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**BEFORE THE STATE OF WASHINGTON
ENERGY FACILITY SITE EVALUATION COUNCIL**

In the Matter of the Application
of:

Scout Clean Energy, LLC, for
Horse Heaven Wind Farm, LLC,
Applicant

DOCKET NO. EF-210011

**RESPONSIVE TESTIMONY
OF DON McIVOR**

Q: Please state your name and profession.

A: Don McIvor. I am a consulting Wildlife Ecologist.

Q: What is your business address?

A: 129 Old Twisp Hwy, Twisp WA, 98856.

Q: How long have you worked as a Wildlife Ecologists?

A: I have 32 years of experience as a Wildlife Ecologist.

Q: Can you please outline your education and training to become a Wildlife Ecologist?

A: I earned a BA in Environmental Sciences from the University of Virginia and an MS in Wildlife Ecology from Utah State University.

Q: How do you keep abreast of developments in your field?

A: My career has afforded me the opportunity to attend and participate in national and regional meetings of professional societies relevant to my field. I have also attended workshops on relevant topics (such as wind energy development). In addition, I keep abreast of publications in peer-reviewed and grey literature, and that includes state and federal guidelines or regulations relevant to green energy development. Until the pandemic, I taught courses in Environmental Science and Ornithology at the college level; trying to stay one step ahead of a classroom full of sharp students is a great motivator to stay current in your field.

1 **Q:** Are you familiar with the Horse Heaven Wind Project at issue in Docket No. EF-
2 210011?

3 **A:** Yes.

4 **Q:** What qualifications, education, or certifications do you have to testify regarding the
5 Project's impacts?

6 **A:** My professional interest has been based on investigating the interaction of
7 animals with their environment—that's the fundamental definition of ecology. I
8 have over three decades of experience in my field. My professional background
9 includes NEPA analysis and writing Environmental Impact Statements and
10 supporting documents, including for proposed energy development projects. I
11 have worked extensively—though not exclusively—on avian ecology in my
12 career, beginning with my Master's research on Sandhill cranes.

13 The Horse Heaven Wind Energy Project is my third project working with the
14 Counsel for the Environment.

15 **Q:** Who are you testifying on behalf?

16 **A:** I am testifying on behalf of the Counsel for the Environment of the Washington
17 State Attorney General's Office.

18 **Q:** What documents did you review pertaining to the Horse Heaven Wind Energy Project?

19 **A:** I have reviewed the original Application for Site Certification (ASC) and
20 relevant appendices, as well as the updated ASC and appendices. I also
21 reviewed the Draft Environmental Impact Statement prepared for the Project
22 and released in December 2022. I have also reviewed supporting documents
23 prepared by the Applicant's consultants pertaining to wildlife issues at the
24 project site. I have also reviewed direct testimony on relevant topics submitted
25 for the Horse Heaven adjudication.

26 **Q:** Did you review the Horse Heaven Wind Project Application?

A: Yes, both the original and updated versions.

Q: Did you review updated Section 3.4 concerning Habitat, Vegetation and Wildlife and
Appendix K, J, M, and N sponsored by Wildlife Biologist Erik Jensen and Endangered
Species Program Manager Troy Rahmig of Western EcoSystems Technology, Inc.?

A: Yes. In addition to Section 3.4, I reviewed Appendix K (Biological Reports), J
(Wildlife and Habitat Mitigation), M (Bird and Bat Conservation Strategy), and
N (Revegetation and Weed Control Plan).

Q: Did you review the direct testimony of Mr. Jensen and attachments submitted on behalf
of Scout Clean Energy?

A: Yes.

1 **Q:** Did you review the direct testimony of Mr. Rahmig and attachments submitted on
2 behalf of Scout Clean Energy?

3 **A:** Yes.

4 **Q:** Did you review the direct testimony of Yakama Nation Wildlife Resource Management
5 Program Manager Leon Ganuelas and exhibits submitted on behalf of the Yakama
6 Nation?

6 **A:** Yes.

7 **Q:** Did you review the direct testimony of Yakama Nation Wildlife Biologists Mark
8 Neutzmann on behalf of the Yakama Nation?

9 **A:** Yes.

10 **Q:** Did the records and reports mentioned contain facts and data of a type that you
11 typically rely upon in forming expert opinions?

11 **A:** Yes, they did.

12 **Q:** Did you rely on the facts and data in these reports in forming your opinions?

13 **A:** Yes.

14
15 **Birds and Bats**

15 **Q:** What is your opinion as to whether the revised Application Section 3.4 (especially
16 3.4.1.3 and 3.4.2.3) and appendices (K, J, M and N) accurately quantify the Project's
17 impacts on bats?

