result of the severity of winters?**

A. It could be, yeah, a factor.

**Q. And disease could be a factor?**

A. Potentially, but I don't know that that -- I don't know that that was the case in these.

**Q. Okay.**

A. But yeah.

**Q. Maybe?**

A. Could be.

**Q. And predation?**

A. Yes.

**Q. Yes, that could be a factor as well?**

A. Yes, that could be a factor.

**Q. Okay. We talked about burrowing owls and the bird survey data that was conducted.**

A. Uh-huh.

**Q. And Ms. Voelckers asked you about 13 random points in 10-minute durations. Do you know for a fact that that's what the burrowing owl survey at the site consisted of?**

A. No, I'm not familiar with that.

**Q. Okay. And if I told you it was more points and more duration, that would increase your faith in the -- in the result of the surveys?**

A. Unfortunately, not for burrowing owls. Assuming that they were doing diurnal bird point counts, which are pretty much the standard, those have proven to be really difficult to detect owls in general and burrowing owls.

**Q. And you said that that's the standard approach?**

A. That's what I assume, when someone says a point count, what we're talking about because those are the common diurnal birds survey method.

**Q. Did DFW ever recommend species surveys -- species-specific surveys for burrowing owls?**

A. I'm not sure.

**Q. Okay. We're getting close.**

A. I'm doing fine. You're doing great.

**Q. What did you do to prepare for the deposition today?**

A. Showered.

**Q. Okay. I can't speak for everybody in the room, but that's a start.**

A. There was a list of documents that were to be prepared earlier that was part of the subpoena that were prepared and sent, reviewed some of those documents and, otherwise, just had a good breakfast and came with good intentions.

**Q. Did you meet with anybody to talk about your deposition?**

A. No.

**Q. Did you talk about your deposition with anybody beforehand?**

A. There were people that I mentioned to that I had a deposition. That included family and staff members at DFW. Legal counsel was involved throughout, like, the understanding of the deposition.

**Q. Okay. I won't ask you any more about your communications with them.**

**When did you first become involved in the**

**project?**

A. There was a meeting in Pasco with the -- and, again, I'm not familiar with the date. I think I said it was about five years ago, but it -- gosh. It -- that's my best guess. And there were -- yeah, so five years ago maybe.

**Q. And have you worked on it consistently since then?**

A. As Mike Ritter's reached out, I've provided input or feedback as available. Consistently, I mean, I would say there'd be at least year gaps in between talking about the project with anyone.

**Q. Have you ever communicated -- you talked about the communications with the consultants for the applicant.**

A. Yes.

**Q. And you said you met with them possibly even a couple of times?**

A. Yeah. Yep. I believe that West representatives came to Pasco, and we met in one of those first meetings.

**Q. And have you had other meetings with the consultants from West?**

A. Yes, I believe they've been on some of the more recent calls.

**Q. And other than this document that was introduced as Exhibit 4, which was this email string, have you had any written communications with representatives of the applicant?**

A. I don't -- there may -- well, I don't think so, but there could have been in the past, especially recently. I did a search for any of the applicants and I -- generally, that all goes through Mike Ritter.

**Q. Okay. And how often have you spoken with Mr. Ritter on issues specific to the project?**

A. Over the years, it's kind of ebbed and flowed. You know, there was -- it kind of comes in and, you know, there might be one or two meetings here, and then we might not meet for a year about it.

I would say, you know, as comments become due, we've probably had more frequent meetings, but a couple times a year is probably about accurate.

**Q. Have you spoken with him about the striped whipsnake with regards to the project?**

A. Not to my recollection.

**Q. And what about the burrowing owl?**

A. It's possible that I could have mentioned them as a species of concern in the area.

**Q. What would you have said to him?**

A. You know --

MR. HEAD: I'm just going to object to the extent it calls for him to speculate.

**Q. (By Ms. Perlmutter) You can answer the question.**

A. So if someone -- if anyone were to ask me about burrowing owls in this area, my response would be that they're probably present. We don't know a lot about them in the area. They're probably not, you know, super abundant but that they're likely to occur. And that's probably what I would have told Mike, if he asked me.

**Q. Have you spoken with Mr. Ritter about the prairie falcon?**

A. I believe, yes, that was probably a species I mentioned in -- at one point with Mike.

**Q. And, again, let's do it this way. If somebody were to ask you about the impact on the prairie falcon, what do you think you would have told him?**

A. That there are certain areas, especially some of the cliffs towards the west side of the project siting, that are known prairie falcon nest sites. And that the species also uses it for foraging in some of the more open areas, but I don't know of any -- I personally offhand don't know of any nest sites within the project boundary for -- well, I probably would check the database before answering that. But yeah.

**Q. And you've talked sort of obliquely about a decline in the ferruginous hawk population. Do you know when that decline started?**

A. I don't offhand. Jim Watson would have a lot more information, including historical information, to go off on that. Yeah.

**Q. Okay. Do you know what specifically has caused the decline in ferruginous hawk populations in the area?**

A. Right. My, you know, again, it's going to be a multi -- a few different factors coming together. Our -- my understanding is that loss of foraging habitat or prey base is -- is one of the major contributing factors as well as disturbance in habitat loss around, you know, nesting areas and disturbance around nesting areas.

**Q. As part of your responsibilities, have you identified the ferruginous hawk nests that are closest to the project?**

A. I'm familiar with the locations that are both within the project boundary and in the vicinity.

**Q. And when you define vicinity -- when you talk about vicinity, give me a rough idea of how you define that.**

A. The eastern Benton County or -- and the Horse Heaven Hills area of Benton County.

**Q. And how many ferruginous hawk nests are there in that area?**

A. Now, nest is -- is kind of a tricky word for this because there are many nests built by ferruginous hawks. Some of them remain intact on the landscape and would be considered a nest, even though it may not be occupied that year.

In the Horse Heaven Hills, we, you know, we typically identify them as -- as historic territories or as territories.

**Q. Understood.**

A. So...

**Q. So how many -- can you say how many occupied nests there are in that area?**

A. In 20 -- well, since we're at July, there's probably 0 occupied nests right now. Most of the young would have fledged.

But, you know, if you were to put a time, probably you're looking at, you know, a time period -- you know, in the past -- our last year of doing surveys was 2021. So I don't have really much data since then.

**Q. Does DFW track anthropogenic -- anthropogenic impacts on ferruginous hawks?**

A. I know we've been involved in studies in the past, and I believe we are doing some new work

currently.

Jim Watson has identified, through doing some satellite telemetry work, some impacts and potential impacts, but I'm less integrated in some of that research so...

So in short, I think we have, but we are not doing -- to say we're tracking impacts, yeah, I'm not sure.

**Q. Do you know how many -- let's just talk about the last 20 years, say -- do you know how many ferruginous hawks have been killed with -- by collisions with vehicles?**

A. I don't know.

**Q. You would expect it might happen?**

A. I expect it could have happened, yeah.

**Q. And what about collisions with buildings?**

A. Possible but -- yeah -- I mean, of course, it's possible. I would anticipate it. I don't anticipate it to be very high, but it's possible.

**Q. But you don't know what the number is?**

A. I don't know.

**Q. Same question about electrocution and power lines.**

A. I anticipate that it's a potential cause of mortality, but I don't have data on the numbers.

**Q. Same question about poisoning?**

A. Potentially, yeah. You know, it's a potential risk, especially with persecution of ground squirrels. I think that's not as common anymore, but I'm sure it's still an avenue for mortality.

**Q. In other words, farmers poison the squirrels and the ferruginous hawks eat the poisonous squirrels?**

A. I don't know that farmers -- I know that there's -- there's folks who, at least -- in -- that could be a potential -- could be a potential cause. I don't know that farmers specifically but landowners.

**Q. For the record --**

A. Irrigation districts, other folks have issue with ground squirrels at certain population thresholds.

**Q. For the record, I can say my father probably never has poisoned a squirrel, but given the chance, he would do it in a nanosecond.**

**Is reduced nest occupancy -- and we're talking about ferruginous hawks -- is that attributable to human impacts?**

A. Reduced nest occupancy could be -- I mean, that's presumably related to a decline in breeding adults. If that's attributable to -- yeah. I mean, I would say -- yeah, in general, I think the decline of ferruginous hawks has had to do with a lot of

anthropogenic, you know, impacts.

**Q. And those are some the things that we just talked about?**

A. Some of the ones you talked about, and I'm sure there's more that we haven't covered.

**Q. But there are other factors that can also affect the population, correct?**

A. Yeah.

**Q. Drought, for example?**

A. Yep.

**Q. Disease?**

A. Yes.

**Q. Predation?**

A. Uh-huh.

**Q. Again, agriculture.**

A. Which is anthropogenic. And some of these are related to anthropogenic, you know, issues as well, predation, particularly, bringing in ravens and predators. You know, ravens are more tied with anthropogenic structures, right? So some of it, even though you may think of predation as natural, is actually, maybe, a human-caused problem.

**Q. That makes sense.**

**Climate change?**

A. Yeah, eventually. Fire related to climate

change.

**Q. And am I correct that there's been residential development in the Horse Heaven Hills area?**

A. Yes.

**Q. Are you familiar with the County Heights development in the Badger Canyon territory?**

A. I'm not familiar with the specific Badger -- or the County Heights, but I do know that I'm familiar with the Badger area, and I know there are houses being built there.

**Q. Okay. And what about the Claude Felter West and Claude Felter territories?**

A. Yeah. I'm, again, familiar with that general vicinity, yeah. And there's been a lot of development in a lot of the Tri-Cities that is encroaching in that area.

**Q. When you said development, we're talking about residential development?**

A. Residential. Yeah.

**Q. Okay. What about Sheep Canyon territory?**

A. That one, I mean, Sheep Canyon, I'm trying to remember which one that is. I think it's in that Badger -- south of the Badger -- Badger Road area, but presumably in that same south -- south Tri-Cities, south Richland, south Kennewick kind of area. But we are

seeing a lot of development in those areas.

**Q. And would you expect that that development would cause impacts to the ferruginous hawk population?**

A. Potentially. Yeah.

**Q. And those impacts might include nest abandonments?**

A. Most of the nests in that area are on, you know, fairly steep slopes. I don't know, you know, depending on where -- what activities are happening there, obviously, more dogs, more cats, things like that on the landscape can impact, you know, their -- their reproductive success, their occupancy.

A lot of that may have a greater impact on some of the foraging habitat. It's hard to say how sensitive they would be at an actual nest site to abandon due to -- due to buildings in the vicinity. But I can perceive that human-associated increases in the area could lead to abandonment.

**Q. I would like to talk for a minute about artificial nesting platforms, ANPs. Are those a good thing?**

A. Oh. There's probably -- I believe -- my response to -- in short, there's situations where they may be beneficial, and there's situations where they may be detrimental, and there's situations where they may

not make any difference. And sussing them out -- that out is the challenge.

**Q. What are the factors that go into whether they're beneficial or detrimental?**

A. So one of the detrimental aspects is going to be the -- you know, ferruginous hawks also have nest competition and predators, like ravens.

And so artificial structures can increase species like, you know, red tail hawks are -- sometimes use these platforms too. So they, you know, compete for nesting sites with ferruginous hawks. So you may inadvertently increase nest predators in the area, not that there's anything intrinsically wrong with red tails.

But ravens, on the other hand, are a known nest, you know, nest predators. They're also nest competitors. They're really keen on artificial structures. So you may inadvertently increase the raven population through -- through platforms designed for hawks.

Beneficial, I think -- was that the other part?

**Q. Yeah.**

A. Where they may be beneficial is where you're going to have otherwise suitable foraging habitat free from, you know -- you know, so you have a prey base,

suitable foraging habitat, and all that you're missing on that landscape is a structure for nesting.

Now, with a structure for -- you know, I don't know a lot. You know, we've put some platforms out in the past, but I don't know that we've studied the nest success, juvenile nest success. Because even though these platforms may be -- they may nest on a platform, when these young fledge, what happens to them, you know. Are they just sitting out in the open and getting hit by coyotes.

So there's a lot of questions about those platforms that are going to differ from a steep cliff nest site or these rim rock sites where, if you try to get to some of these nests, you almost need to repel down to them. So, you know, there's multiple concerns and things that happen with nest platforms.

**Q. And historically, DFW has actually installed some artificial nesting platforms?**

A. Yes.

**Q. And it's my understanding that there were two ANPs installed within the project lease boundary. Are you familiar with those?**

A. Yes. Well, there's -- there's been few in the past. A few years ago, we did install a handful.

**Q. Do you know whether the applicant was notified**

**that those were going in?**

A. I don't know that they were. I don't think they were at the time.

**Q. And why not?**

A. Because I don't usually have conversations with the applicant.

**Q. Does DFW monitor the ANPs?**

A. We -- we try to. We are trying to look and see if they've had any success. I can't remember this year if I did get out to all of them or not. But there's -- in the past, we've tried to get to most of them since they have been installed.

**Q. What happens to the monitoring data?**

A. If we were to detect a ferruginous hawk occupancy, that would go into our -- basically get submitted into our wisdom database and creates a new ferruginous hawk nest territory and information that would all, eventually, feed the PHS.

At the sites I've been monitoring, we haven't seen any ferruginous hawk occupancy. And so we haven't been collecting those -- that data in -- in anywhere that's more than -- yeah. I guess that data hasn't been compiled somewhere.

**Q. What other conservation measures does DFW take for ferruginous hawks, other than ANPs and habitat**

**enforcement programs?**

A. Yeah. So -- sorry. Habitat --

**Q. Enhancement programs.**

A. Yeah. So right now, we're trying to -- we're working on looking at some of those methodologies now. I've got a -- you know, so in our area, I'm not aware of any measures that we've been taking in addition to those currently.

But I know that we're -- since the species has gotten -- well, the species has continued to decline. There's certainly a need for that. I don't know that we've figured out the next steps.

**Q. Okay. Have you reviewed the Yakama Nation pronghorn telemetry data?**

A. Not -- I haven't had access to that in entirety.

**Q. Okay.**

A. I have seen some presentations by tribe biologists and have some data that was sent from off reservation animals, but I don't know its completeness or...

**Q. Okay. Do unfenced wind facilities obstruct pronghorn movement?**

A. Currently, I'm not aware, but I would be curious to look at some of the recent research on, you know, if there's avoidance, you know, yeah. Where we're seeing

these animals -- yeah, I guess I don't know.

**Q. Okay. And certainly, allowing unrestricted movement would be beneficial to the species, you'd agree with me on that?**

A. Yes. Yeah.

**Q. And would you also agree that fencing individual solar arrays -- so fencing each individual array would be beneficial to the species?**

A. Do you mean that fencing -- so as opposed to fencing the entire solar project?

**Q. Correct.**

A. Yeah. Where you can break up the fencing and the slits allow for some kind of passage in between could be beneficial, depending on how big those gaps are.

**Q. Am I right that heavy vehicle use on interstates is an issue for pronghorns?**

A. Yes.

**Q. And have you looked the telemetry data for pronghorns near the interstate?**

A. So we -- well, I haven't -- so no, I haven't. I'm not sure -- well, yeah. No, I have not.

**Q. Okay. And it's the same for you haven't looked at the telemetry data near residential areas?**

A. No, I have not.

**Q. Correct, you have not?**

A. Correct. I have not.

**Q. Okay. Are you able at this point to determine, based on the telemetry data, the level of pronghorn use in the areas of each solar array compared to the landscape generally?**

A. So again, I really haven't had access to the telemetry data.

**Q. Am I right that pronghorns compete for forage with other species?**

A. It's -- in this land -- in general, probably. In this -- probably to some level.

**Q. Are you familiar or do you have an understanding of the extent to which pronghorn compete for forage with other species on Yakama Nation land?**

A. That I'm, yeah, I'm not very familiar with.

**Q. Well, let me ask: Is it possible that if pronghorn find greater competition for forage with another species, they would simply -- they would be able -- they might be able to move to another area?**

A. Yes.

MS. PERLMUTTER: Okay. If we can just take a break.

I have no further questions.

MS. VOELCKERS: While I'm sorry that did go a

little bit longer than expected, I do have some questions to clear up some, I think, muddy waters. But if you need a break --

THE WITNESS: I'm okay, if everyone else is.

MS. VOELCKERS: Randy?

MR. HEAD: Do you have an idea of how long it might take? I mean --

MS. VOELCKERS: I have eight questions --

MR. HEAD: Pardon me?

MS. VOELCKERS: Eight question.

MR. HEAD: Let's do it.

MS. VOELCKERS: Okay. I know this is not ideal. You've been sitting here a really long time.

FURTHER EXAMINATION

BY MS. VOELCKERS:

**Q. With all respect, is it fair to say that you are not WDFW's main ferruginous hawk expert?**

A. Yes.

**Q. That's Jim Watson, correct?**

A. Correct.

**Q. So if one of your answers today contradicts an answer from Mr. Watson, how should we weigh that conflict?**

A. I would defer to Jim Watson.

**Q. On anything that you have been asked about today? Regarding ferruginous hawk.**

A. With respect --

**Q. Sorry. Would you defer to him on everything you've been asked today about ferruginous hawks?**

A. Yes.

**Q. When you were using the word "diurnal survey" today, what did you mean by diurnal survey.**

A. A survey in the daytime, specifically targeting birds that are active in the daytime.

**Q. And so to be clear, that's not the preferred method for detecting burrowing owls, correct?**

A. Correct.

**Q. When did you last review the design for the project's micrositing corridors?**

A. I'm not familiar with the micrositing corridors.

**Q. Okay. Let's -- so how are -- so when I say "micrositing corridors," I'm just referring to the general areas where turbines might be placed within the project.**

A. Okay.

**Q. Do you understand that to be what I mean now?**

A. Sure.

**Q. Okay. So when I say "micrositing corridors," have you reviewed the general areas where those**

**micrositing corridors are within the project footprint?**

A. I've seen the, like, a PDF map of it. But haven't specifically, you know, dove into, you know, other than the -- other than the proximity to ferruginous hawk nests, haven't looked in detail of the micrositings.

**Q. You haven't looked at the exact detail, but when we were talking about project design today or the current project design, were you referring to that PDF that we reviewed of the project, including those corridors that were identified?**

A. Yes.

**Q. Okay. Was that PDF part of the application or where was that PDF located?**

A. I -- there's been -- yeah, it was in documents provided from the -- from the project. I don't know. I haven't -- I don't know what's in the application versus what's been submitted as, like, maybe the draft EIS or other PDFs sent me that were probably shared with Mike Ritter.

**Q. But it's safe to say that it was shared by the applicant within the last six months -- sorry -- within the last eight months?**

A. Yeah. Probably, yes, I believe so.

**Q. And to be clear, you are not advocating that**

**EFSEC require project applicants to restore all historic species within a project area; is that correct?**

A. Correct.

**Q. But where species are the subject of reintroduction or recovery efforts, if EFSEC is tasked with approving environmental projects, EFSEC should consider the historic presence of those species; is that a fair statement?**

A. Yes.

**Q. You were asked today by myself and Ms. Perlmutter about prior conversations that you had with Mr. Ritter as well as the applicant and the consultants. Is it fair to say that your answers today regarding prior discussions do not represent an exact recollection regarding the specific statements?**

A. Yeah. In fact, I hope that was somewhat clear. I don't have much recollection of those early conversations.

**Q. So you weren't speaking today about exact statements that you recall, as you sit here today?**

A. Correct.

**Q. And you were asked questions about the applicant's intentions in designing the project. Are you privy to the applicant's motives or intentions?**

A. No.

MS. VOELCKERS: Okay. I don't have any further questions today.

MR. HEAD: No questions from me.

If there's nothing further, we'll reserve signature.

MS. FOSTER: I do apologize, Mr. Fidorra. I think I do have three questions for you.

THE WITNESS: Okay.

EXAMINATION

BY MS. FOSTER:

**Q. A quick introduction. My name is Aziza Foster. I'm an attorney. I represent Benton County. All of the rules that have applied earlier still apply today.**

**Like I say, I should have three quick questions for you specifically regarding Ms. Perlmutter's questioning regarding agriculture in Benton County.**

**Are you familiar with Benton County's comprehensive plan in land use designations?**

A. No.

**Q. So if I represented to you that the Horse Heaven Wind Farm Project is located within the Growth Management Agricultural District, would you have any reason to dispute that?**

A. I would not.

**Q. Okay. And then if I represented to you that none of the developments that Ms. Perlmutter asked you about are located within the Growth Management Agricultural District, would you have any reason to dispute that?**

A. I would not.

MS. FOSTER: Okay. That's all I have for you. Thank you.

MS. VOELCKERS: I believe we can go off the record, then.

THE REPORTER: Ms. Perlmutter, did you want to order a copy of the transcript?

MS. PERLMUTTER: Yes, I do. Thank you.

(DEPOSITION CONCLUDED AT 1:19 P.M.)

(SIGNATURE RESERVED.)

CHANGES IN FORM AND SUBSTANCE REQUESTED BE MADE IN THE FOREGOING ORAL EXAMINATION TRANSCRIPT:

(NOTE: If no changes desired, please sign and date where indicated below.)

| PAGE | LINE | CORRECTION AND REASON |
|---|---|---|

I, JASON FIDORRA, hereby declare under penalty of perjury that I have read the foregoing deposition and that the testimony contained therein is a true and correct transcript of my testimony, noting the corrections above.

JASON FIDORRA

Date

See: Wash. Reports 34A, Rule 30(e)
USCA 28, Rule 30(e)

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C E R T I F I C A T E

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This is to certify that I, Dani White, Certified Court Reporter in and for the State of Washington, residing at Yakima, reported the within and foregoing deposition; said deposition being taken before me on the date herein set forth; that pursuant to RCW 5.28.010 the witness was first by me duly sworn; that said examination was taken by me in shorthand and thereafter under my supervision transcribed; and that same is a full, true, and correct record of the testimony of said witness, including all questions, answers, and objections, if any, of counsel.

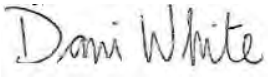
I further certify that I am not a relative or employee or attorney or counsel of any of the parties, nor am I financially interested in the outcome of the cause.

This transcript and billing has been prepared/ submitted for final preparation and delivery in accordance with all Washington State laws, court rules, and regulations.

Rules regulating formatting and equal terms requirements have been adhered to. Alterations,

changes, fees, or charges that violate any of these provisions are not authorized by me and are not at my direction or with my knowledge.

IN WITNESS WHEREOF I have set my hand this 24th day of July, 2023.



