

Horse Heaven Wind Farm

Pre-operational Technical Advisory Group

Facilitator Report: Wild-10

Prepared for:
Horse Heaven Wind Farm, LLC.

Prepared by:

K E A R N S  W E S T



September 2025

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1.0 Introduction

On behalf of the Horse Heaven Wind Farm Pre-operational Technical Advisory Group (PTAG) this Facilitator Report is being submitted to summarize coordination that has occurred between the certificate holder, Horse Heaven Wind Farm, LLC (Certificate Holder), and the PTAG related to the Site Certification Agreement (SCA) measure Wild-10, as required by SCA measure Spec-4, and to formally submit the required materials outlined in Wild-10 to the Energy Facility Site Evaluation Council (EFSEC) for review and approval.

2.0 Purpose and Need

The SCA includes Wild-10, which reads:

Wild-10 Pre-construction Bat Monitoring: *The Certificate Holder shall conduct pre-construction surveys to develop an estimate of regional bat populations and identify to what degree seasonality affects the bat population in the area. The PTAG shall be contacted prior to undertaking these surveys and shall be involved in the development of the methodology and review of the results.*

To meet the intent of Wild-10 the Certificate Holder has prepared the Horse Heaven Clean Energy Center Pre-construction Bat Survey Plan (Bat Survey Plan) (Attachment 1).

3.0 Summary of Pre-Construction Bat Survey Plan

Pre-construction bat surveys will include placement of acoustic detectors across the Project Area from March 15 – November 15, which includes the full activity period for bats in this geographic range. Data collection will document the occurrence of bat species within the Project Area, standardized per unit effort (bat passes/detector-night). Bat activity recorded each night will serve as an index of bat activity levels, though it may not reflect the absolute population of bats present. Reports will be submitted to the Washington Department of Fish and Wildlife (WDFW), EFSEC, and either the PTAG or the Technical Advisory Committee (TAC), depending on the timing of the report submission.

4.0 PTAG Coordination

An overview of Wild-10 and survey plan concepts was introduced to the PTAG during the May 30, 2025 meeting. Following the meeting the Bat Survey Plan was circulated to the PTAG for review and comments. The Bat Survey Plan was then revised in response to PTAG comments and recommendations. A review of comments and review of the revised version of the Bat Survey Plan was

presented to the PTAG during the July 25, 2025, meeting, where the PTAG agreed to advance the Bat Survey Plan to EFSEC for review and approval.

5.0 Next Steps

Under the recommendation of the PTAG the Certificate Holder formally submits the Bat Survey Plan to EFSEC for review and approval, to meet the requirements outlined in Wild-10 and Hab-4.

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Attachment 1

Horse Heaven Clean Energy Center

Pre-Construction Bat Acoustic Survey Plan

Prepared for:

Horse Heaven Wind Farm, LLC.

Prepared by:



July 2025

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1.0 Introduction

The Project is located approximately four miles south/southwest of the city of Kennewick and the larger Tri-Cities urban area along the Columbia River in unincorporated Benton County and covers approximately 72,000 acres of private land. The Project's Wind Energy Micrositing Corridor encompasses 11,850 acres, the Project's Solar Siting Areas, which includes three locations under consideration for the proposed solar arrays encompasses approximately 6,000 acres.

Washington's Energy Facility Site Evaluation Council (EFSEC) executed a Site Certification Agreement (SCA) for the Project that included several mitigation measures that are conditions of approval. Mitigation Measure **Wild-10 Pre-construction Bat Monitoring** requires that the Certificate Holder conducts pre-construction surveys to develop an estimate of regional bat populations and identify to what degree seasonality affects the bat populations in the area. The mitigation measure also requires that the PTAG is contacted prior to undertaking these surveys and is involved in the development of the methodology and reviews the results. This Bat Acoustic Survey Plan is intended to fulfill the Wild-10 Pre-construction Bat Monitoring Requirement.