18 **A:** Not all potential impacts to bats are adequately quantified in these sections.

19 Bats are a notoriously challenging taxon to study. Our collective knowledge of
20 their regional populations and population dynamics is lacking. The applicant
21 has exceeded the usual effort (at proposed wind energy facilities) to document
22 bat use at the Project site. This data collection effort has provided a helpful
23 understanding of seasonal bat use patterns at the site. The Application concludes
24 that the local breeding population is small, and most bat use of the site is by
25 migratory bats; I concur with this interpretation of the data.

23 As is the industry standard, the Applicant uses both regional documented bat
24 fatality rates as well as fatality rates from the adjacent Nine Canyon Wind
25 Project (NCWP) to estimate a range of potential (direct) mortality rates at
26 HHWP.

25 Based on post-project mortality rates at NCWP (2.47 bats/MW/yr), bat
26 fatalities at HHWP could be as high as 2841 bats/year:

$$2.47 \text{ bats/MW/yr} \times 1150\text{MW} = 2841 \text{ bats/yr}$$

1 Mortality is predicted to disproportionately impact silver-haired and hoary bats.

2 Mortality rates at NCWP are at the top of the range for the state, where rates
3 range from 0.4 – 2.5 bats/MW/yr.

4 **Q:** If not, why not?

5 **A:** Documented bat use of the area supports the statement that the Project site is
6 used primarily by bats during spring and fall migration. As such, direct fatalities
7 would fall primarily on the broader regional population. The application lacks a
8 discussion of how the estimated rate of mortality might impact regional bat
9 populations, and in the context of cumulative impacts, whether bat populations
10 can sustain this level of mortality.

11 **Q:** What would be your recommendation to more accurately quantify the Project’s impacts
12 on bats, if anything?

13 **A:** The application includes a reasonable estimate of impacts based on data
14 collected at the site and extrapolation from other wind energy projects. I believe
15 this approach constitutes the proper application of the best available data to
16 predict impacts.

17 The data from NCWP are problematic and are caveated as such in the Revised
18 Application (e.g., “...limited duration and extent of post-construction
19 monitoring at the [NCWP]. ...bias trials to account for observer detection bias
20 and carcass persistence were not conducted for bats at the [NCWP]....” [pp. 3-
21 184]). However, given that NCWP is immediately adjacent to HHWP, ignoring
22 data from that site would be problematic in its own way.

23 As I indicated in my previous answer, I believe what is missing is a discussion
24 of impacts to bats on a regional population level. Because regional data is fairly
25 qualitative, this discussion might be speculative, but nonetheless is an important
26 element of disclosing potential impacts. Jansen (2023)¹ contains an excellent
assessment of this issue around renewable energy on a larger population scale
and is germane to this project.

27 **Q:** In reviewing the updated Application, what is your opinion as to whether the
28 Application sufficiently mitigates the Project’s impacts on bats?

29 **A:** In part. The application assigns a great deal of oversight duties to the TAC, so
30 the underlying assumption is that entity will be staffed by the right people,
31 paying attention and doing their job well. But there are management tools that
32 are widely recognized within the industry that could be specified as options for
33 addressing a high mortality scenario. The management tool that has shown the
34 most promise to date is curtailment; this is what I would recommend until better
35 options are identified.

36 ¹ Jansen, E. W. 2023. Cumulative Effects to Birds, Bats, and Land Cover from Renewable Energy Development
in the Columbia Plateau Ecoregion of Eastern Oregon and Washington. Western EcoSystems Technology, Inc.
Corvallis, OR. 141 pp.

1 To sufficiently mitigate the Project's impacts on bats I would recommend the
2 seasonal curtailment of specific towers identified as being responsible for a
3 disproportionate amount of bat fatalities be an explicit management option. The
4 seasonal curtailment would correspond with spring and fall migration when
5 silver-haired and hoary bats are at their peak populations on the site. It may be
6 possible to further refine this measure by imposing the curtailment to the hours
7 between dusk and dawn when bats are active. This would require an initial
8 monitoring effort (as already proposed in the Application) and assessment of the
9 post-project data to determine mortality rates and identify which towers might
10 be responsible for the largest direct impacts.

11 **Q:** If not, why not?

12 **A:** The population sizes of hoary bat and silver-haired bat are poorly understood,
13 making it a challenge to quantify the impact of the proposed project on these
14 species (Friedenberg and Frick 2021²). Based on wind energy mortality, the
15 hoary bat is predicted to experience severe declines in the next 50 years, and
16 those declines may already be well underway (BCI 2023³, Frick, et al. 2017⁴,
17 Friedenberg and Frick 2021).