DANI WHITE
CCR NO. 3352

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**Z**


# Jason C. Fidorra

Phone 504-492-6987
Jason.Fidorra@dfw.wa.gov

2620 North Commercial Ave
Pasco, WA 99301

## *Qualifications Summary*

- Sixteen years of experience in wildlife research and conservation
- Project management; study design; supervision, recruitment, and training of staff
- Waterbird, shorebird, waterfowl, big game, passerine, and butterfly ID and survey experience
- Fosters positive relationships with coworkers, partners, & landowners
- Strong GIS/GPS proficiency; Software | MS Excel/Access, R, ArcGIS, MARK…
- Excellent color vision, hearing, and physically fit
- Extensive watercraft and aircraft survey experience

## *Professional Experience*

**District Wildlife Biologist** | ***WA Dept of Fish & Wildlife***, Mar 2015 – present

Fulfill WDFW's mission to protect wildlife populations and promote sustainable wildlife recreation across Benton and Franklin Counties and statewide. Develop and conduct aerial surveys for wildlife including ungulates, pronghorn, pelicans; and ground based surveys for raptors, owls, mammals, butterflies, and a variety of species of conservation need. Collect and analyze data to create summary and technical reports. Apply data and literature review in making management recommendations including hunting season changes, species listing changes, or species conservation strategies. Independently trap and band waterfowl, doves, and burrowing and screech owls for research projects. Inspect and sample harvest of cougars, goat and rams. Conduct community outreach though professional presentations, talks, youth events, and tours. Represent WDFW interests and provide technical advice in conservation groups and teams including federal, private, and tribal partners (e.g., Arid Lands Initiative, Sage Grouse Working Group, Burrowing Owl partners). Serve as Immobilization Drug Coordinator and conduct immobilization of wildlife in coordination with law enforcement as needed. Represent the Wildlife Program in District Team meetings and served as chair and safety officer. Directly supervise the Regional Private Lands Biologist and District Conflict Specialist and help set local priorities and resolve complex issues in these programs. Also supervises 2 seasonal technicians. Conduct hiring, training, onboarding, and annual reviews of staff. Organize and train large groups of volunteers for wildlife surveys and habitat work. Provide timely response to various public questions related to hunting or injured/nuisance wildlife.

Received the Region 3 "Extra Mile Award 2016" for exemplary response to an avian disease outbreaks, and the Region 3 "Public Engagement Award 2021" for repeated news interviews and outreach events over the year.

**Wildlife Biologist** | ***Cooper, Beauchesne, & Assoc.***, May-Sept 2013; June-Aug 2014

Completed field work to assess impacts of management actions and proposed construction projects for hydropower and pipeline projects. Collected data for population and survival estimates though helicopter surveys for waterfowl, land bird point counts, shorebird counts, nest monitoring, radio tracking, and big game and amphibian surveys. I led teams comprised of biologists and stakeholders including First Nations Tribes.

**Environmental Technician** | ***EDM International*, CA**, Spring & Fall 2014

Complete surveys for migratory birds as part of a collision impact study for energy sector client. Collect data in carcass surveys under high tension power lines. Estimate scavenger rates using camera traps and data entry/management. Species identification of birds and feathers. Work long hours in extremely hot climates (110°F) while collecting accurate data.

**Environmental Technician** | ***Environmental Remediation & Recovery***, Oct 2013 – Jan 2014

Complete riparian restoration projects for steelhead and water quality monitoring.

**Avian Biologist** | ***Audubon Pennsylvania,*** Feb 2013 – May 2013
USFWS approved monitor for endangered piping plovers on Army Corps projects; Lead bander at station for migrant passerines; Combined results from surveys and literature review with Nature Serve's Climate Change Vulnerability Index to assess the sensitivity of water birds in PA to climate change; coordinated volunteer events; wrote press releases; and trained volunteers.

**Research and Teaching Assistant** | ***University of Florida,*** Aug 2010 – Aug 2012
Designed & implemented a project to assess importance of constructed wetlands to waterbirds. I managed and analyzed satellite telemetry data for >80 tagged birds; supervised and trained 3 technicians; delineated wetlands and conducted spatial analysis of home-ranges in ArcView; and synthesized research for peer-reviewed journals and Master's thesis. Instructed students on the use of equipment and techniques common to wildlife studies: radio telemetry, bird banding, camera traps, point-counts, mammal trapping, veg sampling, spot light, playback surveys, etc.

**Wildlife Biologist** | ***Biodiversity Research Institute, Louisiana,*** May - Aug 2010
Assisted with federal Natural Resource Damage Assessment during the BP Gulf Oil Spill. Developed plans and protocols for impact assessment and waterbird study; Surveyed waterbirds from boat and helicopter and deployed satellite transmitters; Cooperated with multiple government agencies; Responsible for coordination of crew, boats, and captains; Managed telemetry data in ArcGIS and prepared survival analysis in program MARK.

**Wildlife Biologist** | ***University of Florida,*** Jan – May 2010
Surveyed wading birds in Everglades from airboat and small plane; Monitored nesting colonies; Assisted in research assessing the impacts of alligator density and fire management on wader ecology; Extensive airboat operation and trailering of boats

***Institute for Wildlife Studies, San Clemente Island, CA:*** 2005 – 2009
**Project Manager** | 2007 – 2009. Coordinated the release of captive-bred loggerhead shrikes to augment the critically endangered wild population. I developed annual work plans & managed day-to-day project operation; Supervised a staff of 5; Coordinated with multiple stakeholders to set & achieve goals in recovery, predator control, restoration, and military operations; Prepared weekly & annual technical reports for Navy and USFWS; Data management, analysis, and research; Maintained budget; Developed 2 new reintroduction methods that greatly reduced project cost and labor.
**Crew Leader** | 2006 - 2007. Assisted in daily project operation plus site safety officer.
**Avian Biologist** | 2005 – 2006. Field duties for all positions: Surveyed for shrikes and habitat for release sites; behavior observation; nest searching; re-sight surveys; nest camera installation; aviary construction; data entry; vehicle maintenance; hiking long distances over difficult terrain

**Wildlife Biologist** | ***Smithsonian Migratory Bird Center,*** Jan – Aug 2009
Collected population data on birds in Jamaica, West Indies and Hubbard Brook, NH.
Daily fieldwork: nest searching, territory mapping, predator and prey censuses, mist-netting, bleeding/banding adults and nestlings, vegetation surveys, and nest camera installation.

**Wildlife Technician Intern** | ***Baclones Canyonlands NWR,*** May 2003 – May 2004
Surveyed endangered bird species at Balcones Canyonlands NWR, TX; monitored birds, herps, and invertebrate populations; trapped cowbirds; survey/remove oak wilt; native grass identification and seed collection; conducted prescribed burns; led public tours.

**GIS Intern** | ***Pymatuning Laboratory of Ecology, PA,*** Jan – May 2003
Established a site specific protocol for monitoring salamander species. Drafted a monitoring report and designed maps for public display of research areas using GPS and ArcGIS software

**Birding Guide** | ***Eagle Eye Tours / Audubon Society, Central America,*** **2013 & 2014.**

## *Education*

**M.S.** ***Wildlife Ecology and Conservation, University of Florida,*** GPA: 3.9 2012
Thesis: Movement patterns and the relative importance of constructed and natural wetlands to great egrets in the southeast U.S.

**B.S.** ***Environmental Science, Allegheny College,*** GPA: 3.7 2003
Thesis: Lake Pleasant threats: heavy metal mobilization through soils treated with de-icing salts.
Study Abroad | ***Semester At Sea program, University of Pittsburgh,*** 2002

## *Select Publications & Presentations*

**Fidorra**, JC. et al. 2023. Pronghorn abundance in south-central Washington: Summary Report. WDFW.

**Fidorra**, JC. et al. 2015. Selection of constructed and natural wetlands by foraging great egrets at multiple geographic spatial scales. The Condor: Ornithological Applications (118).

**Fidorra**, JC. et al. in prep. Multiple movement strategies within a population: local and long-distance movement patterns of great egrets. Target journal: Waterbirds

Sargent, S. and **Fidorra**, JC. 2013. Climate Change Vulnerability of Waterbirds in Pennsylvania. Final Report for grant agreement with WRCP. Audubon PA. 48pp.

Bradley JE, Stahl JT, **Fidorra** JC. 2011. Recent additions to the avifauna of San Clemente Island, including the first record of the bluethroat in California. Western Birds 42(3).

**Fidorra**, J. C. et al. 2009. San Clemente Loggerhead Shrike Release Program - 2008 Final Report. U.S. Navy, Natural Resources Mgmt Branch, Southwest Div., Nav. Fac. Eng. Cmd, San Diego, Ca. 78pp.

North American Ornithological Conference; Vancouver, Canada (2012)
Poster Presentation: How important are constructed wetlands to foraging great egrets?

Waterbird Society Meeting; Annapolis, MD (2011)
Paper Presentation: Local and long range movements of 2 populations of great egrets.

American Ornithologists' Union Meeting; Jacksonville, FL (2011)
Poster Presentation: How important are agricultural impoundments to foraging great egrets?

International Wildlife Reintroduction Conference; Chicago, IL (2008)
Poster Presentation: The San Clemente loggerhead shrike recovery program: Maximizing survival through experimentation and adaptation in release techniques.

California Channel Islands Symposium; Ventura, CA (2008)
Paper Presentation: A comparison of release techniques for captive-reared loggerhead shrikes.

North American Ornithological Conference; Veracruz, Mexico (2006)
Poster Presentation: Evaluating the efficacy of two soft-release techniques for captive reared loggerhead shrike adults on San Clemente Island, Ca.

## *Additional Training & Experience*

Excellent identification of birds by sight and sound
Driver's License and clean record (4wd +manual)
Water Egress/ Ditching Aircraft Training
DOI Motorboat Operators Federal Certification - MOCC
Interagency Aviation Training Certification (plane/helicopter A101, 105, 106, 108, 113)
Adult CPR/AED Training Certification
Audubon Society Board Member – 2017 to Present
Washington Ornithological Society Board of Directors – 2020 to Present

# Summary Report 2019

# Pronghorn antelope abundance survey in south-central Washington

Yakama Nation Wildlife

Washington Department of Fish and Wildlife

Photo by Mark Vekasy

**Jason Fidorra - Wildlife Biologist, WDFW**

**David Blodgett III – Wildlife Biologist, YNWP**

**Stefanie Bergh – Wildlife Biologist, WDFW**

**Carly Wickham – Wildlife Biologist, WDFW**

**Rich Harris – Section Manager, WDFW**

**February 28, 2019**

## SUMMARY

By the start of the 20th century, pronghorn antelope were extirpated from Washington. The Yakama tribe reintroduced pronghorn onto the Yakama Reservation in Washington, releasing 198 animals from 2011 to 2019. These pronghorn dispersed from their release locations and increased in abundance (Oyster et al. 2015, 2017). We conducted a third biennial aerial survey on February 6-7, 2019 in parts of Benton, Klickitat, and Yakima counties in south-central Washington, including the Yakama Reservation and private lands. The objective of the survey was to obtain a minimum population estimate for pronghorn. We counted a total of 225 pronghorn from the air and an additional 23 from ground counts, for a total minimum population estimate of 248 pronghorn. The true abundance is likely to be greater as shallow snow conditions made detecting pronghorn and ground travel difficult. However, this remains a relatively small population and there is currently no legal harvest of the species in areas under the auspices of the Washington Department of Fish and Wildlife or Yakama Nation. The Yakama Nation and WDFW have been developing plans regarding future management for this herd.

## INTRODUCTION

Paleontological and archeological evidence indicates that pronghorn antelope (*Antilocapra americana*) were historically present in Washington but were never abundant relative to other ungulates in the area (Lyman 2007). Pronghorn were extirpated from Washington by the beginning of the 20th century (Taylor and Shaw 1929). In the winter of 2011, 99 pronghorn were translocated onto the Yakama Reservation from central Nevada (Yakama Nation 2011). Surveys of this population occurred in Feb 2015 and March 2017. These surveys indicated that the population was slowly growing and that about half of the population spent winters on the reservation and the other half on private lands (Oyster et al. 2015, 2017). In

October 2018 and January 2019, two more releases added 50 and 49 pronghorn, respectively, to augment the growing herd.

The objective of the 2019 pronghorn survey was to reassess the status of the population and provide a minimum population estimate to guide management of pronghorn in the future for both the Yakama Nation and WDFW.

**STUDY AREA**

The survey took place in portions of Benton, Klickitat, and Yakima counties in southcentral Washington (Fig. 1). The dominant habitat types include dryland wheat agriculture, Conservation Reserve Program (CRP) land, grazed rangeland, and shrub-steppe communities of sagebrush and bunch grass, and degraded steppe invaded by cheatgrass (*Bromus tectorum*). A large area of irrigated agriculture in southern Benton County was excluded from the survey area this year as past surveys and GPS collar data indicated very rare use of this cover type by pronghorn in Washington.

**Figure1**. The survey area (red) including portions of Benton, Klickitat, and Yakima counties.

**METHODS**

Surveys were conducted February 6-7, 2019. We flew parallel strip transects in a north-south direction (Fig. 2). Transects were established prior to the survey in ArcGIS 10.4 (Environmental Systems Research Institute, Inc., Redlands, CA). Transects were spaced at 1.6 km apart on the Yakama Reservation and 2 km apart off the reservation. Transects with narrower spacing were selected based on higher perceived pronghorn abundance and because terrain and vegetation on the Yakama Reservation (uneven, characterized by shrubs) make pronghorn

detection more difficult compared to the typically flat terrain containing agricultural fields. Unlike past surveys, Benton County transects were not spaced at 3km due to perceived limits to detection distance. By removing the irrigated portion of the survey area we could cover more transects over the smaller survey area with similar flight time as previous surveys.

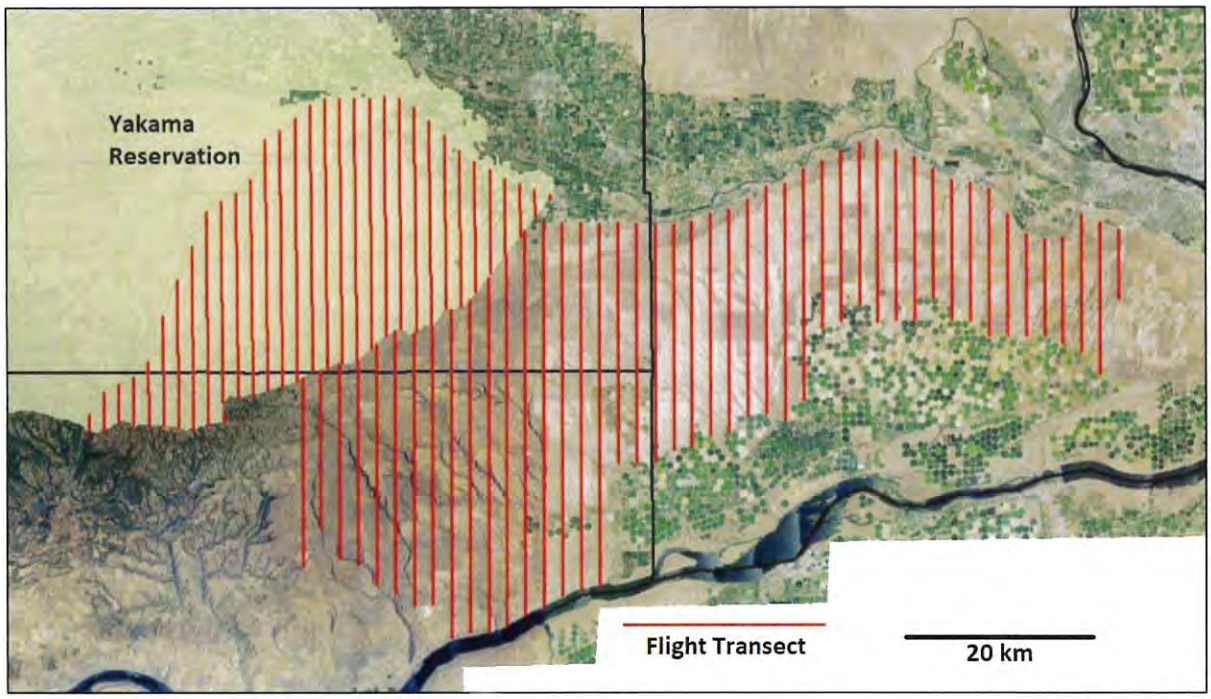


**Figure 2.** Transects flown in search of pronghorn in south-central WA, February 2019.

We conducted aerial surveys in a Cessna 182 fixed-wing aircraft at an approximate speed of 80—90 knots and at 100—150 meters above ground level. A ground survey crew of 2-3 vehicles coordinated by the Safari Club International (SCI) was actively searching for pronghorn concurrently with the aerial survey. When the ground crew detected a pronghorn group, they relayed the location to the aerial crew. If possible, the aerial crew obtained a count of that group from the plane. In addition, Yakama Nation biologists used recent collar GPS data to help locate groups on the reservation. We had two observers in the plane, plus the pilot in the front left seat. The main duty of the pilot was flight safety and remaining near the transect line; however, we

included any pronghorn he detected in our count as well.

We began our survey at the western-most transect in Klickitat County and continued east through the first day just past Prosser, WA. The transects over the Yakama Reservation were flown the start of day two, with the rest of Benton County completed on day two starting around 1300 hrs. When we observed a pronghorn group we left the transect and recorded: (1) a waypoint for time and location, (2) the total number of pronghorn, (3) the observer that detected the pronghorn, (4) pronghorn activity (standing, moving, bedded), and (5) the number of identified bucks. Buck, does, and fawns are not as easily distinguished during the winter as other times of year and this data was incidental.

**RESULTS**

Snow covered the ground of the entire survey area, but was shallow enough that wheat stubble, shrubs, and tumbleweeds could be seen (Appendix A). This created a high contrast pattern across the landscape, which made detection of pronghorn very challenging from the air. Cold overnight temperatures (-5°F/-20°C) between survey days also caused a two hour flight delay in starting the plane on day two. We surveyed for about 5.5 hours in Klickitat/Yakima counties, 5 hours in Benton County, and 3.5 hours over the Yakama Reservation (Table 1).

**Table 1**: Survey dates and flight details of aerial pronghorn surveys in south-central WA.

| Year | Date | Vendor | Aircraft | Flight time | Comments |
|---|---|---|---|---|---|
| 2015 | Feb 25-26 | Inter-State | Cessna 182 | 10.4hrs | |
| 2017 | Mar 16-17 | Baker | Cessna 182 | 15.9hrs | Weather delay to Mar. |
| 2019 | Feb 6-7 | Inter-State | Cessna 182 | 13.9hrs | |

We detected a total of 248 pronghorn in 8 groups (Figure 3; Figure 4). Mean group size was 31.0 with group sizes ranging from of 3 to 97. Of the total observed, 178 animals were on the

Yakama Reservation and 70 were in Benton County. No animals were observed during flights in Klickitat or Yakima counties outside of the Yakama Reservation. One group of 13 pronghorn observed from the ground on the Reservation were not located during the flight. Ground observations on the Yakama Reservation further confirmed an additional 10 animals in a large group that was underestimated during the flight. Ground crews in Benton County located a group that was missed by the plane during transects. The plane returned to search that area on day two and located one group of 32 animals that would have otherwise been missed. Two additional groups reported in Benton County from the ground were presumed to be part of a large group later counted during the flight survey.

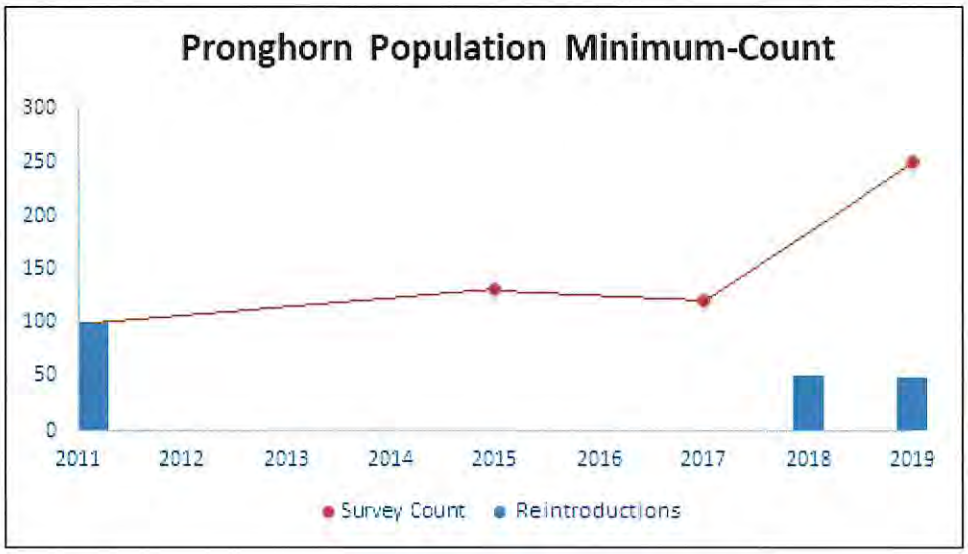


**Figure 3**. South-central Washington pronghorn population based on counts from survey efforts compared to the total number of introduced individuals.

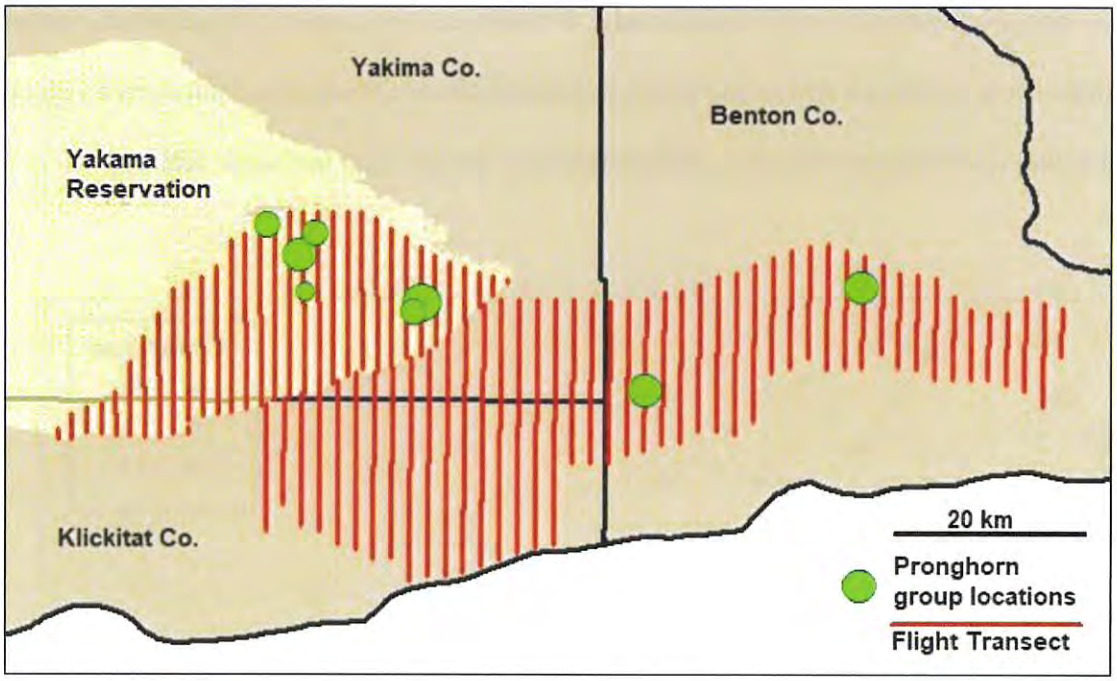


**Figure 4**. Pronghorn group locations during 2019 flight survey.

## DISCUSSION

### Survey Methods

This survey occurred in winter as pronghorn form large groups during winter months that are easier to spot than smaller groups (Figure 5; Oyster 2014). When temperatures warm and new vegetation begins growing, pronghorn split up into smaller groups (O'Gara and Yoakum 2004, Bernt 1976), which has occurred by mid-March in this area (Oyster et al. 2017).