2.0 Study Objective

The objective of acoustic monitoring surveys for bats is to assess the use of the Project Area by resident and migratory bat species. While there is no proven correlation between the presence of bats, including the frequency of use of a location, and observed bat fatalities at wind facilities, documenting bat use prior to construction and operation of the facility will provide baseline information that can inform post construction decision making when combined with post-construction mortality monitoring (Hein et al. 2013, Solick et al. 2020).

While the SCA stipulates that pre-construction surveys should be completed to develop an estimate of regional bat populations, there is no proven survey method that allows for defensible populations estimates. In other words, while acoustic survey data will reveal the species using the Project Area across the seasons, and the relative frequency of use, it will not allow for an estimate of the bat population in the Project Area.

3.0 Previous Survey Results

In 2018 Western EcoSystems Technology, Inc. (WEST) initiated two bat activity studies near the Project Area (Hays et al. 2018a, and Hays et al. 2018b). WEST designed the bat acoustic surveys to evaluate levels of bat activity and species' use of the area during the period of expected peak activity (i.e., late spring through fall). Acoustic surveys were conducted from May through October 2018. Wildlife Acoustics SM3 full-spectrum acoustic detectors were outfitted with two microphones

and deployed at Project meteorological (met) towers representative of future turbine locations. At each sampling location one microphone was deployed near the ground, at approximately five feet (ft; 1.5 meters [m]), while the other microphone was raised on the met tower to approximately 148 ft (45 m) above ground level. The ground microphone is considered a ground sampling station, while the raised microphone is considered a raised sampling station. The met towers were located in grassland habitat.

The Hays et al. (2018a) study used two detector locations at one met tower resulting in 172 calendar nights and 344 detector-nights surveyed. During those detector nights the average bat activity rate ($\pm$ standard error) documented at the ground sampling station was 1.27 ± 0.17 bat passes per detector-night, while the raised sampling station recorded an average bat activity rate of 0.96 ± 0.13 bat passes per detector-night. Approximately 94% of bat passes were produced by low-frequency, tree-roosting bats; automated identification of bat calls using Kaleidoscope Pro 4.2.0 determined that silver-haired bats (*Lasionycteris noctivagans*) were the most frequently detected species, occurring on approximately 24% of detector-nights. Two high-frequency bat species (canyon bat [*Parastrellus hesperus*] and little brown bat [*Myotis lucifugus*]) were detected during the study period. Neither Townsend's big-eared bat (*Corynorhinus townsendii*) nor pallid bat (*Antrozous pallidus*), both of which are state candidate species, were detected during the study. No federal or state-listed bat species were documented.

The Hays et al. (2018b) study used two detector locations at two met tower locations (four sampling stations total), resulting in 172 calendar nights and 670 detector-nights were surveyed (Hays et al. 2018b). During those detector nights the average bat activity rate ($\pm$ standard error) documented at the ground sampling stations was 1.02 ± 0.11 bat passes per detector-night, while the raised sampling stations recorded an average bat activity rate of 1.15 ± 0.12 bat passes per detector-night. Approximately 93% of bat passes were produced by low-frequency, tree-roosting bats; automated identification of bat calls using Kaleidoscope Pro 4.2.0 determined that silver-haired bats were the most frequently detected species, occurring on approximately 25% of detector-nights. Five high-frequency bat species (California bat [*Myotis californicus*], canyon bat, little brown bat, long-legged bat [*Myotis volans*], and western long-eared bat [*Myotis evotis*]) were detected during the study period. Neither Townsend's big-eared bat nor pallid bat, both of which are Washington state candidate species, were detected during the study. No federal or state-listed bat species were documented.

Hays et al. (2018a and 2018b) reported that the overall bat activity rate at all of the locations within the Study Area (range = 0.63 to 1.41 bat passes per detector-night) was below the Rocky Mountains regional average of 4.02 bat passes per detector-night, which is the closest region with publicly available activity data (no activity data from the Pacific Northwest is available for comparison).