18 Bat surveys at the project site indicate two temporal and spatial features
19 important to potentially mitigating impacts (HHWF 2020⁵). First, bat use of the
20 area is not uniform across the landscape. This suggests that some towers are
21 likely to be sited in areas of greater bat activity, and therefore mortality could be
22 higher at specific towers or areas of the project. The features that make some of
23 the areas of the project more appealing than others for bats are not clear but are
24 almost certainly linked to food availability.

25 Second, bat use of the project area peaks in spring and fall and appears to be
26 associated with migration. The applicant has reported little or no suitable roost
or hibernacula sites in the project area. This conclusion is supported by site use
data as there appears to be little activity in summer (breeding season).

Q: What more would you recommend that the Application do to mitigate these impacts?

A: Based on post-project implementation survey data and input from the TAC and
WDFW, further mitigation actions to reduce bat mortality (particularly for
hoary and silver-haired bats) could be warranted. The proposed mitigation

² Friedenberg, N. A., and W. F. Frick. 2021. Assessing fatality minimization for hoary bats amid continued wind energy development. *Biological Conservation*, 262. <https://doi.org/10.1016/j.biocon.2021.109309>

³ BCI (Bat Conservation International). 2023. Hoary Bat. <https://www.batcon.org/bat/lasiurus-cinereus/>. Accessed January 11.

⁴ Frick, W. F., E. F. Baerwalk, J. F. Pollock, R. M. R. Barclay, J. A. Szymanski, T. J. Weller, A. L. Russell, S.C. Loeb, R.A. Medellin, and L. P. McGuire. 2017. Fatalities at wind turbines may threaten population viability of a migratory bat. *Biological Conservation* 209:172–177.

⁵ HHWF (Horse Heaven Wind Farm, LLC). 2020. Horse Heaven Wind Farm, Washington Energy Facility Site Evaluation Council, Application for Site Certification. Appendix M: Bird and Bat Conservation Strategy. December. (Updated).

1 should include a statement that for the towers that are associated with high
2 mortality rates, curtailment would be a management option, as this appears to
3 be a promising tool for significantly reducing bat mortality (e.g., Rydell et al.
4 2010⁶, AWWI 2018⁷, AWWI 2019⁸, Hayes et al. 2019⁹). Predictable seasonal
5 peaks in bat use of the project area suggest that mitigation could be a seasonal
6 action corresponding with Spring and Fall migration periods. It is not necessary
7 to be prescriptive at this stage, as research into reducing bat mortality at wind
8 energy projects is on-going. It is possible that by the time a project of this size is
9 implemented, a better management option than curtailment will have been
10 identified.

11 **Q:** After reviewing Project Application Section 3.4 concerning Habitat, Vegetation, and
12 Wildlife and appendices what is your opinion as to whether the Application accurately
13 quantifies the Project's impacts on birds generally?

14 **A:** I do believe the Application accurately quantifies the Project's potential impacts
15 to avifauna, in general. The analysis of impacts to birds is well-informed by a
16 greater than typical effort to collect bird use activity data at the site.

17 **Q:** What would be your recommendation to more accurately quantify the Project's impacts
18 on birds, if anything?

19 **A:** As with the bat analysis, the inclusion of NCWP data for contextualizing
20 HHWP is problematic, but probably necessary given the proximity of the two
21 projects. Data collection and analysis at wind energy facilities has changed
22 significantly since post-project monitoring was conducted at NCWP. The
23 relevant reference in the Revised Application states "From 2005 to 2020, the
24 [NCWP] has been reporting bird fatalities found during regular project O&M
25 Activities.... During this 16-year period, 14 species comprising 22 fatalities
26 were reported." (3-186). To the Applicant's credit, no effort is made to
extrapolate these figures to HHWP; random encounter data like these are good
to document, but their meaning is elusive.

Q: In reviewing the Revised Application, do you have concerns with the Project's impacts
on birds generally?

A: In my opinion, there is no reason to expect that the Project will have a
disproportionate impact on general avifauna.

⁶ Rydell, J., L. Bach, M. Dubourg-Savage, M. Green, L. Rodrigues, and A. Hedenström. 2010. Bat mortality at wind turbines in northwestern Europe. *Acta Chiropterologica* 12(2): 261–274.

⁷ AWWI (American Wind Wildlife Institute). 2018. Bats and Wind Energy: Impacts, Mitigation, and Tradeoffs. American Wind Wildlife Institute White Paper. www.awwi.org/resources/bat-white-paper/.