While past survey recommendations suggest pronghorn surveys should be conducted during December or January, scheduling delays placed the survey in early February. As animals were still in large groups, we feel this was a suitable timeframe. However, atypical snow cover appeared the week of the survey and caused spotting pronghorn to be surprisingly challenging. Flight observers missed large groups during initial passes even when they knew pronghorn were

in the area from ground reports or collar data. If possible, future surveys should avoid similar shallow snow conditions that create a high contrast landscape of snow and uncovered vegetation that make it particularly difficult to differentiate pronghorns from landscape features.

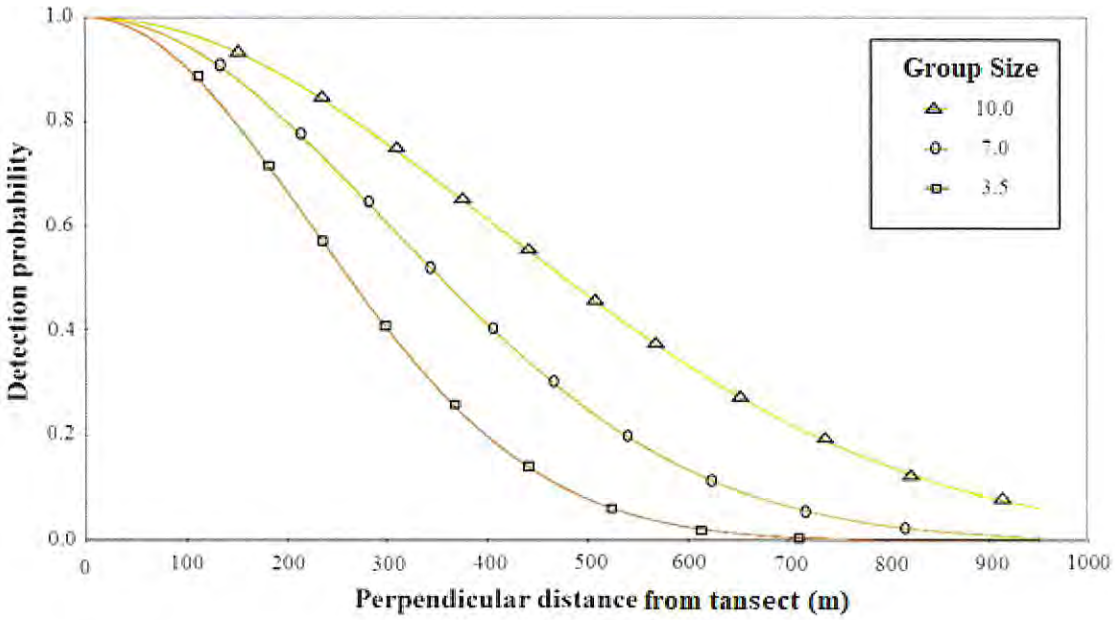


**Figure 5.** Detection function curves for three different pronghorn group sizes in western Kansas, summer 2012. Adapted from Oyster (2014).

We decreased the spacing of transects within Benton County from 3km (used in 2017) to 2km, and thus covered more transects than earlier. However, the total flight time in 2019 did not increase from 2017 because we reduced the total survey area by excluding irrigated agriculture. We do not recommend a transect spacing greater than 2km as searching beyond 1000m was difficult at our elevation and detection probability is decreased (Figure 5; Oyster 2014).

Pronghorn does and fawns are not easily distinguished during this time of year because fawns are nearly full-grown. Yearling bucks are also difficult to distinguish from does and fawns because their horns (~ 7 inches) are only about as long as their ears (5-6 inches), and their dark

cheek patches are only about 50% the size they attain during the pre-rut and rut (O'Gara and Yoakum 2004). Furthermore, classifying animals from the air would increase risk from low level maneuvering and pushing of animals across the landscape that could contact fences or roadways. Therefore, we did not attempt to estimate buck:doe ratios from our survey in 2019.

We benefited from SCI ground crews during survey efforts as 32 animals would otherwise have been missed. Groundwork by Yakama Nation staff added one additional group of 13, plus a more accurate count of a large group which added another 10 animals to the survey. During winter when pronghorn assemble in large groups, missing a group would have a large impact on the count estimate. We recommend continuing ground survey efforts during the flight and increasing scouting 1-2 days before the survey as well. This will also benefit efforts should fog or snow impact visibility in future surveys.

**Pronghorn Population**

The 248 pronghorn observed during the survey were all detected on the second day so there was very little chance for double counting due to movement. The population of pronghorn in the survey area continues to grow from reintroduction efforts and successful reproduction. Yakama Nation staff have confirmed fawning by monitoring VHF-collared females in spring. We counted 127 more pronghorn than in 2017, over which time 99 animals were released in reintroduction efforts.

This count is a minimum and it is very likely that more animals exist in this landscape. A group of 38 pronghorn counted in Benton County was located in an area where 45 pronghorn were seen the week prior. It seems possible that part of this group was missed during the flight. Detection was challenging with the contrasting snow conditions and it would have been very difficult to detect small groups during the flight (Appendix A). In addition, pronghorn may have

been in areas outside our survey boundary. Reports of up to 25 animals west of Hwy 97 on the Yakama Reservation were made in June 2018 but were not searched for during the survey.

## CONCLUSION

Biennial survey flights have been a positive cooperative undertaking and should be a continued priority for the WDFW, Yakama Tribe, and SCI partners. The population appears to be growing naturally but is still fairly small and considered sensitive to adult mortality. The Yakama Nation and WDFW are currently both developing plans regarding future management for this herd.

## ACKNOWLEDGMENTS

We thank SCI members for coordinating and conducting ground surveys, including Deb Barret, Doug Barret, and Joe Greenhaw. Seth Hulett (WDFW) also provided assistance on the ground. We thank Inter-State Aviation and Brian Elfers for safe and effective flying. Casey Heemsah (YN) and Don Hand (WDFW) were effective observers during the aerial survey. We are grateful to Paul Whelan (WDFW) and Yakama Dispatch for flight following during the survey.

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Lyman, R.L. 2007. The Holocene history of pronghorn (*Antilocapra americana*) in eastern Washington State. Northwest Science 81: 104 – 111.

O'Gara, B. W., and J. D. Yoakum. 2004. Pronghorn ecology and management. Wildlife Management Institute, Washington, D.C., USA.

Oyster, J. H. 2014. Distance Sampling as a technique to monitor pronghorn in Kansas. Thesis, Fort Hays State University, Hays, Kansas, USA.

Oyster, J., Blodgett III, D., Swan, G., Harris, R. 2015. Pronghorn antelope abundance survey in south-central Washington. Yakama Nation Wildlife and Washington Department of Fish and Wildlife. Unpublished report online. https://wdfw.wa.gov/publications/01770/

Oyster, J., Blodgett III, D., Swan, G., Harris, R. 2017. Pronghorn antelope abundance survey in south-central Washington. Yakama Nation Wildlife and Washington Department of Fish and Wildlife. Unpublished report online. https://wdfw.wa.gov/publications/01907/

Taylor, W.P. and W.T. Shaw. 1929. Provisional list of land mammals of the state of Washington. Occasional Papers of the Charles R. Conner Museum 2. Washington State University, Pullman. 32 pp.

Yakama Nation. 2011. Pronghorn Antelope (wa'wataw) on the Yakama Reservation. Online https://www.ynwildlife.org/pronghorn.php. Accessed Feb 2019.

**Appendix A. Photos of pronghorn and/or typical terrain and snow cover during flight survey in Benton County, February 2019.**

**Figure A1. Group of 38 pronghorn standing in agricultural field.**

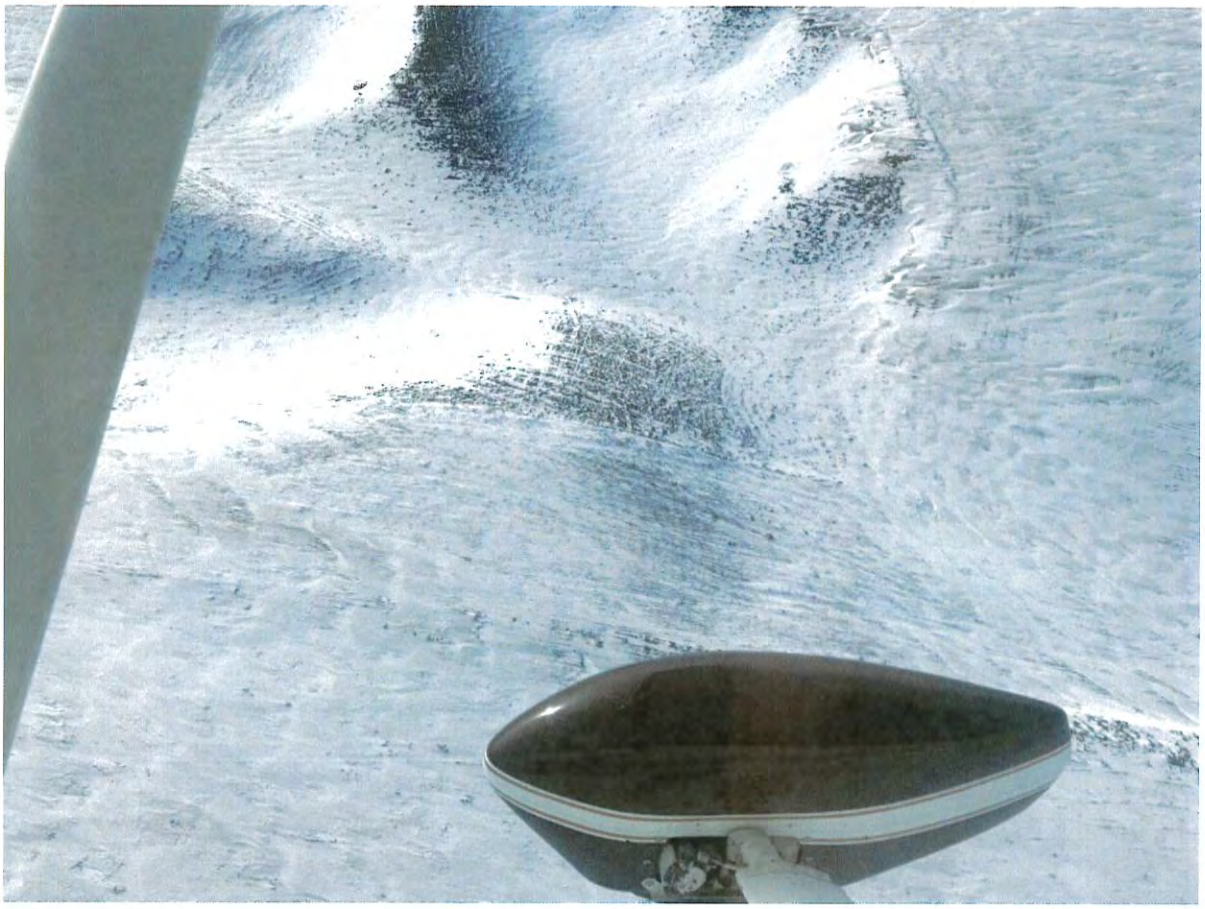

**Figure A2. Contrasting pattern of snow and vegetation during flight (no pronghorn in pic).**

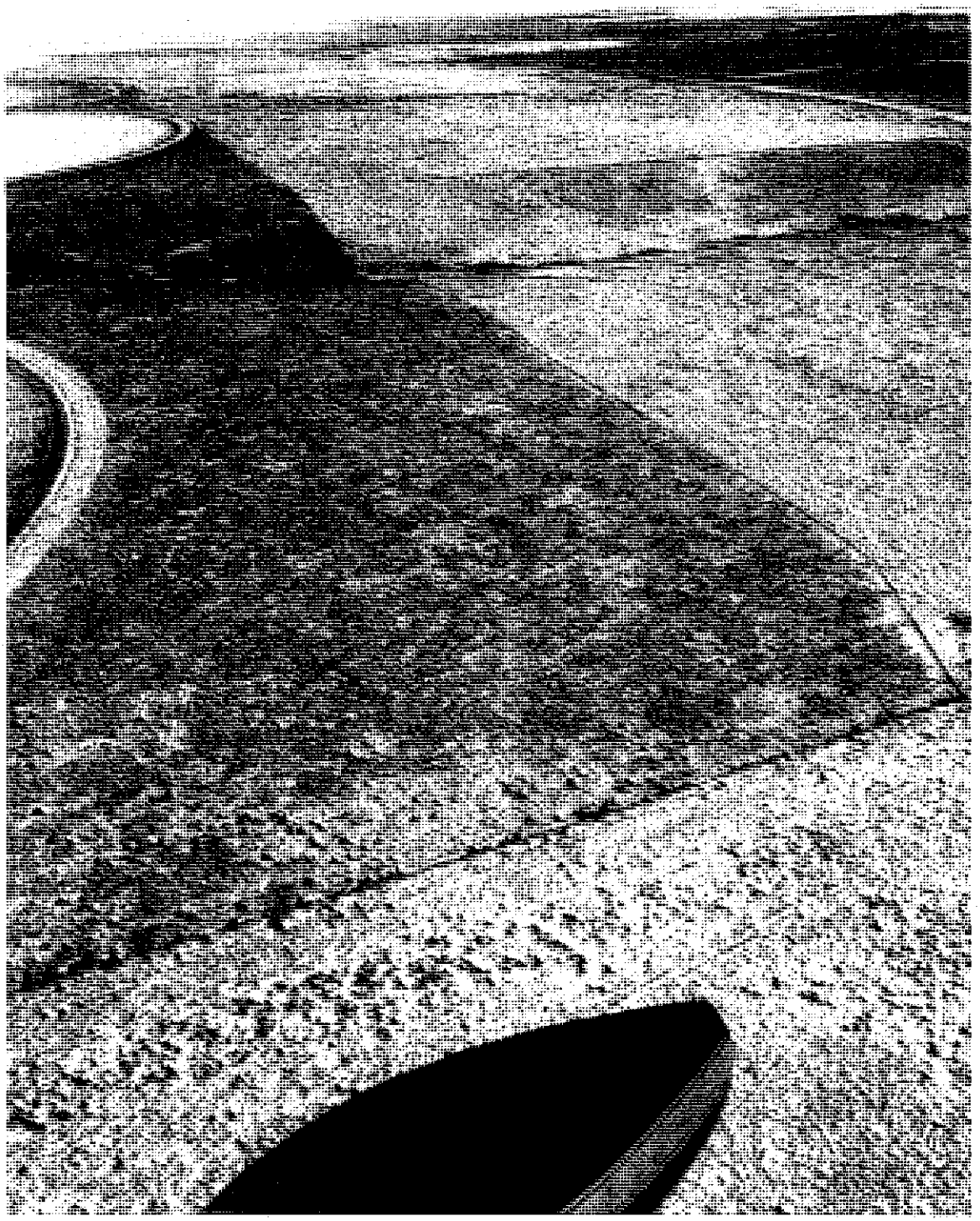

**Figure A3. Complex and contrasting visual patterns by snow cover in Benton County.**

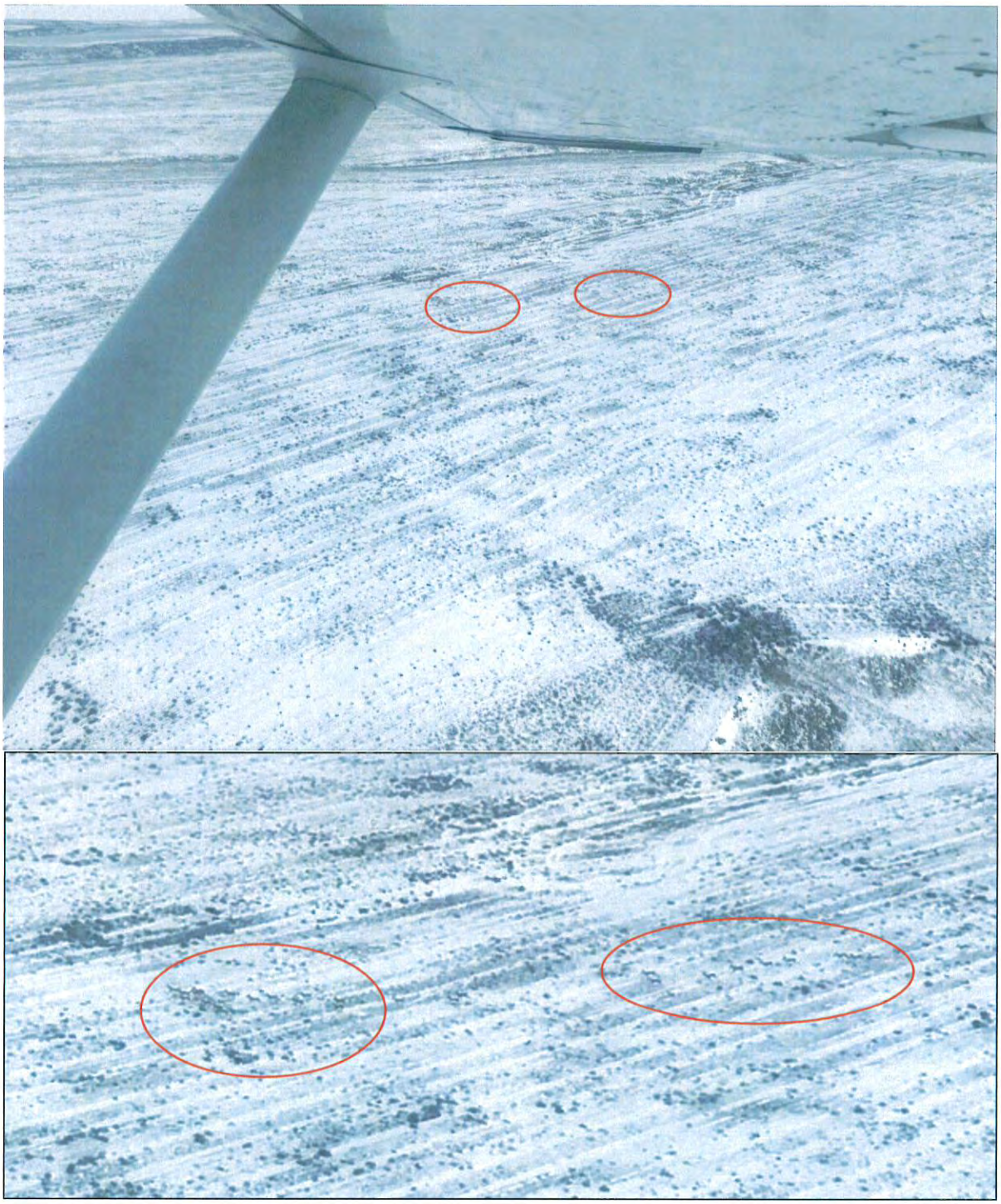

**Figure A4. Group of 25+ pronghorn (circled) viewed from plane (top), zoomed in (bottom).**

# Summary Report 2021

# Pronghorn antelope abundance survey in south-central Washington

Yakama Nation Wildlife

Washington Department of Fish and Wildlife

Photo by Mark Vekasy

**Jason Fidorra - Wildlife Biologist, WDFW**

**T.C. Peterson – Range Biologist, YNWP**

**July 6, 2021**

lands (Oyster et al. 2015, 2017; Fidorra et al. 2019).

The objective of the 2021 pronghorn survey was to reassess the status of the population and provide a minimum population estimate to guide management of pronghorn in the future for both the Yakama Nation and WDFW.

**STUDY AREA**

The survey took place in portions of Benton, Klickitat, and Yakima counties in southcentral Washington (Fig. 1). The dominant habitat types include dryland wheat agriculture, Conservation Reserve Program (CRP) land, grazed rangeland, and shrub-steppe communities of sagebrush and bunch grass, and degraded steppe invaded by cheatgrass (*Bromus tectorum*). A large area of irrigated agriculture in southern Benton County was excluded from the survey area this year as past surveys and GPS collar data indicated very rare use of this cover type by pronghorn in Washington.

**Figure1.** The survey area (red) including portions of Benton, Klickitat, and Yakima counties.

**METHODS**

Surveys were conducted March 2-3, 2021. Due to COVID-19 restrictions at the time, WDFW staff were not able to participate in flight surveys and Yakama Biologists conducted all sections of the survey. We flew parallel strip transects in a north-south direction (Fig. 2). Transects were established prior to the survey in ArcGIS 10.4 (Environmental Systems Research Institute, Inc., Redlands, CA). Transects were spaced at 1.6 km apart on the Yakama Reservation and 2 km apart off the reservation. Transects with narrower spacing were selected based on higher perceived pronghorn abundance and because terrain and vegetation on the Yakama

through the Yakama Reservation the first day just past Mabton, WA. The remaining transects in Klickitat County were flown at the start of day two along with Benton County. When we observed a pronghorn group we left the transect and recorded: (1) a waypoint for time and location, (2) the total number of pronghorn, (3) the observer that detected the pronghorn, (4) pronghorn activity (standing, moving, bedded), and (5) the number of identified bucks. Buck, does, and fawns are not as easily distinguished during the winter as other times of year and this data was incidental.

**RESULTS**

The survey was completed on March 2-3, 2021 with the exception of the 5 eastern transects in Benton County which were not completed due to running out of daylight on the second day. The ground cover of the survey area was clear of snow except small patches of snow in the upper elevation transects in Klickitat County and on the Yakama Reservation (Appendix A). It was sunny with little cloud cover on both survey days, making the detection of pronghorn easy to distinguish from the plane. On the first day we surveyed the Yakama Reservation plus 4 transects in Klickitat/Yakima. On day 2 we finished Klickitat/Yakima and moved to as much of Benton that could be completed before running out of daylight. Including refuel stops, the Yakama Reservation took 4.75hrs to survey, Klickitat/Yakima took 5.75hrs, and we spent 3.5hrs in Benton before running out of light to complete the final 5 transects. Commute time from Pullman added an additional ~2hrs (Table 1).