⁸ AWWI (American Wind Wildlife Institute). 2019. Wind Turbine Interactions with Wildlife and Their Habitats: A Summary of Research Results and Priority Questions. Washington, DC. www.awwi.org.

⁹ Hayes M. A., Hooton L. A., Gilland K. L., Grandgent C., Smith R. L., Lindsay S. R., Collins J. D., Schumacher S. M., Rabie P. A., Gruver J. C., and J. Goodrich-Mahoney. 2019. A smart curtailment approach for reducing bat fatalities and curtailment time at wind energy facilities. *Ecological Applications* 29(4):e01881.

1 **Q:** What is your opinion as to whether the Application sufficiently mitigates and/or avoids
2 the Project’s impacts on birds generally?

3 **A:** The Revised Application appears to include adequate safeguards and
4 appropriate mitigation for general avifauna. This includes post-project
5 monitoring to determine whether one or more turbines have been sited to induce
6 a disproportionate rate of mortality, and whether there is a seasonal component
7 to that mortality. TAC oversight is appropriate to advise on an adaptive
8 management approach to addressing these issues. Also, the TAC can advise that
9 additional monitoring is warranted beyond the two-year industry standard.

10 **Q:** What more would you recommend that the applicant do to mitigate these impacts?

11 **A:** As with bat strike incidents, I would recommend the applicant consider
12 curtailment if monitoring indicates that specific towers are disproportionately
13 responsible for mortality events. This is an effective management tool because
14 towers identified (through post-project monitoring) as being disproportionately
15 responsible for direct impacts to birds are taken off-line during high-risk
16 periods. I believe this is currently a tacit option, but is not explicitly stated.

17 **Q:** What is your opinion as to whether the Revised Application Section 3.4 and appendices
18 accurately quantify the Project’s impacts on the ferruginous hawk?

19 **A:** I believe the Applicant has accurately quantified the Project's potential impacts
20 on the ferruginous hawk.

21 **Q:** What are your concerns with the Project’s impacts on ferruginous hawk?

22 **A:** From a conservation and population management standpoint, the ferruginous
23 hawk is in a very difficult spot right now. Two recent reports in particular have
24 done a good job at enumerating the difficulties this species faces (see Hayes and
25 Watson 2021¹⁰, and Jansen et. al 2022¹¹). The population has been declining for
26 decades in Washington, and its status has been revised to state endangered.

Many of the threats to ferruginous hawk are extrinsic to the proposed project—
range-wide habitat degradation, loss and fragmentation, decline of prey on both
breeding and wintering grounds, disturbance, poisoning, poaching, predation.
Intrinsic to the project, energy development has also been identified as a source
of mortality for ferruginous hawk.

Modeling by Jansen and Swenson (2022)¹² indicated how precarious the
Washington population is; without additional management action, even the loss
of an individual bird could send the population into an even steeper decline.

¹⁰ Hayes, G. E. and J. W. Watson. 2021. Periodic Status Review for the Ferruginous Hawk. Washington Department of Fish and Wildlife, Olympia, Washington. 30+i iii pp.

¹¹ Jansen, E. K., K. T. Smith, and F. Kuzler. 2022. Multi-scale Resource Selection of Ferruginous Hawk (*Buteo regalis*) Nesting in Eastern Washington and at the Horse Heaven Clean Energy Center, Benton County, Washington. Western EcoSystems Technology, Inc., Corvallis, OR. 48pp.

¹² Jansen, E. W., and Jared K. Swenson. 2022. Population Viability Analysis of Ferruginous Hawk (*Buteo regalis*) in Eastern Washington. Western EcoSystems Technology, Inc., Corvallis, OR. 27pp.

1 **Q:** What is your opinion as to whether the Revised Application Section 3.4 and appendices
2 sufficiently mitigates the impacts to the ferruginous hawk?

3 **A:** In my opinion, it does in part, but I recommend additional mitigation measures.

4 As with bats and general avifauna, I would recommend the Revised Application
5 consider the further mitigation measure of curtailment for specific towers on
6 behalf of ferruginous hawk. In earlier survey efforts for the project, ferruginous
7 hawk activity appeared to be concentrated along the western edge of the project
8 area. If such a case recurred, it could be appropriate to put seasonal, diurnal
9 limits on specific towers overlapping the hawk's habitat use. Given that the
10 species may be contracting in the project area, this scenario remains
11 hypothetical and is contingent upon re-occupation of available habitat.