**Table 1**: Survey dates and flight details of aerial pronghorn surveys in south-central WA.

| Year | Date | Vendor | Aircraft | Flight time | Comments |
|---|---|---|---|---|---|
| 2015 | Feb 25-26 | Inter-State | Cessna 182 | 10.4hrs | |
| 2017 | Mar 16-17 | Baker | Cessna 182 | 15.9hrs | Weather delay to Mar. |
| 2019 | Feb 6-7 | Inter-State | Cessna 182 | 13.9hrs | |
| 2021 | Mar 2-3 | Inter-State | Cessna 182 | 16.2hrs | Did not fly 5 of the transects |

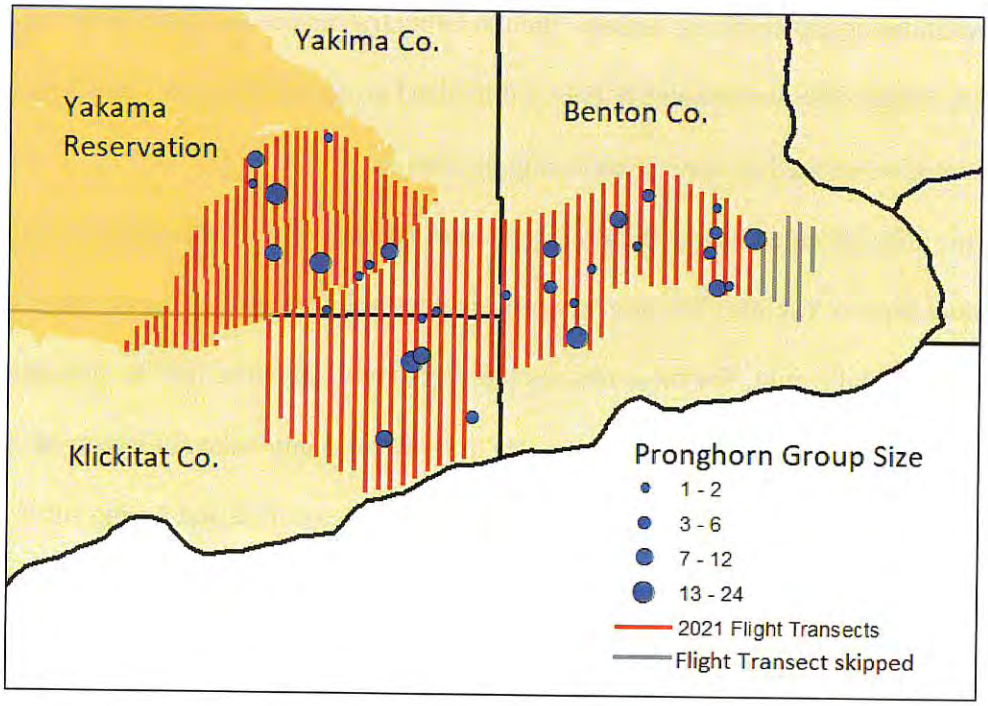


**Figure 4**. Pronghorn group locations during 2021 flight survey.

## DISCUSSION

### Survey Methods

This survey is intended to occur in winter as pronghorn form large groups during winter months that are easier to spot than smaller groups (Figure 5; Oyster 2014). When temperatures warm and new vegetation begins growing, pronghorn split up into smaller groups (O'Gara and Yoakum 2004, Bernt 1976), which has occurred by mid-March in this area (Oyster et al. 2017). Weather pushed back surveys from February to early March this year, but the generally mild winter resulted in most large groups having broken up by the survey time. In the Feb 2019 survey, pronghorn were detected in 8 groups ranging from of 3 to 97 pronghorn with a mean group size of 31.0. This year, 34 groups were detected with an average size of 7.4 pronghorn ranging from 1 to 24 animals. Past survey recommendations suggest pronghorn surveys should

Pronghorn does and fawns are not easily distinguished during this time of year because fawns are nearly full-grown. Yearling bucks are also difficult to distinguish from does and fawns because their horns (~ 7 inches) are only about as long as their ears (5-6 inches), and their dark cheek patches are only about 50% the size they attain during the pre-rut and rut (O'Gara and Yoakum 2004). Furthermore, classifying animals from the air would increase risk from low level maneuvering and pushing of animals across the landscape that could contact fences or roadways. Therefore, we did not attempt to estimate buck:doe ratios from our survey in 2021.

We benefited from SCI and Yakama ground crews during survey efforts as 34 animals would have otherwise been missed from the air. We recommend continuing ground survey efforts during the flight and increasing scouting 1-2 days before the survey as well.

**Pronghorn Population**

The 250 pronghorn observed during the survey represent a minimum population count for south-central Washington. This population is considered a closed population with no known movements across the Columbia River to the south where populations reside in Oregon, or east to populations reintroduced in North-central WA by the Collvile Tribe. The 2021 count is comparable to the 2019 count (248 pronghorn). Shortly after the Feb 2019 survey, heavy snowfall and cold temperatures in February and March 2019 resulted in a severe mortality event especially amongst the 50 newly introduced pronghorn released in January 2019. Over 80% of these newly relocated animals were believed to have perished following the survey. Therefore, the relatively stable counts between 2019 and 2021 despite this known mortality event between counts indicate this small population is moderately resilient and continues to grow and sustain itself through natural recruitment, to an extent. No further reintroductions are currently planned by the Yakama Tribe.

This count is a minimum and it is likely that more animals exist in this landscape.

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**Very little snow even at higher elevations on Yakama Reservation.**


**From:** "Fidorra, Jason C (DFW)" <Jason.Fidorra@dfw.wa.gov>
**To:** Erik Jansen <ejansen@west-inc.com>, "Ritter, Michael W (DFW)" <Michael.Ritter@dfw.wa.gov>
**Cc:** "Watson, James W (DFW)" <James.Watson@dfw.wa.gov>
**Subject:** RE: Updated FEHA Nest Data
**Date:** Mon, 26 Jun 2023 21:14:29 +0000
**Importance:** Normal
**Attachments:** FEHA_Nest_Platforms_for_WSDM.xlsx
**Inline-Images:** ~WRD2182.jpg

---

Erik,
PHS doesn't include platform locations so they won't have any information for you regarding that. Attached are the coordinates of the nest platforms installed in Benton County in 2019. I don't have any consolidated records of platforms that have been installed by other entities, individuals, or power companies but know that some of these may also exist in the landscape.

I haven't seen your platform proposal yet. Overall prey and adult mortality have been more closely linked with the population challenges in WA. But platforms might provide benefit in some situations. Sounds like you might be looking outside of Benton County for that, maybe even Washington?

Jason

**From:** Erik Jansen <ejansen@west-inc.com>
**Sent:** Thursday, June 22, 2023 5:20 PM
**To:** Ritter, Michael W (DFW) <Michael.Ritter@dfw.wa.gov>
**Cc:** Fidorra, Jason C (DFW) <Jason.Fidorra@dfw.wa.gov>; Watson, James W (DFW) <James.Watson@dfw.wa.gov>
**Subject:** Re: Updated FEHA Nest Data

External Email

Thank you kindly for the information Mike, Jim, and Jason - I appreciate your time and input.

That is great news about the resuscitation of the Franklin County territory. With young to boot. We saw the same interruptive pattern at the Coyote Canyon tree nest that was occupied 2017-2019, but had Swainson's hawk and owls in it 2022 and 2023. This year seems like a much later year, chronologically, for ferruginous hawk arrival.

Mike, apologies for passing along incorrect intel. The information about the Benton County nest was likely miscommunicated from those who heard the testimony.

Jason, the Benton County platform we saw this year is at the head of the Badger Canyon Territory, up the hill from the windmill that used to be at Badger Spring, [redacted] SWLD [redacted] south of the red-tailed hawk nest. We didn't see this platform during 2022 surveys, likely because we were focused on historical nest sites lower in the canyon; sparse stick material was scattered over the platform when we flew 5/15/23 and did not show signs of nest tending or occupancy.

I'd like to better understand where platforms are for a number of reasons: 1) First, so WEST can go into raptor nest surveys better informed and avoid playing hide-and-go-seek with WDFW. Scout has committed to 5 years of post-construction aerial surveys, pending the outcome of this Project, which would result in a 10 year dataset (5 yr pre, 5 yr

post). I'd like to make every year as meaningful as possible, especially as it relates to modifications to construction or operation of the Project. 2) Secondly, as you've likely read in the updated HMP, Scout would like to engage in a voluntary platform program that would install and monitor platforms in core breeding areas throughout the hawks range. Combined with PHS nest data, knowing where platforms are would help identify in-fill areas where landowners can be engaged. This platform idea is in addition to the compensatory habitat mitigation requirements and not in lieu of.

I'm uncertain how to go about synching these data with WDFW to achieve items one and two, above. I made a fresh request to PHS in August 2022 but was apparent the database was outdated. I recently emailed with Lori Guggenmos in Lacey about another project and it seemed like she had her hands full with a big office move and was short-staffed so I don't want to bother her again. How do you recommend I proceed? It is certainly not urgent but a future plan would be helpful (who is the POC, timing, etc).

Thanks again, Erik

On Thu, Jun 22, 2023 at 12:48 PM Ritter, Michael W (DFW) <Michael.Ritter@dfw.wa.gov> wrote:

In my deposition I referenced a nest in Franklin county that was reoccupied after many years of nothing.

**From:** Fidorra, Jason C (DFW) <Jason.Fidorra@dfw.wa.gov>
**Sent:** Thursday, June 22, 2023 12:45 PM
**To:** Erik Jansen <ejansen@west-inc.com>
**Cc:** Ritter, Michael W (DFW) <Michael.Ritter@dfw.wa.gov>; Watson, James W (DFW) <James.Watson@dfw.wa.gov>
**Subject:** RE: Updated FEHA Nest Data

I'm not certain which Benton county territory was discussed. But I am aware of one territory in Franklin County that was found active in 2021 surveys (and remains active 2022 and 2023) and successfully produced young. The last time an active nest was located in that area was 1996. Prior to that it was 1986 and 1987, and before that 1978. Often there were many years of surveys between these occupied dates that confirmed the site was unoccupied. It's not uncommon for a site to come on and off line over time.

Regarding nest platforms- there were 7 platforms erected in 2019 in Benton Co and 1 in Franklin, and several in Walla Walla Co. I haven't confirmed use of the platforms in Benton Co by FEHA yet, but other raptors have used some.

**From:** Watson, James W (DFW) <James.Watson@dfw.wa.gov>
**Sent:** Thursday, June 22, 2023 10:52 AM
**To:** Erik Jansen <ejansen@west-inc.com>
**Cc:** Ritter, Michael W (DFW) <Michael.Ritter@dfw.wa.gov>; Fidorra, Jason C (DFW) <Jason.Fidorra@dfw.wa.gov>
**Subject:** RE: Updated FEHA Nest Data

Hi Erik,

In regard to your questions in the thread below, I'll answer the last question in regard to ANP in Washington. The discrepancy between PHS and the Status Update is due to the fact that only platforms with confirmed use by ferruginous hawks are entered into PHS (constitutes a very small percentage of those that have been erected since the 1980s). Hope that clarifies but let me know if not. -Jim

*Jim Watson*
*Wildlife Research Scientist, WDFW*
*7759 Wilderness Drive*

*Concrete, WA 98237*

*Desk: 360-853-8031*
*Cell: 360-708-2853*

**From:** Ritter, Michael W (DFW) <Michael.Ritter@dfw.wa.gov>
**Sent:** Wednesday, June 21, 2023 12:33 PM
**To:** Fidorra, Jason C (DFW) <Jason.Fidorra@dfw.wa.gov>; Watson, James W (DFW) <James.Watson@dfw.wa.gov>
**Subject:** FW: Updated FEHA Nest Data

Could one or both of you respond to Erik's request?

Thanks.

**From:** Erik Jansen <ejansen@west-inc.com>
**Sent:** Wednesday, June 21, 2023 12:26 PM
**To:** Ritter, Michael W (DFW) <Michael.Ritter@dfw.wa.gov>
**Subject:** Re: Updated FEHA Nest Data

External Email

Mike -

I would like to revisit my email to you from 2.5 weeks ago. Are you able to provide any comment or guidance on the two items that I raised below?

Thank you, Erik

On Mon, Jun 5, 2023 at 4:41 PM Erik Jansen <ejansen@west-inc.com> wrote:

> Mike,
>
> I've been told through your deposition for Horse Heaven there are new FEHA nest data available. Specifically you mentioned a territory that became occupied after many years of unoccupancy in Benton County. Are these data available through you or via request from the PHS Program?
>
> During this year's survey we also found an artificial nest platform (ANP) in the middle of the Horse Heaven project that the landowner says was erected by WDFW around 20-21 during the pandemic, when we were not surveying. Can you please supply more information about this structure and any other data about ANP in Washington? WDFW PHS data from 2022 identifies 16 structures but the Status Update states over 28 structures - please advise how to proceed to obtain the most accurate and updated data available.
>
> Thanks much, Erik
>
> **Erik Jansen**
> **Wildlife Biologist**

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# APPENDIX L: DRAFT WILDLIFE AND HABITAT MITIGATION PLAN (NEW)

# Draft Wildlife and Habitat Mitigation Plan

# Horse Heaven Wind Farm

Benton County, Washington

Prepared for:
Horse Heaven Wind Farm, LLC

Prepared by:

TETRA TECH

19803 North Creek Parkway
Bothell, WA 98011

Submitted February 2021
Revised February 2022
Revised December 2022

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# ACRONYMS AND ABBREVIATIONS

| | |
|---|---|
| ALI | Arid Lands Initiative |
| Applicant | Horse Heaven Wind Farm, LLC |
| ASC | Application for Site Certification |
| BCC | Benton County Code |
| BESS | battery energy storage system |
| CRP | Conservation Reserve Program |
| EFSEC | Energy Facility Site Evaluation Council |
| FWHCA | fish and wildlife habitat conservation area |
| GE | General Electric |
| GMA | Growth Management Act |
| HCA | Habitat Concentration Area |
| HMP | Wildlife and Habitat Mitigation Plan |
| km | kilometer |
| LCP | Least-Cost Path |
| Micrositing Corridor | Wind Energy Micrositing Corridor |
| MW | megawatt |
| MWac | megawatts output as alternating current |
| O&M | operation and maintenance |
| PHS | Priority Habitats and Species |
| Project | Horse Heaven Wind Farm |
| PV | photovoltaic |
| RCW | Revised Code of Washington |
| SCA | Site Certification Agreement |
| SEPA | State Environmental Policy Act |
| Turbine | wind turbine generator |
| WAC | Washington Administrative Code |
| WDFW | Washington Department of Fish and Wildlife |
| WHCWG | Wildlife Habitat Connectivity Working Group |

# 1 INTRODUCTION

The Horse Heaven Wind Farm (Project) is a renewable energy generation facility that would have an energy injection capacity of up to 1,150 megawatts (MW) using a combination of wind and solar facilities as well as battery energy storage systems (BESS). Horse Heaven Wind Farm, LLC (the Applicant) proposes to construct wind turbine generators (Turbines) at a subset of 244 locations and up to three solar arrays, with all possible Turbine locations and solar array extent reviewed in the analysis of potential resource impacts in the Project's Energy Facility Site Evaluation Council (EFSEC) Application for Site Certification (ASC) and this Draft Wildlife and Habitat Mitigation Plan (HMP). Although all 244 Turbine locations and all three solar arrays are analyzed to conservatively assess potential impacts from the Project, not all Turbines and solar arrays will be constructed and in fact, under a mitigation agreement with the Department of Defense, the Project would be restricted to 235 Turbines. As described in the EFSEC ASC, the Project is considering two general Turbine options comprising four different Turbine technologies to facilitate flexible Turbine siting: Turbine Option 1 consists of up to 244 General Electric 2.82-MW or 3.03-MW Turbines, and Turbine Option 2 consists of up to 150 General Electric 5.5-MW or Siemens Gamesa 6.0-MW Turbines.

Power generated by the Project would be transmitted to existing Bonneville Power Administration transmission lines via two interconnections. Other Project components would include up to two BESS, underground and limited overhead electrical collection lines, underground communication lines, new Project substations, access roads, operation and maintenance (O&M) facilities, meteorological towers, control houses, and temporary construction yards. The Project would likely be built using a phased approach, with two phases currently under consideration. The EFSEC ASC describes the following example phased approach: Phase 1 could consist of 650 MW, with 350 MW generated via wind plus 300 MWac (megawatts output as alternating current) generated via solar; Phase 2 could consist of 500 MW, with either 250 MW generated via wind plus 250 MWac generated via solar or 500 MW generated via wind. Construction of the two Project phases would last approximately 11 months each, for a total of approximately 22 months of construction activity for the full 1,150-MW capacity build-out.

The HMP evaluated impacts at various spatial scales, which included the following three primary areas: the Project Lease Boundary, Wind Energy Micrositing Corridor (Micrositing Corridor), and Solar Siting Areas. The Project Lease Boundary (i.e., the extent of parcels in which the Applicant has executed a lease to construct Turbines, solar arrays, and associated facilities) encompasses approximately 72,428 acres and contains the Project's Micrositing Corridor (i.e., the area in which the Turbines and supporting facilities would be sited during the final design) and the Solar Siting Areas (i.e., three areas under consideration for siting of the proposed solar arrays during the final design) (see Figure 3.4-1 of the EFSEC ASC). The Micrositing Corridor and the Solar Siting Areas are larger than the Project's final footprint to allow minor rerouting to optimize the design and to avoid resources that may be discovered during the final design and pre-construction process.

# 2 REGULATIONS AND GUIDELINES

The HMP was developed to meet the regulatory standards described in the regulations and guidelines summarized in this section.

## 2.1 EFSEC

Energy facilities subject to review by EFSEC include thermal electrical generation, pipelines, electrical transmission lines, petroleum refineries, petroleum storage, and alternative energy electrical generation (wind, solar, geothermal, landfill gas, wave or tidal action, and biomass). However, alternative energy facilities (of any size) are not required to enter the EFSEC process in Washington; the applicant may opt in to the EFSEC process, or may choose to permit the project at the local level. For the proposed Project, the Applicant has elected to be sited under EFSEC jurisdiction.

Once an alternative energy facility has elected EFSEC permitting, EFSEC coordinates all evaluation and licensing steps for siting certain energy facilities in Washington. EFSEC specifies the conditions of construction and operation. If approved, a Site Certification Agreement (SCA) is issued in lieu of other individual state or local agency permits. Chapter 80.50 of the Revised Code of Washington (RCW) includes the laws EFSEC must follow in siting and regulating major energy facilities. Title 463 of the Washington Administrative Code (WAC) sets forth the regulations establishing how EFSEC functions under state and federal law.

EFSEC is responsible for evaluating applications under the Washington State Environmental Policy Act (SEPA; see Section 2.3) and to ensure that environmental and socioeconomic impacts are considered before a site is approved. After evaluating an application, EFSEC submits a recommendation to the Governor. If EFSEC determines that constructing and operating the facility will produce minimal adverse effects on the environment, ecology of the land and wildlife, and ecology of the state waters and aquatic life, and meets its construction and operation standards, then it recommends that a SCA be approved and signed by the Governor. The SCA lists the conditions the applicant must meet during construction and while operating the facility. WAC 463-60-332 outlines how potential impacts to habitat, vegetation, fish, and wildlife must be addressed in the EFSEC ASC. This information has been prepared and presented in Section 3.4 of the ASC. This HMP has been prepared pursuant to WAC 463-60-332(3), which requires that the EFSEC ASC include a detailed mitigation plan. In addition, this HMP describes how the Project follows the Washington Department of Fish and Wildlife (WDFW) Wind Power Guidelines (WDFW 2009), as applicable, and Policy M-5002, pursuant to WAC 463-60-332(4).

## 2.2 Benton County Critical Areas Ordinance

Under Washington State's Growth Management Act (GMA), all cities and counties are directed to adopt critical areas regulations. Counties and cities are required to include the best available science in developing policies and development regulations to protect the functions and values of critical areas (RCW 36.70A.172). Benton County's Critical Areas Ordinance was developed to comply with the requirements of the GMA, and was most recently updated on August 21, 2018, consistent with the GMA periodic review requirement in RCW 36.70A.130.

Benton County's regulations regarding critical areas are established in Title 15 of the Benton County Code (BCC). Title 15 defines critical areas as including any of the following areas or ecosystems: (1) wetlands (see Chapter 15.04 BCC); (2) critical aquifer recharge areas (see Chapter 15.06 BCC); (3) frequently flooded areas (see Chapter 15.08 BCC); (4) geologically hazardous areas (see Chapter 15.12 BCC); and (5) fish and wildlife habitat conservation areas (FWHCA; see Chapter 15.14 BCC).

Per BCC 15.14.010, FWHCAs include the following: (1) areas where federal or state designated endangered, threatened, and sensitive species have a primary association[1], (2) state priority habitats and areas associated with state priority species, (3) habitats and species of local importance as designated by Benton County (i.e., shrub-steppe habitat), (4) waters of the state, (5) naturally occurring ponds under 20-acres and their submerged aquatic beds that provide fish or wildlife habitat, (6) lakes, ponds, streams, and rivers planted with native fish populations, (7) Washington State Wildlife Areas, and (8) Washington State Natural Area Preserves and Natural Resource Conservation Areas (Benton County 2018). Information provided in Section 3.4 of the EFSEC ASC submitted for this Project, as well as this HMP, addresses the requirement per BCC 15.14.030 for the Applicant to provide a habitat assessment and discuss the habitat avoidance, minimization, and mitigation measures proposed for the Project.

As described in Section 3.4 of the EFSEC ASC, the Project would include disturbance in areas considered FWHCAs as defined by the BCC Critical Area Ordinance (i.e., primarily shrub-steppe and associated wildlife species). This HMP addresses mitigation for these impacts.

## 2.3 SEPA

SEPA is the state interdisciplinary policy that identifies and analyzes environmental impacts associated with state governmental decisions, including permits to construct energy facilities. The applicable SEPA statutes and regulations include RCW Ch. 43.21C, Washington Environmental Policy Act, WAC Ch. 197-11, Washington State Department of Ecology SEPA Rules, and Section 6.35 of the BCC, which establish requirements for compliance with SEPA. As the Applicant has elected to be sited under EFSEC jurisdiction, as discussed above, EFSEC will serve as the lead agency for SEPA review. Section 3.4 of the ASC addresses potential impacts to plants and animals. This HMP, in addition to the analysis provided in Section 3.4 of the Project's EFSEC ASC and the analysis presented by EFSEC in its Environmental Impact Statement, supports the finding that, with the implementation of proposed mitigation, probable significant adverse environmental impacts can be reduced to a level of non-significance as defined and understood in SEPA.

## 2.4 WDFW Wind Guidelines

The Project and this HMP have been developed consistent with WAC 463-60-332 and WAC 365-195-900 through 365-195-925, including adherence to WDFW Wind Power Guidelines as applicable. WDFW published the Wind Power Guidelines in 2009 to provide consistent statewide guidance for the development of land-based wind energy projects that avoid, minimize and mitigate impacts to fish and wildlife habitats in Washington State (WDFW 2009). The guidelines are intended to provide permitting agencies and wind project developers with an overview of the considerations made by WDFW in the review of wind energy project proposals. The permitting authority (e.g., EFSEC) is responsible for SEPA review before issuing a project permit. However, WDFW is considered an agency with environmental expertise through SEPA and provides review and comments on environmental documents. The Applicant used the Wind Power Guidelines to develop this HMP where applicable, including the mitigation considerations listed below summarizing the criteria for the habitat selected to replace the functions and values of habitat impacted by the Project (i.e., replacement habitat):

[1] Primary association area—The area used on a regular basis by, in close association with, or is necessary for the proper functioning of the habitat of a critical species. Regular basis means that the habitat area is normally, or usually known to contain a critical species, or based on known habitat requirements of the species, the area is likely to contain the critical species. Regular basis is species and population dependent. Species that exist in low numbers may be present infrequently yet rely on certain habitat types (Benton County 2018).

- Like-kind (e.g., shrub-steppe for shrub-steppe, grassland for grassland) and/or of equal or higher habitat value than the impacted area, noting that an alternative ratio may be negotiated for replacement habitat that differs from impacted habitat;
- Given legal protection (through acquisition in fee, a conservation easement, or other enforceable means);
- Protected from degradation, including development, for the life of the project to improve habitat function and value over time;
- In the same geographical region as the impacted habitat; and
- At some risk of development or habitat degradation and the mitigation results in a net habitat benefit.

## 2.5 WDFW M-5002 Policy

WDFW established Policy M-5002 requiring or recommending mitigation in 1999. This policy applies to all habitat protection assignments where WDFW is issuing or commenting on environmental protection permits, documents, or violation settlements; or when seeking commensurate compensation for impacts to fish and wildlife resources resulting from oil or other toxic spills. The Applicant reviewed Policy M-5002 to support the development of this HMP, including the following considerations:

- The goal is to achieve no loss of habitat functions and values. Mitigation credits and debits will be based on a scientifically valid measure of habitat function, value, and area. Ratios will be greater than 1:1 to compensate for temporal losses, uncertainty of performance, and differences in functions and values.
- On-site in-kind mitigation is preferred.
- Mitigation plans will include the following: baseline data, estimate of impacts, mitigation measures, goals and objectives, detailed implementation plan, adequate replacement ratio, performance standards to measure whether goals are being reached, maps and drawings of proposal, as-built drawings, operation and maintenance plans (including who will perform), monitoring and evaluation plans (including schedules), contingency plans, including corrective actions that will be taken if mitigation developments do not meet goals and objectives, and any agreements on performance bonds or other guarantees that the proponent will fulfill mitigation, operation and maintenance, monitoring, and contingency plan.
- Mitigation measures will be completed before or during project construction.
- Mitigation site will be protected for the life of the project.
- Mitigation banking may be an acceptable form of mitigation.

# 3 AGENCY CONSULTATION HISTORY

Coordination on the project began with WDWF in 2017 and over time additional agencies and parties have joined the discussions. Table 1 briefly summarizes that coordination, including meeting dates, topics discussed, and key decisions or agreements made.

**Table 1. Summary of Agency Consultation History**

| Meeting Date | Parties Present | Topics Discussed | Key Decisions or Agreements |
|---|---|---|---|
| September 19, 2017 | • USFWS<br>• WDFW<br>• Scout<br>• Tetra Tech<br>• WEST | • Project kick-off<br>• Wildlife and habitat survey approach | • Recommendations were made regarding wildlife and habitat survey methods. |
| January 28, 2020 | • USFWS<br>• WDFW<br>• Scout<br>• Tetra Tech<br>• WEST<br>• Lower Columbia Audubon Society | • Update on project layout<br>• Summary of wildlife and habitat surveys completed to date | • WDFW noted setback recommendations that may be appropriate during construction during the nesting/fledging season for the ferruginous hawk nest observed near the Project that was occupied all 3 years it was surveyed (2017-2019).<br>• WDFW concurred that, based on survey data and lack of irrigated agriculture and wetland resources, sandhill cranes do not occupy the Project Lease Boundary but instead typically fly high above the Project and use the area north of the Project for foraging, loafing, and roosting.<br>• WDFW noted that eastside (interior) grasslands have a 1:1 mitigation ratio for permanent impact. |
| January 27, 2021 | • WDFW<br>• Scout<br>• Tetra Tech<br>• WEST | • Update on project changes, addition of solar and BESS<br>• Summary of habitat, rare plant, and avian surveys | • WDFW noted that the Project was well sited given the level of existing disturbance (e.g., agricultural activity and presence of non-native species) in the area, and identified minimization measures related to fencing that could further reduce potential impacts. |
| November 2, 2021 | • EFSEC<br>• WDFW<br>• Scout<br>• Tetra Tech | • Wildlife and habitat surveys<br>• Habitat impacts<br>• Further avoidance and minimization | • WDFW said wildlife and habitat surveys were done well; no comments.<br>• WDFW reviewed habitat impact tables and thought they looked good. |

| Meeting Date | Parties Present | Topics Discussed | Key Decisions or Agreements |
|---|---|---|---|
| | | | • WDFW expressed concerns about Sheep and Weber Canyon.<br>• WDFW recommended also looking at off-site mitigation options; Scout requested locations or ideas. |
| November 16, 2021 | • EFSEC<br>• WDFW<br>• Scout<br>• Tetra Tech<br>• WEST<br>• Golder | • Wildlife and habitat surveys<br>• Habitat impact table<br>• Impacts to ferruginous hawk<br>• Impacts to big game | • WDFW reaffirmed agreement with habitat impacts.<br>• WDFW requested further minimization in canyon by reducing or moving Turbines and lines to reduce canyon crossings.<br>• WDFW recommended avoidance buffers around ferruginous hawk nests during construction; noted that the agency is working on updated guidance on how to address ferruginous hawk for all projects.<br>• WDFW noted that pronghorn are not regulated by the agency and recommended that EFSEC consult with the Yakama Nation regarding that species, since the herd was reintroduced by them. |
| November 30, 2021 | • EFSEC<br>• WDFW<br>• Scout<br>• Tetra Tech<br>• WEST<br>• Stoel Rives<br>• Golder | • Project impacts<br>• Avoidance and minimization<br>• Mitigation (options and ratios) | • Scout provide an update on potentially implementing additional minimization measures through changes to project design.<br>• WDFW agreed with the mitigation options presented in the draft HMP. |
| December 14, 2021 | • WDFW<br>• Scout<br>• Tetra Tech<br>• WEST | • Crossing of canyons by collector lines<br>• Ferruginous hawk buffers<br>• Pronghorn<br>• Mitigation memo | • All agreed to memorialize approach to minimize impacts to canyons in the revised HMP.<br>• Scout noted that implementing 10 kilometer buffers would be problematic; Golder proposed concepts for use of the buffers in the EIS analysis.<br>• Group requested presentation from WDFW on the origins of the buffers.<br>• Scout noted that an updated pronghorn memo had been provided, with up to date information from the Yakama Nation; EFSEC and Golder had no questions. |

| Meeting Date | Parties Present | Topics Discussed | Key Decisions or Agreements |
|---|---|---|---|
| | | | • Mitigation memo was not discussed in detail pending future discussions between WDFW and EFSEC. |
| January 6, 2022 | • EFSEC<br>• WDFW<br>• Scout<br>• Tetra Tech<br>• WEST<br>• Stoel Rives<br>• Golder | • Ferruginous hawk buffers (presentation by Jim Watson, WDFW) | • General discussion about utility of proposed buffers and timing of updated guidance from WDFW. |
| January 20, 2022 | • EFSEC<br>• Washington Attorney General's Office<br>• WDFW<br>• Scout<br>• Tetra Tech<br>• WEST<br>• Stoel Rives<br>• Golder | • Pronghorn memo<br>• Mitigation ratios and approach<br>• Landscape level analysis | • No comments on pronghorn memo received.<br>• WDFW confirmed agreement with mitigation ratios and approaches presented in draft HMP.<br>• EFSEC presented recommended approach to characterizing mitigation in the documents, which included a criteria-based approach, rather than showing specific sites; WDFW concurred with this approach.<br>• WDFW provided a verbal summary of landscape level analysis they had prepared. |

EFSEC – Energy Facility Site Evaluation Council; Scout – Scout Clean Energy, LLC; Tetra Tech – Tetra Tech, Inc.; USFWS – U.S. Fish and Wildlife Service; WDFW – Washington Department of Fish and Wildlife; WEST – Western Ecosystems Technology, Inc.

# 4 HABITAT MAPPING

The Applicant used a combination of field survey data and desktop resources to map habitat within the Project Lease Boundary from 2017 through 2021, as described in Section 3.4.1.1 of the EFSEC ASC (Chatfield and Brown 2018a, 2018b; Tetra Tech 2021a; USFWS 2018; USGS 2016; Yang et al. 2018). Subsequent to submittal of the EFSEC ASC, additional habitat surveys were conducted within portions of the Project Lease Boundary that had not previously been surveyed (Tetra Tech 2021b). In general, habitat types and subtypes were adapted from habitat descriptions in the Wildlife Wind Power Guidelines (WDFW 2009) and *Wildlife-habitat Relationships in Oregon and Washington* (Johnson and O'Neil 2001), with some modifications as described below. Descriptions of habitat types and subtypes mapped within the Project Lease Boundary are provided in Section 3.4.1.1 of the EFSEC ASC as well as the survey reports prepared for the Project (Tetra Tech 2021a, b). Table 2 provides a crosswalk between habitats mapped at the Project and WDFW Habitat Types and Classifications (WDFW 2009).

Vegetation within the majority of the Project Lease Boundary has been degraded due to historical and current agriculture and grazing activity, and non-native invasive grasses and forbs are prevalent throughout the Project Lease Boundary.

**Table 2. Project Habitat Type and Subtype Crosswalk with WDFW Habitat Type and Classification**

| Project Habitat Type | Project Habitat Subtype | WDFW Habitat Type | WDFW Classification |
|---|---|---|---|
| Agricultural land | | Croplands | Class IV |
| Developed/disturbed | | Urban and Mixed Environs | |
| Grassland | Eastside (interior) grassland | Eastside (Interior) Grasslands | Class III |
| | Non-native grassland | | |
| | Planted grassland | Conservation Reserve Program Lands | |
| Shrubland | Rabbitbrush shrubland | Shrub-steppe | Class II |
| | Sagebrush shrub-steppe | | |
| | Dwarf shrub-steppe | | |

Of the eight upland habitat subtypes mapped within the Project Lease Boundary, two were not readily classified into either WDFW (2009) or Johnson and O'Neil (2001) habitat types or subtypes: non-native grassland and rabbitbrush shrubland. Non-native grassland was considered eastside (interior) grassland (Class III) WDFW habitat because these areas were dominated by non-native grassland and forb species. The non-native grasslands mapped at the Project likely provide lower functional value to wildlife than typical eastside (interior) grassland due to the presence of invasive species (e.g., several areas field-mapped as non-native grassland habitat in 2020 consisted of vast areas dominated by dense cover of cereal rye [*Secale cereale*], a Class C noxious weed [BCNWCB 2020; WSNWCB 2020]). Non-native grassland was classified as eastside (interior) grassland because the definition for eastside (interior) grassland in the Wildlife Wind Power Guidelines (WDFW 2009) provided the best fit for classification of this habitat type.

Planted grassland and rabbitbrush shrubland are potentially Conservation Reserve Program (CRP) land because these areas appeared to have been planted with non-native grasses, native grasses, and/or native shrubs in formerly agricultural areas. That would make the habitat value of those areas the functional equivalent of typical CRP lands. Despite that, rabbitbrush shrubland that was observed in areas that appeared to have been planted was included as a Class II habitat type. It is unknown whether rabbitbrush was planted in those areas or established naturally. Rubber rabbitbrush (*Ericameria nauseosa*) is an early seral species that readily colonizes disturbed sites, such as areas disturbed by overgrazing or fire or abandoned agricultural lands (Faber et al. 2013; Tirmenstein 1999; USDA 2017).

Sagebrush shrub-steppe and dwarf shrub-steppe were considered shrub-steppe (Class II) WDFW habitat because they were dominated by native shrubs such as big sagebrush (*Artemisia tridentata*) and rock buckwheat (*Eriogonum sphaerocephalum*). Lithosol soils were not observed in the sagebrush shrub-steppe habitat mapped within the Project Lease Boundary, but were observed within the mapped dwarf shrub-steppe habitat, indicating a likely increased length of time for restoration following disturbance (WDFW 2009).

# 5 PROJECT IMPACTS

## 5.1 Landscape-Level Impacts

The following desktop resources were used to characterize how the Project may affect landscape-scale habitat connectivity and wildlife movement:

- Arid Lands Initiative (ALI) Spatial Conservation Priorities in the Columbia Plateau Ecoregion (ALI 2014);
- Priority Core Areas and Priority Linkage Areas (Great Northern Landscape Conservation Cooperative 2015); and
- Washington Wildlife Habitat Connectivity Working Group (WHCWG) Washington Connected Landscapes Project: Analysis of the Columbia Plateau Ecoregion (WHCWG 2012).

Each of these data sources identify landscape-level areas of importance to wildlife in the region, using a combination of data layers and key ecological attributes. These areas are generally described as:

- Priority Core Areas – Set of noncontiguous polygons selected by modeling where local protection and restoration actions can best contribute overall conservation goals (ALI 2014).
- Priority Linkages – Areas within the Columbia Plateau Ecoregion identified as important for maintaining movement opportunities for organisms or ecological processes (e.g., for animals to move to find food, shelter, or access to mates). In the WHCWG (2012) report, these are corridors identified by the models as important for wildlife movement between Habitat Concentration Areas (HCA).
- Linkage Network – System of habitats and areas important for connecting them. For the WHCWG linkage priorities, linkage networks represent the area encompassed by the combination of HCAs and modeled Priority Linkages that connect them (WHCWG 2012).

Connectivity along the east/west ridgeline to the north of the Project and the north/south corridor to the west of Interstate 82 has been avoided or minimized by designing the Project to avoid impacts to Priority Linkages. Along the northern ridgeline, Turbines and associated roads have been set back and do not overlap with Priority Core Areas or High/Very High Linkage Areas (see Figure 1). Spacing between Turbines along a string will be approximately 0.25 mile from the tower base and the perpendicular distance between strings will be much greater (approximately 0.5 to 1 mile), which would maintain open areas of habitat (agriculture, grassland, and shrub-steppe), facilitate wildlife movement, and maintain habitat connectivity. A small portion of the eastern solar array overlaps with, but does not substantially encroach into, a Linkage Area and thus would not impede species movement or habitat connectivity within the Linkage Area.

The two solar arrays located on the west side of the Project area do not overlap with a Priority Core Area or High Linkage Area. Wind turbines and associated infrastructure (with the exception of O&M buildings/substations) will remain unfenced, resulting in reduced habitat fragmentation and facilitate open movement of terrestrial wildlife species. By designing the Project in a manner that avoids or minimizes disturbances in modeled corridor areas, terrestrial wildlife corridors within the Horse Heaven Hills will be maintained.

The Project is not located within a migration route for big game species (WDFW 2020a). Although the Project provides low habitat value to mule deer (due to the extent of agricultural and developed land, which covers 75 percent of the Project Lease Boundary), one Least-Cost Path (LCP) modeled by the WHCWG (2012, 2013) passes through the Project along a north-south route west of and parallel to Highway 395. This LCP connects HCAs at the Hanford Site and Rattlesnake Hills in Washington to an HCA in Oregon between Pendleton and Heppner. This LCP falls outside the Solar Arrays but passes through the Micrositing Corridor. WDFW is currently working to further identify migratory corridors through research of mule deer movement; however, these are currently prioritized in the East Slope Cascades and East Columbia Gorge Mule Deer Management Zones and not the Columbia Plateau Mule Deer Management Zone (WDFW 2020b), where the Project occurs.

As the Project is not located within a migration route for big game species, impacts to big game migration routes are not anticipated from the Project. Although the Micrositing Corridor overlaps with one LCP modeled by WHCWG (2012, 2013), the Project Lease Boundary in general provides low-value habitat to mule deer and is unlikely to support large migrations of mule deer despite this modeled linkage. The modeled LCP that passes through the Project does not overlap with the fenced solar arrays (or the larger Solar Siting Areas), which are primarily located on agricultural and disturbed lands. This LCP is designated as low centrality; centrality is a measure of how important a habitat area or linkage is for keeping the overall connectivity network connected (WHCWG 2013). Therefore, construction and operation of the Project are not anticipated to constitute a barrier to deer movement.

## 5.2 Habitat Impacts

Construction and operation of the Project would result in both permanent and temporary impacts to wildlife habitat, as well as modifications to habitat within the solar array fencelines. Areas of permanent impacts include locations of permanent infrastructure (e.g., Turbines, meteorological towers, BESS, substations, permanent access roads, and O&M facilities), and areas of temporary impacts include locations that would be disturbed during construction and revegetated following construction outside the solar array fencelines (e.g., locations of underground collection and communication lines and temporary construction yards) (see Table 2.1-1 in Section 2 of the EFSEC ASC). Temporary impacts associated with solar facilities include a 10-foot construction buffer along the outside of the solar fencelines. Where not permanently impacted due to permanent infrastructure (i.e., graveled interior access roads, inverter pads, and tracker system support posts), habitat within the solar array fencelines would be revegetated with low-growing vegetation following construction and would remain available to wildlife such as small mammals, birds, reptiles, and invertebrates in a modified condition.

Table 3 provides the estimated acres of impact to wildlife habitat from construction and operation of the Project, including the acres of temporary and permanent impacts within the Micrositing Corridor and Solar Siting Areas, and acres of habitat modification within the Solar Siting Areas.[2] Table 3 conservatively includes the acres of impact to each habitat subtype under Turbine Option 1, which represents the estimated maximum acreage of impact (from the greatest number of Turbines and associated roads and collector lines) and thus would result in the maximum estimated acreage of mitigation (calculated in Section 7.3.1). If Turbine Option 2 is selected, impacts on habitat and thus the mitigation need would be reduced within the Micrositing Corridor. Impacts from the solar arrays and

[2] Acreages in Table 3 reflect additional habitat mapping conducted for the Project subsequent to submittal of the ASC; therefore, the habitat subtypes and acres of impacts to habitat subtypes in Table 3 do not match Table 3.4-14 of the ASC.

associated infrastructure would not vary based on Turbine options, but would be reduced if one or more of the Solar Siting Areas is not developed.

Table 3 lists the acres of Project impact by impact type and habitat subtype; where these impacts result in the need for mitigation (i.e., outside of agricultural and developed land), these values are again listed in Section 7.3.1 where they are multiplied by their respective mitigation ratios to determine the mitigation need by habitat type and subtype.

The vast majority (79 percent) of habitat proposed to be permanently impacted within the Micrositing Corridor is agricultural land, followed by planted grassland, rabbitbrush shrubland, non-native grassland, sagebrush shrub-steppe, developed/disturbed, eastside (interior) grassland, and dwarf shrub-steppe, (Table 3). The vast majority (84 percent) of habitat proposed to be modified within the solar array fencelines is agricultural land, followed by rabbitbrush shrubland, planted grassland, eastside (interior) grassland, non-native grassland, sagebrush shrub-steppe, and developed/disturbed (Table 3).

Habitat proposed to be impacted within the northern and western Solar Siting Areas is almost entirely agricultural and disturbed land, with small amounts of planted and non-native grassland and sagebrush shrub-steppe, while just over half of the habitat within the eastern Solar Siting Area is agricultural and disturbed land with the remaining habitat consisting of rabbitbrush shrubland, eastside (interior), planted, and non-native grassland, and sagebrush shrub-steppe habitat (e.g., see Figure 5 in Tetra Tech 2021b). Section 7.4 and Table 4 summarize the proposed mitigation acres needed to offset the loss or modification of habitat by the Project.

Renewable energy facilities (i.e., wind and solar) have been built and proposed throughout the Columbia Plateau in Washington, including in Benton County (EFSEC 2021; Erickson et al. 2003; *Yakima Herald* 2019) for decades. Therefore, the Project has the potential to contribute to cumulative impacts on wildlife and habitat. Cumulative impacts are the comprehensive effect on the environment that results from the incremental impact of a project when added to other past, present, and reasonably foreseeable future actions (USFWS 2012). The Project is sited primarily on agricultural land, has minimized impacts to shrub-steppe to the extent feasible, and is sited outside of locations identified as key to the ALI and identified in the WHCWG. As summarized in Section 7.4, unavoidable impacts to habitat (including shrub-steppe habitat) will be mitigated appropriately through either a conservation easement, payment to WDFW, or a payment to a local land trust or conservation organization as discussed with WDFW. Thus, replacement habitat would be provided such that there would be no cumulative loss in function or value of habitat from Project development.

**Table 3. Estimated Impacts on Habitat Types from Construction and Operation of the Project**

| Habitat Type | Habitat Subtype | Micrositing Corridor | | Solar Siting Areas | | |
|---|---|---|---|---|---|---|
| | | Temporary Impact (Acres)[1/] | Permanent Impact (Acres)[1/] | Temporary Impact (Acres)[2/] | Permanent Impact (Acres)[2/] | Modified Habitat Impact (Acres)[2/] |
| Agricultural land | | 2,269 | 252 | 55 | 237 | 5,314 |
| Developed/disturbed | | 21 | 2 | 0.01 | -- | -- |
| Grassland | Eastside (Interior) grassland | 15 | -- | 2 | 5 | 68 |
| | Non-native grassland | 136 | 11 | 1 | 2 | 23 |
| | Planted grassland | 259 | 21 | 4 | 12 | 204 |
| Shrubland | Dwarf shrub-steppe | 9 | 1 | -- | -- | -- |
| | Rabbitbrush shrubland | 141 | 11 | 13 | 38 | 668 |
| | Sagebrush shrub-steppe | 31 | 1 | 0.1 | -- | 0.2 |
| | **Total[3/]** | **2,881** | **299** | **76** | **294** | **6,276** |

Notes:

1/ Overlapping permanent disturbance is subtracted from temporary impact corridors/areas (e.g., temporary impact area around a Turbine does not include the Turbine foundation and graveled areas); those are included only in the permanent impact column.

2/ Temporary impacts associated with solar facilities include a 10-foot construction buffer along the outside of the solar fencelines. Permanent impacts include the solar inverters and new access roads within the solar siting areas. Modified impacts are associated with the solar arrays and include those areas within the solar fencelines that are outside areas of permanent impact. Following construction, low growing vegetation would be planted under and between the solar arrays; therefore, these impacts would be considered a modification of habitat versus a temporary or permanent impact.

3/ Totals may not sum exactly due to rounding.

## 5.3 Federal or State Listed Species Impacts

No federally listed species occur in the Project area. There are two state listed species that have been observed either during project-related surveys or as documented in WDFW Priority Habitats and Species (PHS) data: ferruginous hawk (*Buteo regalis*) and Townsend's ground squirrel (*Urocitellus townsendii*).

### *5.3.1 Ferruginous Hawk*

Surveys conducted in 2017 to 2019 documented nine ferruginous hawk nests within 2 miles of proposed Turbines. The methods and results of those surveys are summarized in Attachment A. Two of the nine nests were occupied at least once during the 3-year survey period; one was also considered active and the other was considered inactive (due to the lack of eggs or young present). The remaining seven nests were unoccupied, in poor condition, and would require substantial repair for nesting. The unoccupied nests were dilapidated and comprised scattered sticks and nest material, which suggests the nests were not used for one or more nesting periods prior to the 2017 surveys.

The linear distance from all nests to the nearest Turbine ranged between 1,115 and 4,708 feet. One of the occupied/active nests is located a linear distance of 2,795 feet (0.53 mile; ground distance 2,806 feet) to Turbine 116 with an elevation difference of 245 feet from nest to the Turbine. The second nest, which was occupied/inactive in 2017, is a linear distance of 4,708 feet (0.89 mile; ground distance 4,743 feet) to Turbine 49 with an elevation difference of approximately 580 feet. More detail about nest locations and topography between Turbines and the nests is provided in Attachment A.