12 The Applicant has proposed a voluntary mitigation measure that would include
13 placing artificial nest platforms to boost ferruginous hawk productivity.¹³ This
14 effort is laudable but faces obstacles. Jansen and Swenson's (2022) modeling
15 suggests as few as three additional nests could positively alter the ferruginous
16 hawk's population trajectory in Washington. However, Hayes and Watson
17 (2021) reported that of 29 monitored nesting platforms, 2 were occupied. This
18 and other evidence suggest nest sites are not a limiting factor in Washington.

19 Jensen et. al (2022) model ferruginous hawk nest site selection in Eastern
20 Washington. It might be possible to build on that modeling effort to identify
21 high quality nest sites (based on habitat, prey availability, etc.) that *lack suitable*
22 *nest substrates*. Combined with land ownership data, it might then be possible
23 to identify artificial nest sites with a high probability of augmenting the
24 population.

25 **Q:** Did you review the testimony of Wildlife Biologist Mark Neutzmann pertaining to the
26 impacts on the ferruginous hawk specifically?

A: Yes.

Q: Do you agree or disagree with the concerns Mr. Neutzmann identifies regarding the
Project's impacts on Ferruginous hawk? Why or why not?

A: Mr. Neutzmann's objections are based on sound biology and I agree in
principle.

Q: Do you agree or disagree with Mr. Neutzmann's characterization of the ferruginous
hawk's use of the Project site including, but not limited to the statement "Ferruginous
hawk will use agricultural land (irrigated) and dry croplands to forage for foods..."

A: I do agree with Mr. Neutzmann's characterization. Foraging habitat for
ferruginous hawk is going to be defined by prey availability in open terrain. If
prey is available in croplands, then the hawk will use that habitat type.

¹³ Appendix L: Draft Wildlife And Habitat Mitigation Plan (New), Section 7.5.1 Ferruginous Hawk
Voluntary Artificial Hawk Nesting Platforms.

1 However, agricultural fields are not ideal habitat for fossorial mammals (like
2 gophers and ground squirrels). They may have little or no cover after crop
3 harvest, making them highly vulnerable to predation. And their burrows can get
4 disrupted or destroyed by farm equipment. For these and other reasons they are
5 more likely to occur along the edges of agricultural fields where they can derive
6 benefits from proximity to different habitat types (cultivated vs. uncultivated).
7 My conclusion is that we would be wrong to assume ferruginous hawks would
8 never be encountered on agricultural lands, but surrounding, less disturbed, and
9 hopefully native habitats would likely offer them better foraging opportunities
10 and thus comprise the focus of their foraging efforts.

11 Data from the project site indicates two important factors. As mentioned earlier,
12 the ferruginous hawk population is contracting across the state, and use patterns
13 at the project site suggest a similar trend. One of the chronic problems for this
14 species is loss of prey, linked in part to habitat degradation. While not
15 exhaustive, surveys for the project indicate no jackrabbits (once the primary
16 prey of ferruginous hawks) and few medium-sized rodents. Townsend's ground
17 squirrel likely occurs at the site, and, if present, could be an important prey item
18 for ferruginous hawk, between about February and June (when the squirrels are
19 above ground).

20 The Applicant has proposed mitigation to enhance habitat for ferruginous hawk
21 and its prey. Successfully implemented, the artificial nest effort could help
22 bolster regional populations. The opportunity to learn whether this level of
23 investment results in positive outcomes would be informative and hopefully,
24 positive.

25 **Q:** Do you agree or disagree with Mr. Neutzmann's concerns regarding the Project's
26 mitigation proposal specific to the Ferruginous hawk?

A: I do agree with his concerns.

Q: If so, why?

A: Mr. Neutzmann makes an argument that the area covered by the proposed solar
facilities would be effectively removed from the currently available habitat for
ferruginous hawk foraging. As such, I understand that he argues that the
disturbed lands comprising these sites should be mitigated to provide
replacement habitat for this species.

I agree that ferruginous hawk will avoid the solar sites; it simply is not an
environment to which they are adapted to hunt. However, Ferruginous hawks
have not been documented using these sites since data collection began, so the
sites' utility for the hawks in this region is hypothetical. It is also possible that
the modified habitat of planted grasses beneath the solar arrays may offer small
mammals an attractive food source, and protection from predation, and
ultimately there could be foraging opportunities for ferruginous hawks as
animals disperse from these areas.

Appropriate mitigation ratios are a worthy topic for discussion, but ultimately
this is a state-level policy question. As happened with the development of wind

1 energy projects in the state, the implementation of solar energy projects is
2 occurring before specific policy guidance is established.

3 **Q:** Mr. Neutzmann states that the “habitat mitigation ratios were developed for modified
4 habitat in the absence of solar development guidelines and considering the revegetation
5 habitat under the solar arrays does not meet the definition of temporary or permanent
6 impacts form WDFW.” Do you agree or disagree with that statement?

7 **A:** I agree with this statement.

8 I do consider the classification of habitat beneath solar arrays as “modified” as
9 obfuscating. The Applicant’s proposed management of these sites includes
10 revegetation with a low-growing, low-diversity, grass mix. For some wildlife,
11 this could provide better habitat conditions than an agricultural monotype. It
12 cannot be argued, however, that a revegetated solar array is functionally similar
13 to any native habitat and is not a suitable replacement. The entire extent of
14 priority habitats converted to “modified habitat” needs to be accounted for in
15 calculating the applicant’s mitigation obligations, at the appropriate
16 compensation ratios.

17 **Q:** Do you agree or disagree with Mr. Neutzmann that the mitigation ratio used for
18 permanently modified habitat better represents the impact to the species during the 30-
19 year lifespan of the project?

20 **A:** I agree that in the context of ferruginous hawk, the 30-year project lifespan is
21 “permanent.” Harmata et al. (2001)¹⁴ reported the average lifespan of a
22 ferruginous hawk is about six years, so a 30-year project would have a five-
23 generation impact.

24 **Q:** Do you agree or disagree with Mr. Neutzmann’s proposed mitigation measure to
25 restore *degraded* habitat at a 2:1 ratio?

26 **A:** I do, in principle. Assuming he is referring to habitats under solar arrays as
being reclassified as “modified,” I addressed that point earlier.

Q: Do you agree or disagree with Mr. Neutzmann’s proposed mitigation measure to
“deactivate turbines within the home ranges of Ferruginous Hawks...”?

A: I agree, in part. Mr. Neutzmann’s suggestion to “[Deactivate] turbines within
the home ranges of Ferruginous Hawks during the breeding and rearing
seasons” is substantively similar to my earlier recommendation for curtailment.
Curtailment is a more targeted approach in that it regulates towers during the
specific times they pose a risk to the resource of concern. Curtailment could
occur seasonally, and/or during daylight hours, for example, if the animal of
concern was strictly diurnal.

¹⁴ Harmata, A. R., M. Restani, G. J. Montopoli, J. R. Zelenak, J. T. Ensign, and P. J. Harmata. 2001.
Movements and mortality of Ferruginous Hawks banded in Montana. *Journal of Field Ornithology* 72:389-398.
[Cited in Hayes and Watson (2021)].

1 **Q:** Do you agree or disagree that putting turbines outside the 2 mile radius core area is
2 reasonable? Why or why not?

3 **A:** Again, I agree in principle with Mr. Neutzmann, but would suggest a more
4 nuanced and biologically informed approach.

5 The Revised Application proposes a 0.25-mile offset, a figure derived from
6 consultation with WDFW. Mr. Neutzmann's 2-mile offset is based on a 32km²
7 home range size measured for ferruginous hawk. However, home range sizes
8 are highly flexible and appear to be dependent on prey availability (the 32km²
9 area was the smallest measured in a WA/OR study) and the 2.0-mile offset
10 assumes the 32km² range sits in the center of a circle. In reality, home range
11 shape is determined by prey availability, habitat suitability, landscape features,
12 and other variables. This makes the 2.0-mile radius somewhat arbitrary, and a
13 better management approach would be to respond to the actual conditions at the
14 project site.

15 WDFW's 0.25-mile offset is expected to buffer an occupied nest site from
16 indirect disturbance. Incorporating the option to curtail specific tower
17 operations should a nesting pair of hawks choose to incorporate part of the
18 project site in their home range/foraging area should mitigate direct impact
19 concerns.

20 **Q:** Do you agree or disagree with Mr. Neutzmann's description of the key prey species for
21 the Ferruginous hawk that will be impacted?

22 **A:** I agree that these prey species *could* be impacted. Again, I'll offer a caveat.

23 Mr. Neutzmann cites northern pocket gophers, ground squirrels, and jackrabbits
24 as examples of prey. According to Appendix K (biological reports) jackrabbits
25 and Townsend's ground squirrels have been documented within two miles of the
26 site, but not at the site. Washington ground squirrels were recorded incidentally
during site visits. No mention of pocket gophers was made, though that doesn't
mean they are absent from the site. Small mammals at the site would likely be
impacted, and impacts incurred from changes to native habitat would be greater
than changes to disturbed habitats.

It is possible that the lack of prey abundance limits the ferruginous hawk's use
of the project site. However, the recorded presence of other raptors at the site
leaves this hypothesis open to speculation.

Q: What is your opinion as to why the Ferruginous hawk's prey is on the decline?