To avoid disturbance to nesting ferruginous hawks and their prey base, WDFW recommends spatial and temporal buffers around active nests (Attachment A; WDFW 2005). Around all active nests, WDFW recommends avoiding human access and ground-based activities within 820 feet of the nest between March 1st and May 30th, and preventing prolonged activities lasting greater than 0.5 hour within 3,280 feet of a nest between March 1 and August 15 (WDFW 2005). The Project would implement those avoidance and minimization criteria as necessary, depending on nest location and status and distance from Project infrastructure. Additional minimization measures are listed in Section 7.2. In addition, a process for assessing the relative impacts on nesting ferruginous hawks from habitat removal or modification by the Project, as well as a mitigation approach to offset these effects, is described in Section 7.4.

### 5.3.2 Townsend's Ground Squirrel

Based on modeling from the WHCWG (2013) for Townsend's ground squirrel, there are several HCAs surrounding the Project. These HCAs are limited to the escarpment, northwest of the Project Lease Boundary, where Turbines have been excluded, the southcentral portion of the Project Lease Boundary, and areas west of Highway 82 (Figure 2). HCAs were modeled as High and Medium concentration by the WHCWG. Of the 244 proposed Turbine locations, none are located in High concentration areas, but 6 locations (2 percent) are within the Medium concentration area, just west of the eastern solar array. Only a very small portion of the eastern solar array encroaches on an existing (Medium concentration) HCA, and security fencing would be permeable to Townsend's ground squirrel, meaning that ground squirrels would be able to access revegetated habitat within the solar array.

# 6 SCIENTIFIC BASIS

WDFW (2009) defines permanent impacts to habitat as those impacts that are anticipated to persist and cannot be restored within the life of the Project, which may include "new permanent roads, operations and maintenance facilities, Turbine pads, impervious and/or areas devoid of native vegetation resulting from project operations." Areas that would be revegetated under the solar arrays following construction of the Project would not be impervious, would not be devoid of native vegetation, or otherwise built up, and would be restored within the life of the Project; therefore, these areas are generally not considered permanently impacted habitat. Following completion of construction, areas under the solar arrays would be revegetated with low-growing vegetation (see Appendix N to the EFSEC ASC, the Revegetation and Noxious Weed Management Plan).

A recent study demonstrated that successful revegetation under solar panels is possible, even with native grass species adapted to full-sun conditions (Beatty et al. 2017). This study demonstrated that revegetation under solar panels was able to "achieve ground cover sufficient to control erosion and begin to restore wildlife habitat" (Beatty et al. 2017). A recent study in Oregon (Hassanpour Adeh et al. 2018) quantified changes to the microclimatology, soil moisture, water usage, and biomass productivity due to the presence of solar panels. In this study, areas under photovoltaic (PV) panels maintained higher soil moisture, showed a significant increase in late season biomass (90 percent more biomass), and were significantly more water efficient (328 percent more efficient), although caution should be used in applying these results from west of the Cascade Mountains to the drier Columbia Plateau (Hassanpour Adeh et al. 2018). Hernandez et al. (2020) evaluated the seed bank survival of two desert annual plant congeners, one rare (Barstow woolly sunflower [*Eriophyllum mohavense*]) and one common (Wallace's woolly daisy [*E. wallacei*]) in the Western Mojave Desert and found that seed bank survival across both species was significantly greater in shade (10 percent) microhabitats compared to runoff (5 percent) and control microhabitats (3 percent), possibly related to the shade microhabitats receiving less photosynthetically active radiation and having

lower soil moisture and temperatures. Similarly, pre- and post-construction biological monitoring data at a PV solar facility in California indicated similar to higher vegetation productivity on-site compared to reference sites (Sinha et al. 2018). As a result, areas under solar panels that would be revegetated are generally considered modified rather than temporarily or permanently impacted.

As described above, habitat within the solar array fencelines would remain available to wildlife such as small mammals, birds, reptiles, and invertebrates in a modified condition. Limited research is available regarding the effects of PV array development (including the effects of fencing and shading) on residual wildlife habitat value; however, preliminary studies indicate residual habitat value remains for various species of birds, and the value may differ based on restoration and vegetation management practices. For example, DeVault et al. (2014) studied avian abundance at PV array fields and paired airport grassland areas using transect surveys. The results indicated that airport grasslands generally had greater species diversity and PV arrays generally had more total birds observed; however, overall bird mass was comparable at airport grasslands and PV arrays, suggesting more smaller birds tended to use the PV arrays than the airport grasslands. Similarly, Visser et al. (2018) measured bird abundance and diversity at a PV array facility in South Africa using point counts within and outside the facility. The primary conclusion of the study was that bird diversity and density were higher outside of the facility, but the facility was not absent of birds. Visser et al. (2018) found that the bird community inside the facility comprised birds that were generalist species or those that use grassland habitat. Thus, the species composition appeared to be associated with a change from a shrub/woodland habitat to a grassland habitat within the facility. This limited research demonstrates that while bird species use may change at PV arrays, use of the area is not eliminated; instead, the modified habitat supports a modified avifaunal community.

Similarly, post-construction biological monitoring data at a PV solar facility in California documented the presence of dozens of wildlife species, including California horned lark (*Eremophila alpestris actia*), ferruginous hawk, loggerhead shrike (*Lanius ludovicianus*), prairie falcon, black-tailed jackrabbit, California ground squirrel (*Otospermophilus beecheyi*), San Joaquin kit fox (*Vulpes macrotis mutica*), and coast range fence lizard (*Sceloporus occidentalis bocourtii*) (Sinha et al. 2018). This California site was reseeded with native flora species to allow vegetation to grow beneath the solar panels, creating new habitats, providing sources of food for various wildlife species, and providing dust control (Sinha et al. 2018). The results of monitoring indicated that, although solar facility construction activities do involve short-term disturbance, responsibly developed solar facilities can provide shelter, protection, and stable use of land to support biodiversity (Sinha et al. 2018).

# 7 MITIGATION MEASURES

## 7.1 Avoidance and Minimization

The following avoidance and minimization measures were either applied during Project development or are proposed for Project construction and operations:

- To minimize impacts to wildlife, baseline studies were conducted at the Project consistent with the WDFW Wind Power Guidelines (WDFW 2009), the USFWS' 2012 Final Land-Based Wind Energy Guidelines (USFWS 2012), the 2013 USFWS Eagle Conservation Plan Guidance Module 1 – Land Based Wind Energy (USFWS 2013), and the USFWS 2016 Eagle Rule Revision (USFWS 2016). In order to minimize impacts to and avoid wildlife resources, the Applicant used the results of these baseline studies to inform the layout design.

- Project facilities were sited on previously disturbed (e.g., cultivated cropland) areas as feasible to avoid impacts to native habitats and associated wildlife species.
- The Project will use industry standard best management practices to minimize impacts to vegetation, waters, and wildlife.
- To the extent feasible, the solar array fencelines have been designed to enclose smaller solar arrays within the Solar Siting Areas rather than enclosing each entire Solar Siting Area, which will minimize habitat fragmentation and allow wildlife passage through the Solar Siting Areas. Fencing will be designed to be at least 4 inches above ground and will not have razor wire at the top. Consistent with recommended mitigation measure Spec-13 in the Draft Environmental Impact Statement (EFSEC 2022), the fencing will not be barbed wire.
- The Project was sited outside of wetlands and waters to the extent feasible to avoid and minimize impacts to these resources as described in Section 3.3 and Section 3.5 of the EFSEC ASC, which will also avoid impacts to fish and minimize impacts to wildlife species that use these habitats.
- If the final design results in impacts to waters of the state that cannot be avoided, the Applicant will work with EFSEC and WDFW to confirm whether a Hydraulic Project Approval is required, and will prepare an application accordingly.
- During construction, WDFW-recommended seasonal buffers (per Larsen et al. 2004) for ferruginous hawk nests would be observed to avoid disturbing nesting ferruginous hawks.
- Consistent with recommended mitigation measure Spec-4 in the Draft Environmental Impact Statement (EFSEC 2022), during construction, WDFW-recommended seasonal buffers (per Larsen et al. 2004) for burrowing owl nests would be observed to avoid disturbing nesting burrowing owls, if present. If impacts to potentially suitable habitat cannot be avoided during final design, the Applicant will consult with WDFW regarding the need for burrowing owl surveys prior to construction, including surveys to determine habitat suitability for burrowing owls, and surveys for breeding owls if suitable habitat is present.
- The Applicant does not anticipate using pesticides during Project construction or operation; if unforeseen circumstances arise that require the use of pesticides, the Applicant will consult with WDFW and EFSEC regarding use of pesticides to avoid and minimize impacts to burrowing owl (per Larsen et al. 2004).
- The Applicant would minimize bird and bat collision with Project infrastructure by implementing down-shield lighting (e.g., for permanent lighting at the substations and O&M facilities) that will be sited, limited in intensity, and hooded in a manner that prevents the lighting from projecting onto any adjacent properties, roadways, and waterways; lighting will be motion activated where practical (i.e., excluding security lighting);
- All permanent meteorological towers would be designed as free-standing (i.e., un-guyed) to minimize collision risk for wildlife.
- The Applicant would acquire any necessary federal approvals as described in Section 2.23 of the EFSEC ASC. The Applicant will continue ongoing coordination with the USFWS regarding an eagle take permit for incidental take of bald and golden eagles, and will continue to evaluate eagle risk to determine if an eagle take permit is appropriate considering the use of the Project by bald and golden eagles. The Applicant does not plan to pursue an eagle take permit for the anticipated Phase 1 of the Project but will re-evaluate eagle risk and whether there is a need for an eagle take permit for the anticipated Phase 2 of the Project.

- The Applicant will limit construction disturbance by flagging any sensitive areas (e.g., wetlands,) and will conduct ongoing environmental monitoring during construction to ensure flagged areas are avoided.
- The Applicant has prepared a Bird and Bat Conservation Strategy that describes the surveys conducted, avoidance and minimization, and potential impacts to birds and bats and their habitat as a result of construction and operation of the Project (see Appendix M to the EFSEC ASC).
- The Applicant will conduct 2 years of standardized post-construction fatality monitoring to assess impacts of Turbine operation on birds and bats. Proposed post-construction fatality monitoring is described in the Applicant's Bird and Bat Conservation Strategy (Appendix M to the EFSEC ASC).

## 7.2 Ferruginous Hawk Avoidance and Minimization Measures

As discussed in Section 3.4.3 of the EFSEC ASC as well as in related responses to data requests submitted to the EFSEC, a number of minimization and avoidance measures were implemented early in the Project design phase to reduce impacts to ferruginous hawk and other raptor species. Considerations to the Project design included the following:

- Land leases along the Columbia River with private landowners were dropped from consideration to avoid development in proximity to suitable raptor nesting habitat along the cliffs adjacent to the river.
- In accordance with project-specific guidance provided by WDFW, Turbines nearest to Nest 03 were repositioned to be more than 0.5 mile away from the nest, which exceeded the 0.25-mile setback recommendation (M. Ritter, pers comm).
- Collection lines were co-located along existing roads and proposed access roads to reduce disturbance to raptor foraging habitat and interactions with aboveground electrical lines and poles.
- Project infrastructure was sited in previously disturbed areas to the extent feasible to avoid impacts to suitable ferruginous hawk foraging habitat in shrub-steppe and grassland habitats.
- Overhead electrical infrastructure will conform with Avian Power Line Interaction Committee suggested practices for reducing avian electrocution (APLIC 2006).
- All permanent meteorological towers will be unguyed to minimize collision risk for ferruginous hawks and other raptors.
- Development in and near draws and canyons was minimized to the extent practicable to reduce impacts to suitable raptor foraging and nesting habitat. For example, based on consultations with WDFW and EFSEC, collector lines originally planned to cross Webber and Sheep Canyons will be relocated south to near or above the head of the canyons.
- The Project will implement spatial and seasonal restrictions on ground-disturbing activities during construction, per WDFW recommendations (Larson et al. 2004; WDFW 2005).
- The Project will avoid the application of pesticide and rodenticides during the construction and operation.

## 7.3 Restoration

As described in the Revegetation and Noxious Weed Management Plan (Appendix N to the EFSEC ASC), temporarily disturbed areas and areas under the solar arrays would be revegetated following completion of construction with native or non-invasive, non-persistent non-native plant species. Example seed mixes

consisting of native species are provided in the Revegetation and Noxious Weed Management Plan. Revegetation would begin as soon as feasible following completion of construction. Seeding would be done in a timely manner and within the appropriate season to facilitate germination. Site preparation, seeding techniques, and example seed mixes are described in the Revegetation and Noxious Weed Management Plan, along with success criteria, monitoring, and reporting. The Revegetation and Noxious Weed Management Plan also provides the methods, monitoring, and reporting associated with preventing the introduction and controlling the spread of noxious weeds from construction and operation of the Project.

## 7.4 Compensatory Mitigation

After avoidance and minimization measures have been implemented, some impacts to wildlife habitat would remain. This section describes compensatory mitigation proposed to account for the effects of unavoidable impacts to habitat, in compliance with the regulations and guidelines described in Section 2.

### *7.4.1 Habitat Mitigation Calculation*

Table 4 provides the estimated maximum number of acres of each habitat type and subtype proposed to be impacted by the Project under Turbine Option 1 that would result in the need for mitigation (i.e., excluding impacts to agricultural and disturbed land that are shown above in Table 3), and the resulting acres of mitigation needed based on the approach described in this HMP. In Table 4, the acres of impact are multiplied by the appropriate mitigation ratio, depending on impact type and duration as well as habitat subtype, in order to determine the mitigation need by habitat type and subtype. The acreages shown in the table will be revised, once final Project design is known. The temporary and permanent impact mitigation ratios shown in Table 4 are consistent with the WDFW (2009) Wind Power Guidelines because these impact types match the definitions provided in WDFW (2009). The habitat mitigation ratios were developed for modified habitat, through coordination with EFSEC and WDFW, in the absence of solar development guidelines and considering that revegetated habitat under solar arrays does not meet the definition of temporary or permanent impacts from WDFW (2009).

Table 4 summarizes Project impacts by impact type for habitat subtypes that result in the need for mitigation, for the purpose of calculating the maximum mitigation need for the Project. See Table 3 in Section 5.2 for a full tabulation of all Project impacts.

**Table 4. Estimated Project Impacts on Habitat Subtypes and Associated Mitigation Need**

| Habitat Type | Habitat Subtype[1/] | WDFW (2009) Classification | Impact (Acres) | Mitigation Ratio[2/] | Mitigation (Acres) |
|---|---|---|---|---|---|
| **Temporary Impacts Only[3/,4/,5/]** | | | | | |
| Grassland | Eastside (interior) grassland | Class III | 16 | 0.1:1 | 2 |
| | Non-native grassland | | 137 | 0.1:1 | 14 |
| | Planted grassland | | 263 | 0.1:1 | 26 |
| Shrubland | Rabbitbrush shrubland | Class II | 155 | 0.5:1 | 78 |
| | Dwarf shrub-steppe | | 9 | 1:1 | 9 |
| | Sagebrush shrub-steppe | | 32 | 0.5:1 | 16 |
| **Permanent Impacts Only[3/, 4/]** | | | | | |
| Grassland | Eastside (interior) grassland | Class III | 5 | 1:1 | 5 |
| | Non-native grassland | | 13 | 1:1 | 13 |
| | Planted grassland | | 32 | 1:1 | 32 |
| Shrubland | Rabbitbrush shrubland | Class II | 49 | 2:1 | 98 |
| | Dwarf shrub-steppe | | 1 | 2:1 | 2 |
| | Sagebrush shrub-steppe | | 1 | 2:1 | 2 |
| **Modified Habitat Only[4/]** | | | | | |
| Grassland | Eastside (interior) grassland | Class III | 68 | 0.5:1 | 34 |
| | Non-native grassland | | 23 | 0.5:1 | 11 |
| | Planted grassland | | 204 | 0.5:1 | 102 |
| Shrubland | Rabbitbrush shrubland | Class II | 668 | 0.5:1 | 334 |
| **Total[6/]** | | | | | **779** |

Notes:

1/ Only impacted subtypes that result in the need for mitigation are shown.

2/ Temporary and permanent impact mitigation ratios are consistent with the WDFW (2009) Wind Power Guidelines; modified habitat mitigation ratios were developed for this Project in the absence of solar development guidelines and considering revegetated habitat under solar arrays does not meet the definition of temporary or permanent impacts from WDFW (2009).

3/ Overlapping permanent disturbance is subtracted from temporary impact areas (e.g., temporary impact area around a Turbine does not include the Turbine foundation and graveled areas); those are included only in the permanent impact calculations.

4/ Temporary impacts associated with solar facilities include a 10-foot construction buffer along the outside of the solar fencelines. Permanent impacts include the solar inverters and new access roads within the Solar Siting Areas. Modified impacts include those areas associated with the solar arrays. Following construction, low-growing vegetation would be planted under the solar arrays; therefore, these impacts would be considered a modification of habitat versus a temporary or permanent impact.

5/ Per WDFW (2009), for temporary impacts, a reduced mitigation ratio may be considered if restoration results in a higher level of habitat function than pre-project conditions. This reduced ratio may be applied as a credit to subsequent Project phases following determination that revegetated result in a higher level of habitat function compared to pre-Project conditions.

6/ Totals may not sum exactly due to rounding.

For most habitat subtypes, the mitigation ratio for modified habitat is less than the replacement ratio for permanent impacts but greater than the ratio for temporary impacts for each habitat subtype given that the function and value of these habitat subtypes will be reduced somewhat following construction of the solar arrays but not eliminated as described in Section 6.0. Therefore, revegetation of areas within the solar array fenceline outside of permanent impact areas (e.g., roads) in combination with the compensatory mitigation will result in no loss of functions and values of habitat overall.

### 7.4.2 Mitigation Siting Criteria

The total acreage and habitat types needed to offset Project impacts are estimated in Section 7.4.1 and Table 4. That mitigation is intended to offset the impacts from habitat loss or modification, as described in Section 5.2. In order to ensure that the mitigation also adequately addresses potential landscape-level impacts, including those to ferruginous hawk or other PHS species, the location of the mitigation area will be critical. The mitigation siting criteria in this section guided a search for mitigation land that would appropriately offset any loss of function or value to habitat from the Project.

Mitigation for the Project must meet the following criteria:

**Criteria 1 – Habitat Mitigation Ratios and Acreages**
Mitigation ratios and acreages shown in Table 4 will be generally met, knowing that at least the following will occur:

- Ratios and acreage for permanent habitat loss will be met.
- Ratios and acreages for temporary loss and habitat modification of habitat classified as Class II will be met.
- All other ratios and acreages are flexible provided that the total acreage is met and any portions of the mitigation area that are Class IV habitat will be enhanced to at least Class III habitat.

**Criteria 2 – Ferruginous Hawk Nesting and Foraging Habitat**
Mitigation will address the relative impact that the Project may have on ferruginous hawk nesting and foraging habitat. Removal of foraging habitat within core use areas (~3.2 kilometers/ ~2 miles) and home ranges (~10 kilometers/~6.2 miles) of occupied ferruginous hawk nests will be addressed by completing mitigation similarly within a core use area or home range on an occupied nest. Mitigation actions do not have to be inside the same core use area or home ranges where the habitat loss is occurring, but must be within the core use area or home range of a ferruginous hawk nest that is known to have been active within the last three breeding seasons. When selecting the location of potential mitigation areas, areas of prey concentration or at least habitat that is suitable for prey species will be considered.

**Criteria 3 – Landscape Habitat Connectivity**
The Applicant will complete mitigation in a location that meaningfully contributes to landscape-scale habitat connectivity, including, but not limited to, one or more of the following:

- A location deemed important in statewide connectivity and linkage studies such as those completed by the WHCWG and the ALI; or
- A location that is adjacent to other federal, state, or privately protected lands that are managed for conservation purposes, in order to increase the overall size of those protected habitat blocks and create a buffer against unprotected areas; or
- A location that is adjacent to notable landscape features (e.g., ridgelines, draws) that are important for wildlife movement but are not at risk of development, in order to increase the overall size of those protected habitat blocks and create a buffer against unprotected areas.

### 7.4.3 Mitigation Options

The Applicant proposes three potential mitigation options including (1) acquisition of a conservation easement to protect and enhance a compensatory habitat mitigation area, (2) mitigation fee with WDFW, and (3) payment to provide option with a local land trust or conservation organization, as available. In

addition, the Applicant would also consider alternative mitigation pathways if available in the future. The Applicant may use one option or a combination of options to mitigate for habitat impacts, and will determine the combination of the mitigation options that best correlate to the impacted areas in consultation with WDFW and the affected landowners, subject to EFSEC's approval. The final mitigation approach will offer enough suitable habitat to meet the regulatory requirements described in Section 2. The duration of all three mitigation options will be for the life of the Project.

### Option 1 – Conservation Easement

Option 1 may include a conservation easement on habitat that will provide functions and values for native vegetation and wildlife with an emphasis on mitigating those functions and values being impacted by the Project. The actual mitigation acres may be adjusted to account for these functions and values. For example, fewer acres of mitigation land may be required if that land is higher functioning (e.g., provides higher quality habitat, supports WDFW priority species) relative to the Project site or provides a beneficial expansion of high-value habitat (e.g., adjacent to existing or assumed future protected land).

The mitigation areas may be onsite (i.e., within the Project Lease Boundary). For example, areas of sagebrush shrub-steppe and grassland initially proposed for Turbine locations have been avoided in the current layout, including areas of sagebrush shrub-steppe habitat subtype that were avoided due to their designation as WDFW PHS locations and critical areas (e.g., see Figures 3.4-1 and 3.4-4 of the EFSEC ASC). Sufficient acreage of like-kind habitat may be available within the Project Lease Boundary to mitigate for Project impacts and achieve no loss of habitat functions and values. This option would meet the criteria for replacement habitat outlined by WDFW (2009), including that it is like-kind, would be given legal protection as well as protection from degradation for the life of the Project, is in the same geographical region as the impacted habitat, and is at some risk of development given the wind resource at these locations that resulted in the preliminary design of the Turbine arrays.

If Option 1 is pursued, potential enhancements to provide habitat uplift may be appropriate depending on the mitigation area selected for conservation easement; enhancements could include weed control, seeding, planting, and/or other appropriate measures to ensure habitat functions and values are improved over time. The mitigation area could be managed by the Applicant or a designated conservation partner to ensure the habitat is protected from degradation for the life of the Project.

### Option 2 – Mitigation Payment to WDFW

Option 2 is based on the mitigation "by fee" option outlined in WDFW (2009), which states that the wind project developer, the permitting authority, and WDFW can identify an appropriate annual fee for the life of the Project to mitigate the Project's impacts on habitat. Alternatively, a "lump-sum" upfront payment could be applied in lieu of annual fees and be determined by the number of acres of impact taking into consideration the duration of impact. The fee (annual or lump sum) would be determined by estimating the cost of placing a conservation easement and managing the mitigation area, as described in Option 1, over a number of acres and in a location sufficient to meet the mitigation ratios and other criteria summarized in Sections 7.4.1 and 7.4.2. Effectively, the fee would be the equivalent of the cost to acquire an easement and manage the conservation easement acres (Table 4) for the duration of the Project.