A: A variety of factors, including large scale habitat conversion (both directly
human driven, e.g., from shrub-steppe-to-settlements or farmland, and through
increased wildland fire frequency), habitat fragmentation, poisoning, shooting,
climate change, disease.

Q: Do you agree or disagree with Mr. Neutzmann's concerns regarding the TAC?

A: I disagree.

1 As long as TACs are comprised of individuals representing a range of
2 stakeholder interests, they are not in place to rubber-stamp whatever proposal
3 appears before them. The suggested potential pool of members includes, for
4 example, representatives of conservation groups. WDFW and the USFWS will
5 remain engaged as necessary in the role of regulating agencies over wildlife.
6 SEPA and NEPA define the scope of a project if it is permitted. Those
7 processes identify the range of project elements and the impacts that may occur
8 as a result of project implementation. Once approved, a proponent may
9 implement anything up to the maximum extent of the approved design. Any
10 changes beyond the approved extent of the project (i.e., an action that was not
11 approved through the SEPA/NEPA process), would need to go through another
12 SEPA/NEPA process. Depending on the scope of the new element, this is
13 sometimes handled with an addendum, and sometimes with an entirely new
14 public process. With this in mind, the TAC could only “advise” and “review”
15 on elements within the approved project scope.

16 **Q:** What additional mitigation measures would you recommend, if any, to increase prey
17 availability?

18 **A:** This is a complex question on a landscape scale and intersects policy and
19 management issues that would need to be addressed at the state and federal
20 levels. On a site-specific basis, the answer might be more tractable, but still
21 difficult. Ideally, habitat would be restored to natural condition on a site of
22 suitable size with soil conditions suited to support colonies of ground squirrels,
23 pocket gophers, and jackrabbits. The reality is that shrub-steppe habitat is
24 notoriously difficult to restore.

25 Aiming for some approximation of natural shrub-steppe habitat conditions with
26 minimal weeds is probably a succinctly stated goal. There are Farm Bill funded
programs including the CRP and SAFE that support this kind of effort.
According to Hayes and Watson (2021),

...[the] USDA’s Conservation Reserve Program (CRP) [has] the potential to provide nesting and foraging habitat for Ferruginous Hawks. The State Acres for Wildlife Enhancement (SAFE) program is an initiative under the Conservation Reserve Program (CRP) that started under the Farm Bill nationwide in January 2008. The program is a partnership between the U.S. Department of Agriculture (USDA) and state fish and wildlife agencies to develop quality wildlife habitat with an emphasis on restoration of native vegetation and associated wildlife benefits. The Ferruginous Hawk SAFE is available to agricultural producers in portions of Adams, Benton, Franklin, and Walla Walla counties. The goal of this initiative is to enhance foraging habitat around Ferruginous Hawk nests by establishing shrubs, grasses and broadleaf forbs on cropland. Therefore, this initiative is restricted to lands near recently occupied nest sites.

27 An operation like the HHWP may not qualify for a Farm Bill program, but the
28 larger point is that a body of knowledge exists in this arena. A caveat is that
29 such restoration work may not be best implemented in the Project area. While
30 maintaining healthy habitats in the Project area is a worthy management goal,

1 luring wildlife at risk of collision with rotors with an abundance of prey could
2 be counterproductive to conservation of the species.

3 **Mammals**

4 **Q:** After reviewing Project Application Section 3.4 concerning Habitat, Vegetation, and
5 Wildlife what is your opinion as to whether the Application accurately quantifies the
6 Project's impacts on mammals?

7 **A:** Assuming this question refers to mammals other than bats, handled separately
8 above, yes.

9 Only three mammals appear on the special status species list. Two species of
10 jackrabbit are absent from the Project site. Only Townsend's ground squirrel
11 receives an extensive discussion.

12 Antelope have also been brought up as a species of importance to the Yakima
13 Nation, and they are discussed in the context of migratory corridors (with a
14 more encompassing discussion in Appendix K).

15 **Q:** Do you have concerns regarding the Project's impacts on mammals generally?

16 **A:** Yes.

17 The Revised Application refers to a Townsend's ground squirrel colony that lies
18 partially within the footprint of a temporary disturbance area. It is unclear if
19 there are any constraints (topographic features, other special status resources,
20 etc.) that dictate that specific location must be disturbed. While it is not a
21 requirement to avoid priority species or their habitats, the site should be
22 carefully evaluated before construction and relocated if possible. It is my
23 understanding that ground surveys have not been conducted for Townsend's
24 ground squirrel, but surveys will take place prior to finalizing site design and
25 construction.

26 **Q:** In reviewing the Revised Application, what is your opinion as to whether the applicant
sufficiently mitigates and/or avoids the Project's impacts on mammals generally?

A: The proposed mitigation measures are reasonable and likely to be sufficient.

Q: What more would you recommend that the applicant do to mitigate the impacts to
mammals generally?

A: I would recommend avoiding direct impacts (e.g., to a known colony) during
construction, restoring disturbed areas using a native seed mix, wherever
practicable, and controlling weeds. Maintain reasonable speeds on service roads
to reduce mortality from vehicle collisions.

Q: Have you reviewed the testimony of Yakama Nation Wildlife Resource Management
Program Manager Leon Ganuelas pertaining to the impacts on the pronghorn antelope
specifically?

1 A: Yes.

2
3 Q: What is your opinion as to the data that Mr. Ganuelas relies upon to determine habitat
4 use in the exhibits? Is the data accurate?

5 A: Yes, as I understand it. Telemetry data has been widely utilized in wildlife
6 management for many decades. The incorporation of GPS technology into
7 telemetry has the potential to make it more accurate today than it has ever been.

8 Q: Do you agree or disagree with the concerns raised by Mr. Ganuelas pertaining to the
9 Project's impacts on pronghorn antelope?

10 I agree that Mr. Ganuelas raises concerns that need to be evaluated in the context of
11 the proposed Project.

12 Q: Why?

13 A: Foremost, Mr. Ganuelas presents telemetry data on the antelope that were not
14 incorporated into the Draft EIS or the Revised Application. [REDACTED]

15 [REDACTED]

16 As reported in the revised Appendix K, there are very few studies investigating
17 the impacts of wind or solar energy development on antelope, all conducted in
18 Wyoming, and their findings are mixed and sometimes conflicting. Antelope
19 appear to avoid, or at least reduce their use of landscapes with wind towers. The
20 aversive behavior could be linked to whether a better alternative is available to
21 the animals. [REDACTED]

22 Solar fields would certainly exclude antelope by virtue of their fencing. It also
23 seems unlikely that an animal of open country would choose to enter a field of
24 densely arrayed solar panels as they avoid structurally similar places like
25 orchards and landscapes with tall vegetation. The East Solar Field would have
26 the greatest impact on native habitats and is adjacent to a north-south
connectivity corridor identified by the Washington Wildlife Habitat
Connectivity Working Group.

27 Q: What does the data show regarding pronghorn antelope use of the area if the Project is
28 constructed?

29 A: See my comment above. [REDACTED]

30 Q: Do you agree or disagree with the concerns Mr. Ganuelas' raises regarding the
31 proposed mitigation plan? Why or why not?

32 A: Yes, I agree.

1 The mitigation plan appears to have been devised in the absence of Mr.
2 Ganuelas' telemetry data. The plan should be revisited to evaluate and identify
3 potential impacts to antelope based on the telemetry data he shared, and, if
4 impacts are identified, mitigation measures as necessary could then be devised.

5 **Q:** What is your opinion as to how these impacts on the pronghorn antelope should be
6 mitigated?

7 **A:** I would recommend measures to maintain the integrity of existing native habitat
8 and minimize habitat fragmentation to the extent possible, particularly in the
9 north-south corridor adjacent to the East Solar Field, as well as avoiding
10 impacts to native habitats (Eastside Grassland, Rabbitbrush shrubland) in the
11 East Solar Field. Control weed populations and restore areas disturbed during
12 construction.

13 I don't think we understand why antelope avoid wind energy facilities, whether
14 it's the roads, human activity, or the towers themselves. Without this
15 understanding it is difficult to formulate effective mitigation. Studying the
16 response of this antelope population to the HHWP would contribute to our
17 understanding of how this species responds to wind and solar energy
18 development in Washington, thereby informing future projects.

19 **Q:** Do you agree or disagree with the alternative approaches to fencing that Mr. Ganuelas'
20 recommends as a necessary mitigation measure?

21 **A:** Yes, I agree.

22 **Q:** Why or why not?

23 **A:** The modifications to fencing and array layout seem like reasonable design
24 suggestions that should be evaluated. There may be other constraints that
25 prevent their practical implementation. If these suggestions created better
26 opportunities for animal movement at the expense of more direct impacts to
27 native habitats, I would argue habitat integrity trumps almost all—if not all—
28 concerns.

29 I declare under penalty of perjury of the laws of the State of Washington that the
30 above testimony is true and correct to the best of my knowledge.

31 DATED this 5th day of July 2023, at Twisp, Washington.

32 

33 Don McIvor

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DATED this 5th day of July, 2023.

BOB FERGUSON
Attorney General



Sarah Reyneveld, WSBA #44856
Counsel for the Environment