The payment would be used primarily to support "stewardship" (management, monitoring, restoration, protection from degradation [WDFW 2009]) of high-value habitat in the same ecological region as the Project. The stewardship funds could be applied to strategically important habitat acquired by WDFW throughout Washington. The annual fees or lump sum payment could be deposited into a dedicated WDFW account and may also be used for acquisition. The payment could be calculated by determining

the cost per acre of obtaining a conservation easement and multiplying this by the acres of mitigation needed; the resulting value would be a payment amount equivalent to the cost of mitigating via a conservation easement. The determined cost per acre of a conservation easement may also take into consideration the cost of habitat enhancements, and maintenance and monitoring costs for the life of the Project.

#### Option 3 – Mitigation Payment to Local Conservation Entity

Option 3 may include a payment to a local land trust or conservation organization (e.g., Friends of Badger Mountain, Tapteal Greenway [Land Trust Alliance 2021; Ritter 2021]) and/or local tribes (i.e., Confederated Tribes and Bands of the Yakama Nation, Confederated Tribes of the Umatilla Indian Reservation, Nez Perce Tribe, and the Wanapum Tribe) to support an ongoing or planned conservation project that benefits the types of habitats impacted by the Project. The identification of potential locations for mitigation in this option may consider areas identified for conservation and/or restoration by local tribes. The payment amount would be determined using similar methods as described for Option 2 (mitigation fee with WDFW), and could be used towards the acquisition and conservation of a property of the size described above to meet the Project mitigation need, or could be used to provide uplift to a larger area and/or at an existing conservation easement. The payment amount would be derived as described under Option 2, based on the acreage estimated in Option 1. The conservation project would be determined through coordination between the Applicant, EFSEC, WDFW, and the land trust or conservation organization or tribe.

Prior to construction, the Applicant would update or supplement this HMP to identify the selected mitigation option based on coordination with stakeholders, availability of mitigation opportunities, and the final layout and final habitat mapping, which will affect the quantity and habitat subtypes of impacted areas and thus the mitigation need. Additional details to be provided include a description of the baseline conditions at the mitigation area(s), including maps, mitigation measures (e.g., noxious weed control), and a description of how these mitigation measures have taken into consideration the probability of success, and ongoing management practices that will protect habitat and species, including a maintenance program.

### *7.4.4 Proposed Easement Area to Fulfill Mitigation Option 1*

The Applicant has acquired an option for a conservation easement for up to 779 acres of habitat within an approximately 802-acre area in the northeastern corner of the Project Lease Boundary (Figure 3). The easement area straddles South Finley Road in an area initially proposed for wind turbine generator locations but has since been removed from Turbine siting consideration, and the Project has subsequently been designed to avoid impacts in this area. The portion of this easement area northeast of South Finley Road encompasses a predominant hill called The Butte, which contains relatively steep topography compared to the surrounding area.

This easement area meets the criteria for replacement habitat outlined by WDFW (2009), including that it is like-kind, would be given legal protection as well as protection from degradation for the life of the Project, is in the same geographical region as the impacted habitat, and is at some risk of development given that the wind resources in this area are high and it is in the Project Lease Boundary.

The easement area also meets the habitat mitigation ratios and acreages, protects ferruginous hawk foraging habitat, and includes a ridgeline location modeled as a wildlife linkage area by the WHCWG. More specifically the easement area meets the Mitigation Siting Criteria outlined in Section 7.4.2 in the following ways:

### Criteria 1 – Habitat Mitigation Ratios and Acreages

The following four habitat subtypes were documented within the easement area:

- Agricultural land
- Developed/disturbed
- Non-native grassland
- Sagebrush shrub-steppe

Table 5 provides the acres, and Figure 3 provides the locations of each habitat subtype mapped within the easement area; however, note that the extent of the final easement area may be adjusted based on ongoing WDFW and landowner negotiations. Photos of the area can be found in Attachment B.

Habitat quality for three of these habitat subtypes (i.e., agricultural land, developed/disturbed, and non-native grassland) was determined to be low based on 1) the lack of vegetation (e.g., developed lands), 2) the low cover of native species, and/or 3) the high cover of non-native species. Habitat quality for sagebrush shrub-steppe within the easement area ranged from relatively low to relatively moderate-to-high quality, based on the relative abundance of big sagebrush and other shrubs (e.g., rabbitbrush), the abundance of non-native species (e.g., cereal rye and cheatgrass), as well as the size of contiguous sagebrush shrub-steppe habitat. Habitat quality of sagebrush shrub-steppe habitat was observed to be relatively moderate-to-high quality in the northeastern and central portion of the easement area due to the relatively high abundance of sagebrush (approximately 20 to 50 percent cover), relatively low cover of non-native species (less than 50 percent cover), and the large size of the contiguous patch of sagebrush shrub-steppe habitat. Habitat quality of sagebrush shrub-steppe habitat was observed to be relatively low in the western portion of the easement area due to the relatively low abundance of sagebrush (approximately 5 percent cover) and relatively high abundance (greater than 50 percent cover) of non-native grasses and forbs.

Table 4 (in Section 7.4.1) outlines the mitigation ratios and acres needed to offset the loss of functions and values for each impact type and habitat subtype. Table 5 summarizes the mitigation need and illustrates the actual mitigation acreage that will be realized in the easement area.

**Table 5. Acres of Each Habitat Type Mapped within the Easement Area Compared to Mitigation Need**

| Habitat Type | Habitat Subtype | WDFW (2009) Habitat Classification | Mitigation Acres Needed | Mitigation Acres in Easement Area |
|---|---|---|---|---|
| Grassland | Eastside Interior Grassland | I | 41 | 0 |
| | Nonnative Grassland | | 38 | 1 |
| | Planted Grassland | | 160 | 0 |
| Shrubland | Rabbitbrush shrubland | II | 510 | 0 |
| | Dwarf shrub-steppe | | 11 | 0 |
| | Sagebrush shrub-steppe | | 18 | 678 |
| Disturbed | Agricultural land | IV | 0 | 109 |
| | Developed/disturbed | | 0 | 14 |
| **Total[1/]** | | | **779** | **802** |

1/ Total may not sum exactly due to rounding error.

The habitat that is being lost or modified by Project-related activities comprises primarily rabbitbrush shrubland (66%) and planted grassland (21%). The mitigation of that habitat loss or modification, by the protection of much more ecologically valuable sagebrush shrub-steppe habitat, provides a tangible conservation lift. Those areas will be further enhanced through management of noxious weeds, particularly around access points and around the edges where adjacent land uses may create points of infestation. The easement area also includes over 100 acres of agricultural land that presents an opportunity for additional revegetation to a more native land cover type, which would further increase the ecological value. Because the easement area has a high proportion of sagebrush shrub-steppe, it meets the terms outlined in Mitigation Criteria 1 in Section 7.4.2, effectively mitigating the loss of rabbitbrush shrubland and planted grassland with sagebrush shrub-steppe habitat.

### Criteria 2 – Ferruginous Hawk Nesting and Foraging Areas

A historical ferruginous hawk nest is located on the southern edge or the easement area (Figure 4). It was last documented as active in 1986. At least one other ferruginous hawk nest is within 10 miles of the easement area (see Figure 1 in Attachment A). Since the easement area is primarily sagebrush shrub-steppe habitat, it provides suitable foraging habitat for ferruginous hawk and other raptor species using the northwest-southeast ridgeline. The location of the easement area on the ridgeline increases its value as raptor foraging habitat and makes it more likely that ferruginous hawks, and potentially other raptors, would nest there in the future.

### Criteria 3 – Landscape Habitat Connectivity

The WHCWG modeled a Priority Linkage Area with medium linkage centrality through nearly the entirety of the easement area (ALI 2014; Great Northern Landscape Conservation Cooperative 2015; Figure 4). The easement area is approximately 10 miles east of a least-cost pathway for mule deer. Based on WHCWG habitat models, habitat quality within the easement area is moderate to high for mule deer (WHCWG 2012). The easement area is approximately 6 miles northeast of an HCA for Townsend's ground squirrel, which is located south of the Project (Figure 2). Habitat quality within the easement area

is primarily high for Townsend's ground squirrel, with some areas of low and moderate quality habitat (WHCWG 2012).

In addition to its location within a modeled linkage area, the easement area is located on a notable ridgeline. This is the primary reason the location is modeled as a movement corridor for wildlife by the WHCWG. Inclusion of the ridgeline increases the ecological value of the easement area for that reason.

### 7.4.5 Fee-simple Contribution to Local Organization

To align with Option 3, in 2021 Scout Clean Energy made a $25,000 donation to Friends of Badger Mountain for the purpose of conserving land on Little Badger Mountain and Candy Mountain, to further the Ridges to River initiative to protect regional natural resources and provide access to the public. The $25,000 dollar donation facilitated an additional $25,000 matching gift from Challenge Match and a $4,000 match gift from CoBank. Collectively the $54,000 was pooled and used to purchase land that includes shrub-steppe habitat. Lands purchased and protected in perpetuity provide habitat for the species that reside in Horse Heaven Project region. Ongoing enhancement and management by Friends of Badger Mountain will ensure that habitat quality is improved over time.

### 7.4.6 Implementation Schedule

This HMP would be implemented concurrently with Project construction and continue through the life of the Project. Prior to construction, the Applicant would provide documentation of the conservation easement. During construction, the Applicant would initiate baseline surveys to inform any mitigation treatments (e.g., noxious weed control, seeding, etc.). Prior to operation, the Applicant would initiate any mitigation treatments, which could continue, as needed, through Project operation.

## 7.5 Voluntary Mitigation Measures

### 7.5.1 Ferruginous Hawk Artificial Nesting Platforms

The Applicant has voluntarily proposed to install and monitor up to 10 artificial nesting platforms (nesting platform) to mitigate for the potential direct and indirect effects from Project operation on ferruginous hawks. Nest platforms have been demonstrated as an effective mitigation and habitat enhancement tool that provide supplemental nesting substrates in areas where nests have been destroyed or substrates were not available (Tigner et al. 1996; Wallace et al. 2016). Successful nesting has occurred at nesting platforms throughout eastern Washington that were installed by WDFW and the Washington Department of Transportation to enhance nesting opportunities (Hayes and Watson 2021). Long-term ferruginous hawk population trends in Washington have been shown to benefit from the use of nesting platforms in population viability simulations (Jansen and Swanson 2022). The Applicant is currently identifying potential candidate sites to install nesting platforms. Candidate sites will be selected that maximize the potential for nest occupancy and will consider the following coarse-scale site selection criteria (Migaj et al. 2011):

- ≥ 50% shrub-steppe / grassland land cover within 3.2 kilometers (km) of the center of the parcel,
- ≥ 5 km from proposed Project Turbines and operational turbines,
- ≥ 1 km from primary or secondary paved roads,
- ≥ 800 meters from historical nests,
- ≥ 400 meters from lakes and ponds or other perennial water sources, and
- ≥ medium relative probability of nest site selection.

Once potential candidate sites are identified, final site selection will be coordinated with the landowners and in consultation with WDFW.

# 8 MONITORING AND REPORTING

## 8.1 Conservation Easement

For Option 1 (Conservation Easement), the Applicant would hire a qualified investigator (botanist, wildlife biologist, or revegetation specialist) to conduct a comprehensive monitoring program for the mitigation area, as appropriate. For Option 2 (Mitigation Fee with WDFW), the annual or lump-sum fee would cover the costs for WDFW to monitor and report, as needed, on stewardship activities. For Option 3 (Mitigation Payment to Local Conservation Entity), part of the payment would fund a stewardship endowment that would cover costs for the land trust, conservation organization, or tribe to monitor and report on how they have implemented the funding to meet the mitigation needs of the Project. The purpose of this monitoring is to evaluate on an ongoing basis the protection of the habitat quality and the results of any habitat enhancements.

For Option 1, the investigator would monitor the habitat mitigation area for the life of the Project beginning in the year following the initial planting/seeding as applicable. Monitoring would occur annually during the first 5 years following initial treatment, as applicable, then occur every 2 years until year 10 (i.e., in years 7 and 9), then every 5 years thereafter. The Applicant would identify appropriate monitoring actions for the Conservation Easement and any habitat treatments that are implemented in consultation with WDFW. Depending upon specific habitat treatments implemented, the investigator may carry out the following monitoring procedures:

1. Assess vegetation cover (species, structural stage, etc.) and progress toward meeting the success criteria (see Section 9 of this HMP);
2. Record environmental factors (such as precipitation at the time of surveys and precipitation levels for the year);
3. Record any wildfire that occurs within the mitigation area and any remedial actions taken to restore habitat quality in the damaged area;
4. Assess the success of the weed control program and recommend remedial action, if needed; and
5. Assess the survival rate and growth of any planted/seeded species.

The investigator would visit identified monitoring locations within planted areas, as applicable. The mitigation area would be compared to baseline conditions to determine the success of any treatments, and may also be compared to reference sites at the Project to demonstrate how the mitigation achieves equivalent or greater habitat quality than the areas impacted. Prior to construction and after the mitigation option(s) has been selected, the Applicant would update or supplement this HMP to include additional monitoring details such as monitoring locations as applicable.

## 8.2 Ferruginous Hawk Artificial Nesting Platforms

Similar to monitoring at the committed easement areas, the Applicant would hire a qualified investigator to conduct effectiveness monitoring at nesting platforms, as appropriate. The objective of monitoring would be to document the annual nest status of nesting platforms and whether any maintenance issues or other corrective measures are needed. To determine the success of ferruginous hawk nesting attempts, each nesting platform would be monitored three times annually, spaced evenly apart during the nesting

period between April 1st and August 1st. Survey frequency is intended to document the range of potential nesting activity in a particular year, including territory occupancy and nesting status per USFWS (2013) criteria. The nesting platform would be observed with binoculars or a spotting scope from a minimum distance of 200 m and limited to less than 30 minutes to avoid disturbing nesting hawks. This assumes that direct observation of the nest contents, or at least any adult or young at the nest, will be possible. Whether the nesting platform is being occupied by a ferruginous hawk, other bird species, or is inactive would be recorded per methods outlined in Pagel et al. (2010). Maintenance issues would be identified during each monitoring year and corrective action(s) would be identified, depending on the condition of the nesting platform. The interval and duration of annual monitoring will be every year for 3 years following the installation of nesting platforms and every 5 years thereafter for the life of the Project. Results of the monitoring efforts will be summarized and submitted to the Technical Advisory Committee and EFSEC after each monitoring year.

# 9 SUCCESS CRITERIA

Ultimately mitigation must achieve no loss of functions and values of fish and wildlife habitat. This will be demonstrated by tracking the quantity and quality of mitigation provided for the duration of the Project, relative to the quantity and quality of habitat lost during Project construction and operations. Mitigation for the quantity of habitat impacts of the Project will be considered successful if the Applicant documents, through monitoring and reporting, the protection and enhancement of sufficient habitat to meet the habitat replacement requirements as described in Sections 2 and 7.4.1. For Options 2 and 3, mitigation would be considered successful if the Applicant provided adequate funding for WDFW or a third-party conservation organization to protect and manage sufficient habitat to meet the habitat replacement requirements described in Sections 2 and 7.4.

Quality of habitat in all committed easement areas will be measured relative to habitat conditions at the Project site, prior to construction, and relative to baseline conditions in the mitigation area. If habitat quality in the mitigation area is higher than that being lost at the Project site, the Applicant will at least maintain the habitat condition for the duration of the Project. If the habitat condition in the mitigation area is the same or lower than the Project site, the Applicant will enhance the habitat in the mitigation area so that the habitat quality exceeds that at the Project site. Success criteria for nesting platforms would include maintaining the platforms in a condition that provides the opportunity for ferruginous hawk to occupy the platform. Annual monitoring of the platforms would ensure the condition of the platforms is maintained as functional nesting substrates.

In all cases, the Applicant may choose to use, for comparison, an agreed upon reference site to establish what is ecologically possible in the region. This will help account for variability in the timing and amount of precipitation, average winter and summer temperature, and other localized factors that influence habitat conditions over time.

# 10 WASHINGTON ADMINISTRATIVE CODE COMPLIANCE

Compliance with the WAC is shown in Table 6.

**Table 6. Washington Administrative Code 463-60-332(3) Requirements Matrix**

| Requirement | Section(s) where addressed |
|---|---|
| (3) Mitigation plan. The application shall include a detailed discussion of mitigation measures, including avoidance, minimization of impacts, and mitigation through compensation or preservation and restoration of existing habitats and species, proposed to compensate for the impacts that have been identified. The mitigation plan shall also: | Entire |
| (a) Be based on sound science | Throughout (e.g., see Sections 6.0 and 7.4.1) |
| (b) Address all best management practices to be employed and setbacks to be established | Sections 7.1 and 7.2 |
| (c) Address how cumulative impacts associated with the energy facility will be avoided or minimized | Sections 5.2 and 7.4 |
| (d) Demonstrate how the mitigation measures will achieve equivalent or greater habitat quality, value and function for those habitats being impacted, as well as for habitats being enhanced, created or protected through mitigation actions | Sections 5.0 and 7.4 |
| (e) Identify and quantify level of compensation for impacts to, or losses of, existing species due to project impacts and mitigation measures, including benefits that would occur to existing and new species due to implementation of the mitigation measures; | Sections 7.4.1 through 7.4.3 |
| (f) Address how mitigation measures considered have taken into consideration the probability of success of full and adequate implementation of the mitigation plan | Section 7.0 |
| (g) Identify future use of any manmade ponds or structures created through construction and operation of the facility or associated mitigation measures, and associated beneficial or detrimental impacts to habitats, fish and wildlife | Not Applicable |
| (h) Discuss the schedule for implementation of the mitigation plan, prior to, during, and post construction and operation | 7.4.4 |
| (i) Discuss ongoing management practices that will protect habitat and species, including proposed monitoring and maintenance programs | Sections 7.3, 7.4.3, and 8.0 |
| (j) Mitigation plans should give priority to proven mitigation methods. Experimental mitigation techniques and mitigation banking may be considered by the council on a case-by-case basis. Proposals for experimental mitigation techniques and mitigation banking must be supported with analyses demonstrating that compensation will meet or exceed requirements giving consideration to the uncertainty of experimental techniques, and that banking credits meet all applicable state requirements. | Not Applicable |

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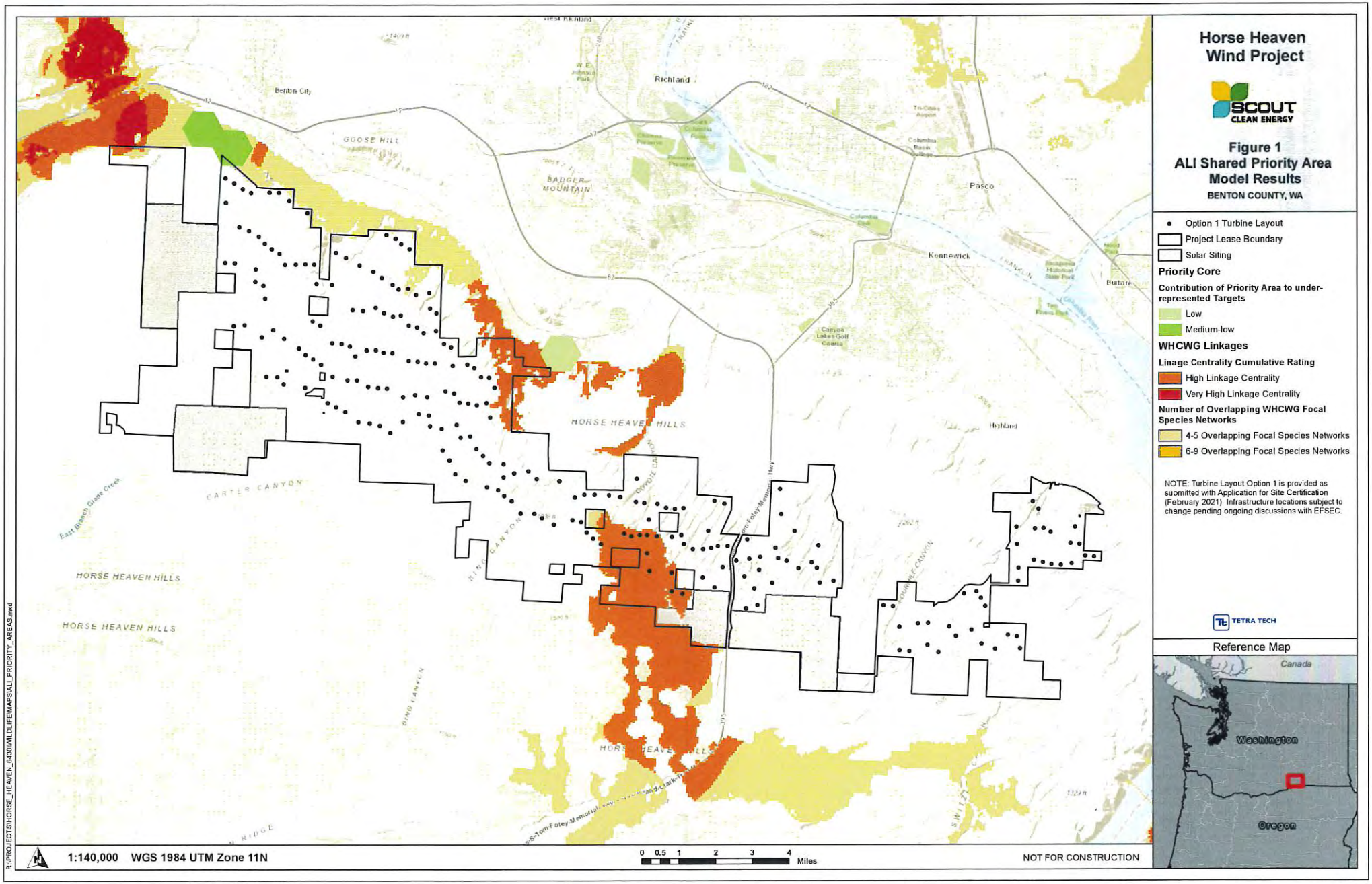
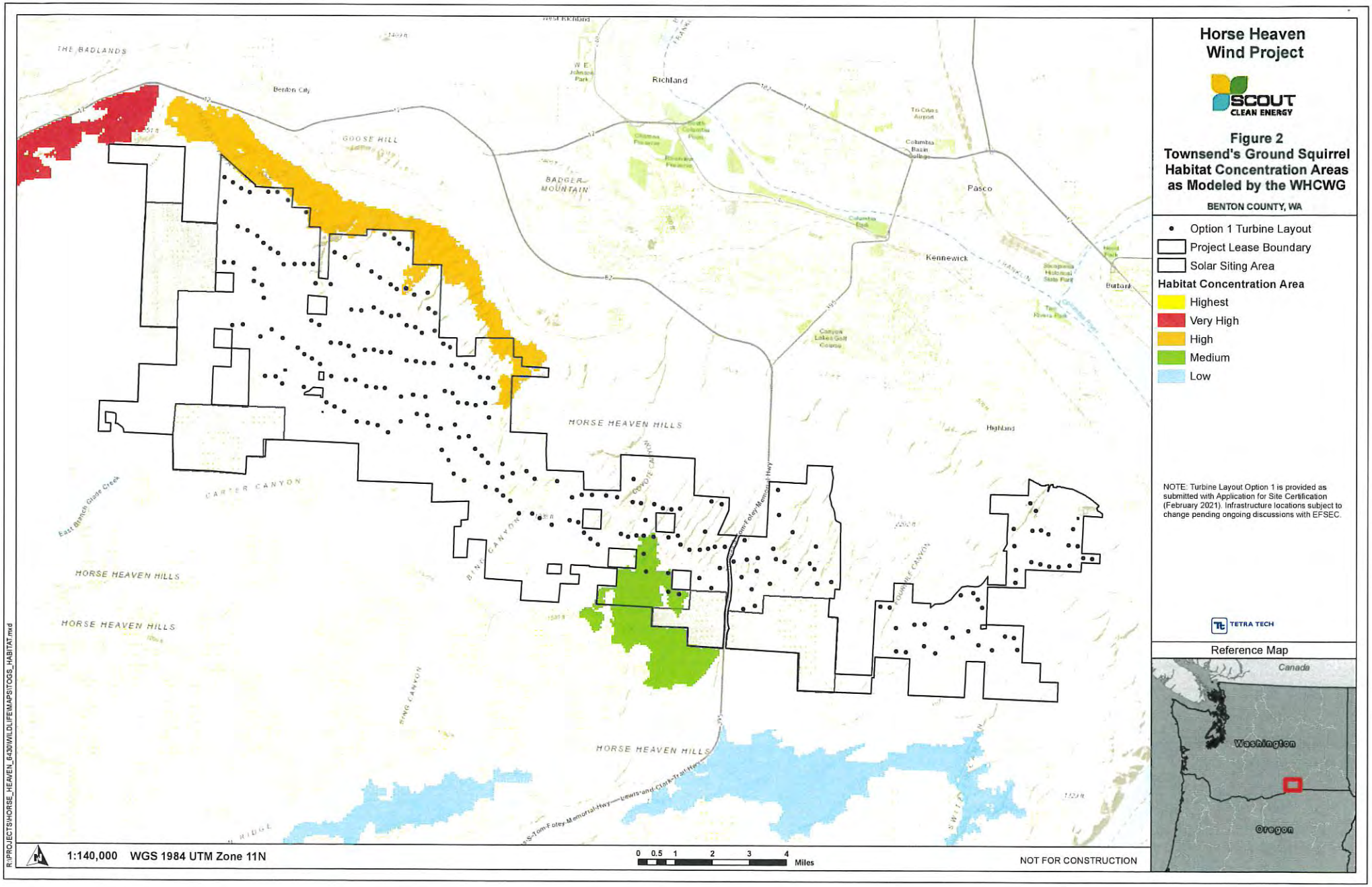
# FIGURES


Horse Heaven Wind Project
SCOUT CLEAN ENERGY
Figure 1
ALI Shared Priority Area Model Results
BENTON COUNTY, WA
Option 1 Turbine Layout
Project Lease Boundary
Solar Siting
Priority Core
Contribution of Priority Area to under-represented Targets
Low
Medium-low
WHCWG Linkages
Linage Centrality Cumulative Rating
High Linkage Centrality
Very High Linkage Centrality
Number of Overlapping WHCWG Focal Species Networks
4-5 Overlapping Focal Species Networks
6-9 Overlapping Focal Species Networks
NOTE: Turbine Layout Option 1 is provided as submitted with Application for Site Certification (February 2021). Infrastructure locations subject to change pending ongoing discussions with EFSEC.
TETRA TECH
Reference Map
Canada
Washington
Oregon
Richland
Pasco
Kennewick
Benton City
Badger Mountain
Goose Hill
Horse Heaven Hills
Carter Canyon
East Branch Glade Creek
Bird Canyon
Coyote Canyon
Tom Foley Memorial Hwy
Highland
Butard
1:140,000 WGS 1984 UTM Zone 11N
0 0.5 1 2 3 4 Miles
NOT FOR CONSTRUCTION
R:\PROJECTS\HORSE_HEAVEN_84309\WILDLIFE\MAPS\ALI_PRIORITY_AREAS.mxd

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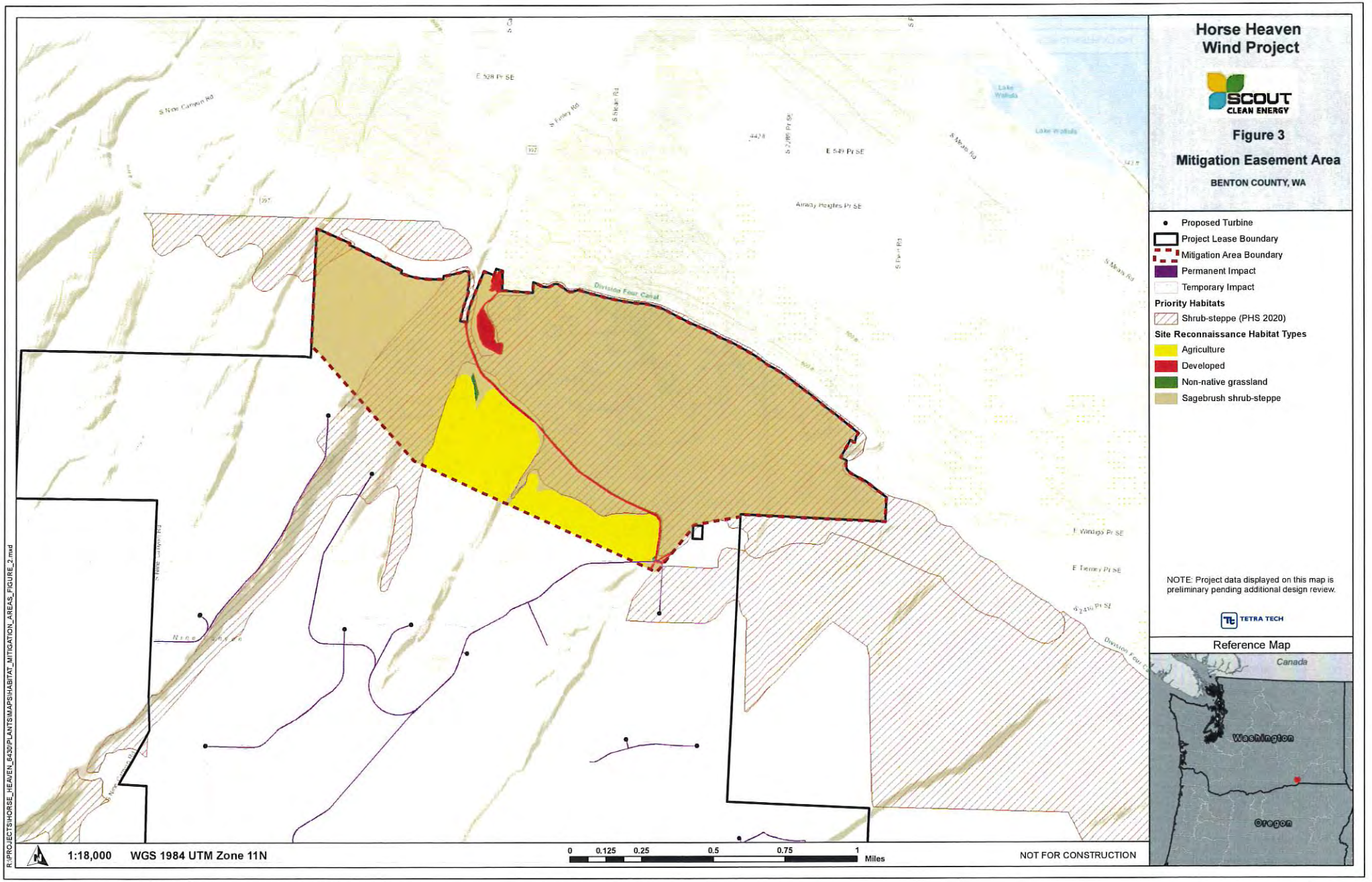
Horse Heaven Wind Project
SCOUT CLEAN ENERGY
Figure 3
Mitigation Easement Area
BENTON COUNTY, WA
Proposed Turbine
Project Lease Boundary
Mitigation Area Boundary
Permanent Impact
Temporary Impact
Priority Habitats
Shrub-steppe (PHS 2020)
Site Reconnaissance Habitat Types
Agriculture
Developed
Non-native grassland
Sagebrush shrub-steppe
NOTE: Project data displayed on this map is preliminary pending additional design review.
TETRA TECH
Reference Map
Canada
Washington
Oregon
R:\PROJECTS\HORSE_HEAVEN_8430\PLANTS\MAPS\HABITAT_MITIGATION_AREAS_FIGURE_2.mxd
1:18,000
WGS 1984 UTM Zone 11N
0 0.125 0.25 0.5 0.75 1 Miles
NOT FOR CONSTRUCTION

*Figure 4 contains confidential information and is being provided under separate cover.*

# ATTACHMENT A
# FERRUGINOUS HAWK NESTS AND DISTANCES TO PROJECT INFRASTRUCTURE

WEST Inc.

ENVIRONMENTAL & STATISTICAL CONSULTANTS

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Phone: 541-230-1790 • www.west-inc.com • Fax: 307-637-6981

**DATE:** November 23, 2021

**TO:** David Kobus, Senior Project Manager, Scout Clean Energy

**FROM:** Erik Jansen, Wildlife Biologist, Western EcoSystems Technology, Inc.

**RE:** WDFW Data Request for Ferruginous Hawk Nests and Distances to Project Infrastructure Received From the Washington Energy Facility Site Evaluation Council on November 18, 2021.

## Objective

The objective of the assessment was to measure the distance from the nearest Wind Turbine (Turbine) or access road to the nearest ferruginous hawk nest identified during 2017–2019 raptor nest surveys located within 2-miles of the Horse Heaven Clean Energy Center (HHCEC or Project), Benton County, Washington. This assessment also outlines minimization and avoidance measures as described in the Project's Application for Site Certification (ASC) that have been implemented in the Project design to minimize impacts to ferruginous hawk and other nesting raptors.

## Methods

Using the Turbine and road layout submitted in the HHCEC ASC, the linear and ground distance from a ferruginous hawk nest to the nearest Turbine or road was measured in Google Earth. The linear distance is defined as the straight-line distance whereas the ground distance accounts for changes in topography. Elevation (above sea level) for both nest and nearest Turbine/road were calculated in Google Earth.

WEST included all occupied and unoccupied ferruginous hawk nests documented during 2017–2019 aerial surveys and located within two miles of the currently proposed Turbines or roads. Survey methods are described in the technical reports (Jansen 2017, Jansen and Brown 2018, Chatfield 2019a-b, Jansen et al. 2019).

WEST categorized territory occupancy and nest status using definitions originally proposed by Postupalsky (1974) and largely followed today (USFWS 2013). Nests were classified as occupied if any of the following were observed at the nest structure: (1) an adult in an incubating position; (2) eggs; (3) nestlings or fledglings; (4) presence of an adult (sometimes sub-adults); (5) a newly constructed or refurbished stick nest in the area where territorial behavior of a raptor had been observed earlier in the breeding season; or (6) a recently repaired nest with fresh sticks (clean breaks) or fresh boughs on top, and/or droppings and/or molted feathers on its rim or underneath. Occupied nests were further classified as active if an egg (s) or young were observed or an adult was clearly in an incubating position. Nests were classified as inactive if no eggs or young were present. Nests not meeting the above criteria for "Occupied" during at least two consecutive surveys were classified as "Unoccupied."

Although the majority of the nests were unoccupied during the three survey years, ferruginous hawks typically construct robust stick nests on the ground or rock outcroppings that can be differentiated from other raptor species. The robust construction and nest location on the ground results in long persistence times of the nest on the landscape, even when the nest has been unoccupied for many years. To assist in determining territory occupancy and nesting status, the nest condition was classified as good, fair or poor which was defined as: good = in excellent condition with very well-defined bowl, no sagging, possible to use immediately or currently in use; fair = in generally good condition with fairly well-defined bowl, minor sagging, may require some repair or addition to use immediately; and poor = dilapidated nest that is sloughing or sagging and would require substantial rebuilding to be usable during the nesting period (Appendix A).

**Results**

Surveys conducted in 2017–2019 documented nine ferruginous hawk nests within 2 miles of proposed Turbines (Table 1). Two of the nine nests (Nest 03 and Nest 08) were occupied at least once during the three-year survey period (Figure 1 and Figure 2). Nest 03 had an adult sitting in the nest incubating or contained eggs during the second aerial survey during all three-survey years. Nest 08 had an adult standing on the rim of the nest during the first aerial survey in 2017, which suggests territory occupancy, but follow-up surveys in 2017–2019 resulted in no sign of active nesting or nest tending. The remaining seven nests were in poor condition and would require substantial repair for nesting. The inactive nests were dilapidated and comprised of scattered sticks and nest material, which suggests the nests were not used for one or more nesting periods prior to 2017 surveys.

The linear distance from all nests to the nearest Turbine ranged between 1,115 – 4,708 feet (ft). The occupied/active Nest 03 is located a linear distance of 2,795 ft (0.53 mi; ground distance 2,806 ft) to Turbine 116 with an elevation difference of 245 ft from nest to the Turbine. The sloping topography between Nest 03, which is in a tree located at the bottom of Coyote Canyon, and Turbine 116, which is located on the adjacent ridge to the southwest, reduces but not eliminates the line-of-sight from the nest to the proposed Turbine (Figure 3). Nest 08 which was occupied/inactive in 2017 is located a linear distance of 4,708 ft (0.89 mi; ground distance 4,743 ft) to Turbine 49 with an elevation difference of approximately 580 feet. The nest is located on a steep, southeast facing cliff within Badger Canyon that obstructs the line-of sight to Project infrastructure located to the west (Figure 4). The nest (Nest 10) nearest to a Turbine, was unoccupied and inactive and in poor condition during all survey years (Table 1). In all cases, roads were located further away from the nest than Turbines.

To avoid disturbance to nesting ferruginous hawks and their prey base, the Washington Department of Fish and Wildlife (WDFW) recommends spatial and temporal buffers around active nests (Appendix B; WDFW 2005). Around all active nests, WDFW recommends avoiding human access and ground-based activities within 820 ft of the nest between March 1 – May 30, and preventing prolonged activities lasting greater than 0.5 hrs within 3,280 ft of a nest between March 1 – August 15 (WDFW 2005). Based on the nesting status of Nest 03, ground-disturbing activities lasting greater than 0.5 hrs should be prevented within 3,280 ft of the nest between March 1 – August 15; affecting construction activity around proposed Turbine 116 (Figure 3). Nest 08 is

located greater than the maximum disturbance buffer from Turbine 49 and other proposed infrastructure.

As discussed in Section 3.4.3 of the Project ASC as well as in related responses to data requests submitted to the Energy Facility Site Evaluation Council (EFSEC), a number of minimization and avoidance measures were implemented early in the Project design phase to reduce impacts to ferruginous hawk and other raptor species. Considerations to the Project design included:

- Land leases along the Columbia River with private landowners were dropped from consideration to avoid development in proximity to suitable raptor nesting habitat along the cliffs adjacent to the River.
- In accordance with guidance provided by WDFW, Turbines nearest to Nest 03 were repositioned more than 0.5 miles away from the nest, which exceeded the 0.25 mile set-back recommendation (M. Ritter, pers comm).
- Collection lines were co-located along existing roads and proposed access roads to reduce disturbance to raptor foraging habitat and interactions with aboveground electrical lines and poles.
- Project infrastructure was sited in previously disturbed areas to the extent feasible to avoid impacts to suitable ferruginous hawk foraging habitat in shrub-scrub and grassland habitats.
- Overhead electrical infrastructure will conform with Avian Power Line Interaction Committee suggested practices for reducing avian electrocution (APLIC 2006).
- All permanent meteorological towers will be unguyed to minimize collision risk for ferruginous hawks and other raptors.
- Development in and near draws and canyons was minimized to the extent practicable to reduce impacts to suitable raptor foraging and nesting habitat.
- The Project will implement spatial and seasonal restrictions on ground disturbing activities, per WDFW recommendations (Larson et al. 2004, WDFW 2005).
- The Project will avoid the application of pesticide and rodenticides during the construction and operation of the HHCEC (WDFW 2005).

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**Table 1. Status of ferruginous hawk nests and distance to nearest disturbance within 2-miles* of the Horse Heaven Clean Energy Center, Benton County, Washington.**

| Nest ID | Territory Occupancy / Nest Status | 2019 Nest Condition | Distance to Turbine (ft) | Closest Turbine # | Landscape Context |
|---|---|---|---|---|---|
| 03 | 2017: Occupied / Active[1]<br>2018: Occupied / Active<br>2019: Occupied / Active | Good | Linear: 2,795<br>Ground: 2,806 | 116 | *Tree nest along Coyote Creek Rd.*<br>Nest Elevation: 1,366 ft<br>Turb Elevation: 1,611 ft |
| 08 | 2017: Occupied / Inactive[2]<br>2018: Unoccupied / Inactive<br>2019: Unoccupied / Inactive | Good | Linear: 4,708<br>Ground: 4,743 | 49 | *Badger Canyon*<br>Nest Elevation: 1,162 ft<br>Turb Elevation: 1,745 ft |
| 10 | 2017: Unoccupied / Inactive<br>2018: Unoccupied / Inactive<br>2019: Unoccupied / Inactive | Poor | Linear: 1,115<br>Ground: 1,127 | 19 | *Sheep Canyon*<br>Nest Elevation: 1,379 ft<br>Turb Elevation: 1,541 ft |
| 11 | 2017: Unoccupied / Inactive<br>2018: Unoccupied / Inactive<br>2019: Unoccupied / Inactive | Poor | Linear: 4,621<br>Ground: 4,635 | 18 | *Sheep County*<br>Nest Elevation: 994 ft<br>Turb Elevation: 1,346 ft |
| 13 | 2017: Unoccupied / Inactive<br>2018: Unoccupied / Inactive<br>2019: Unoccupied / Inactive | Poor | Linear: 2,266<br>Ground: 2,278 | 05 | *Unnamed Canyon; nest fragments*<br>Nest Elevation: 895 ft<br>Turb Elevation: 1,115 ft |
| 15 | 2017: Unoccupied / Inactive<br>2018: Unoccupied / Inactive<br>2019: Unoccupied / Inactive | Poor | Linear: 4,082<br>Ground: 4,083 | 05 | *Webber Canyon*<br>Nest Elevation: 1,012 ft<br>Turb Elevation: 1,115 ft |
| 16 | 2017: Unoccupied / Inactive<br>2018: Unoccupied / Inactive<br>2019: Unoccupied / Inactive | Poor | Linear: 2,025<br>Ground: 2,036 | 09 | *Webber Canyon*<br>Nest Elevation: 1,249 ft<br>Turb Elevation: 1,454 ft |
| 17 | 2017: Unoccupied / Inactive<br>2018: Unoccupied / Inactive<br>2019: Unoccupied / Inactive | Poor | Linear: 4,348<br>Ground: 4,374 | 09 | *Webber Canyon*<br>Nest Elevation: 987 ft<br>Turb Elevation: 1,454 ft |
| 30 | 2017: Not Located<br>2018: Unoccupied / Inactive<br>2019: Unoccupied / Inactive | Poor | Linear: 1,688<br>Ground: 1,710 | 28 | *Webber Canyon*<br>Nest Elevation: 1,169 ft<br>Turb Elevation: 1,475 ft |

[1] Nest 03: 2017-2019 = Adult in incubating posture during second survey; 2018: Adult on eggs observed second survey; 2019: Adult in incubating posture during second survey.
[2] Nest 08: 2017 = Adult standing on nest rim during first survey and absent second survey with no sign of nesting.
* Nest 04 and Nest 22 in 2017–2018 and 2018–2019 survey reports are >2 miles from Project Turbines and roads.

*Figure contains confidential information and is being provided under separate cover*

**Figure 1. Ferruginous hawk nests documented 2017–2019 and associated WDFW disturbance avoidance buffers at active nests located within 2-miles of the Horse Heaven Clean Energy Center, Benton County Washington.**

*Figure contains confidential information and is being provided under separate cover*

**Figure 2. Unoccupied/Inactive ferruginous hawk nests documented 2017–2019 within Webber Canyon and Sheep Canyon at the Horse Heaven Clean Energy Center, Benton County Washington.**

*Figure contains confidential information and is being provided under separate cover*

**Figure 3. Ferruginous hawk Nest 03 documented as occupied/active during raptor nest surveys conducted 2017-2019 within 2-miles of the Horse Heave Clean Energy Center, Benton County Washington. WDFW (2005) disturbance buffers are shown.**

*Figure contains confidential information and is being provided under separate cover*

**Figure 4. Ferruginous hawk Nest 08 documented as occupied/inactive in 2017 and associated WDFW disturbance avoidance buffer at the Horse Heave Clean Energy Center, Benton County Washington.**

**Appendix A. Examples of ferruginous hawk nest conditions**

**Example of a ferruginous hawk nest in good condition. Fresh nest material has been added and the nest may be used with very little repair, if any.**

**Example of a ferruginous hawk nest in poor condition. Substantial repair is needed prior to nesting. On the spectrum of poor nest conditions, this example is "higher quality" relative to other poor condition nests in the Horse Heaven Hills that were highly dilapidated and only remnants or a faint ring of sticks were present.**

**Appendix B. Recommended protective buffers for specified activities (WDFW 2005).**

| Activities | Buffer Width (ft)[a] | Buffer Around | Timing | Comments |
|---|---|---|---|---|
| Avoid all human access & ground-based activities | 820 | Active nests | 1 March - May 30[c] | Delay construction and development until after young have dispersed, which generally occurs about a month after fledging |
| Prevent prolonged activities (>0.5 hrs) | 3,280 | Active nests | 1 March - August 15[c] | Ferruginous hawk's breeding season |
| Avoid development, rodenticide and pesticide application | 1,300 | major prey concentrations | year round[b] | Prey concentrations include ground squirrel colonies |

[a] Buffers should be tailored to the individual hawks involved, based on factors such as line-of-sight distance between nest and activity, nest structure security, disturbance history, observed responses, and nest elevation in relation to the activity.
[b] Permanent buffer.
[c] Seasonal buffer to minimize disturbance during critical periods.

# ATTACHMENT B
# REPRESENTATIVE PHOTOGRAPHS FROM PROPOSED EASEMENT AREA

**Photo 1. Shrub-steppe in South Central Location**

**Photo 2. Shrub-steppe in Southwestern Corner**

**Photo 3. Non-native Grasslands in Southwestern Corner**

**Photo 4. Shrub-steppe in South Central Location**

**Photo 5. Grassland in Southeastern Corner**