At both sampling stations bat activity had a spring peak in activity in mid-May and a fall peak in activity in mid-September. Bats were present during the summer months, but activity was lower from June to early August compared to spring and fall months. This indicates that the resident

summer bat activity rates may be low, but the frequency of bat use of the Project Area increases during migration periods of spring and fall.

4.0 Pre-Construction Acoustic Bat Survey Methodology

This survey plan outlines the methodology for documenting bat species' use of the Project Area during the spring, summer, and fall seasons through acoustic monitoring. Bats are either not in the Project Area, during the winter months, because they migrate south to more temperate climates, or they are in torpor and non-active. Therefore, monitoring will take place from approximately March 15 to November 15 to capture the full active period for bats in Washington. Wildlife Acoustic Song Meter SM4BAT (or equivalent) full-spectrum bat detectors will be deployed to enable the identification of a broader range of bat species, including myotis species.

A total of nine acoustic sampling stations will be deployed within the Project Area to monitor bat activity in suitable habitats. Eight of the acoustic sampling stations will be placed at a combination of meteorological towers and in ground-based locations across the Project Area, as a means of “mapping” relative bat use across the site throughout the active period. This will provide a representative sample of bat activity across the Project Area in locations where wind turbine generators are proposed. Of these, five detectors will be installed on each of the five meteorological towers—one at a high elevation and one at ground level—resulting in a total of 10 detectors mounted on the towers. The remaining three detectors will be ground-based sampling stations located in portions of the Project Area that are not represented by the meteorological towers. Detectors will be monitored, and data will be downloaded approximately once per month to minimize potential data loss.

A ninth acoustic sampling station will be placed in a location that is resource restricted, meaning that due to the limitations of a resource on the landscape, high use of the location would be expected by bats. In the Project Area water, which bats use for drinking, is limited, therefore in locations where drinking water exists there can be a high concentration of bat activity around that location. One acoustic bat detector will be sited in a location likely to support drinking bats. This location will be selected in the field by a qualified bat biologist. Though this sampling station will not provide representative use of the Project Area, but rather a disproportionate use of a singular location, it will provide a better sample of species diversity, since a higher concentration of bats will come to the water source to drink.

5.0 Analysis

Recorded acoustic files will be analyzed using Kaleidoscope Pro Software (or a similar program). After initial classifications by the software, a Tetra Tech bat analyst will manually review a subset of the files to confirm the accuracy of species identification. All recorded data files will be filtered to

isolate potential bat call sequences from noise, acknowledging that not all echolocation files can be identified to species.

Data collected across the Project Area will provide a collective understanding of the type of species using the Project Area across the seasons as well as the relative frequency of use by species within the Project Area. This information will be used to inform the design of the post-construction mortality monitoring program and provide additional information if adaptive management decisions need to be made by the Project's Technical Advisory Committee. A summary of bat species detected will be provided by sampling station at two-week sampling increments in order to best understand the seasonality of use in different parts of the Project Area.

6.0 Reporting

Following the data collection period, a draft report will summarize the occurrence of bat species within the Project Area, standardized per unit effort (bat passes/detector-night). Bat activity recorded each night will serve as an index of bat activity levels, though it may not reflect the absolute population of bats present. Reports will be submitted to the Certificate Holder and ultimately to the Washington Department of Fish and Wildlife (WDFW), EFSEC, and either the Pre-operational Technical Advisory Group (PTAG) or the Technical Advisory Committee (TAC), depending on the timing of the report submission.

7.0 Literature Cited

- Hays, Q., Brown, S. , and Chatfield, A. 2018a. Bat Activity Study for the Badger Canyon Wind Project, Benton County, Washington. Final Report May 11 – October 29, 2018. Western Ecosystems Technology, Inc. Prepared for Badger Canyon MW LLC. November 30.
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Figures

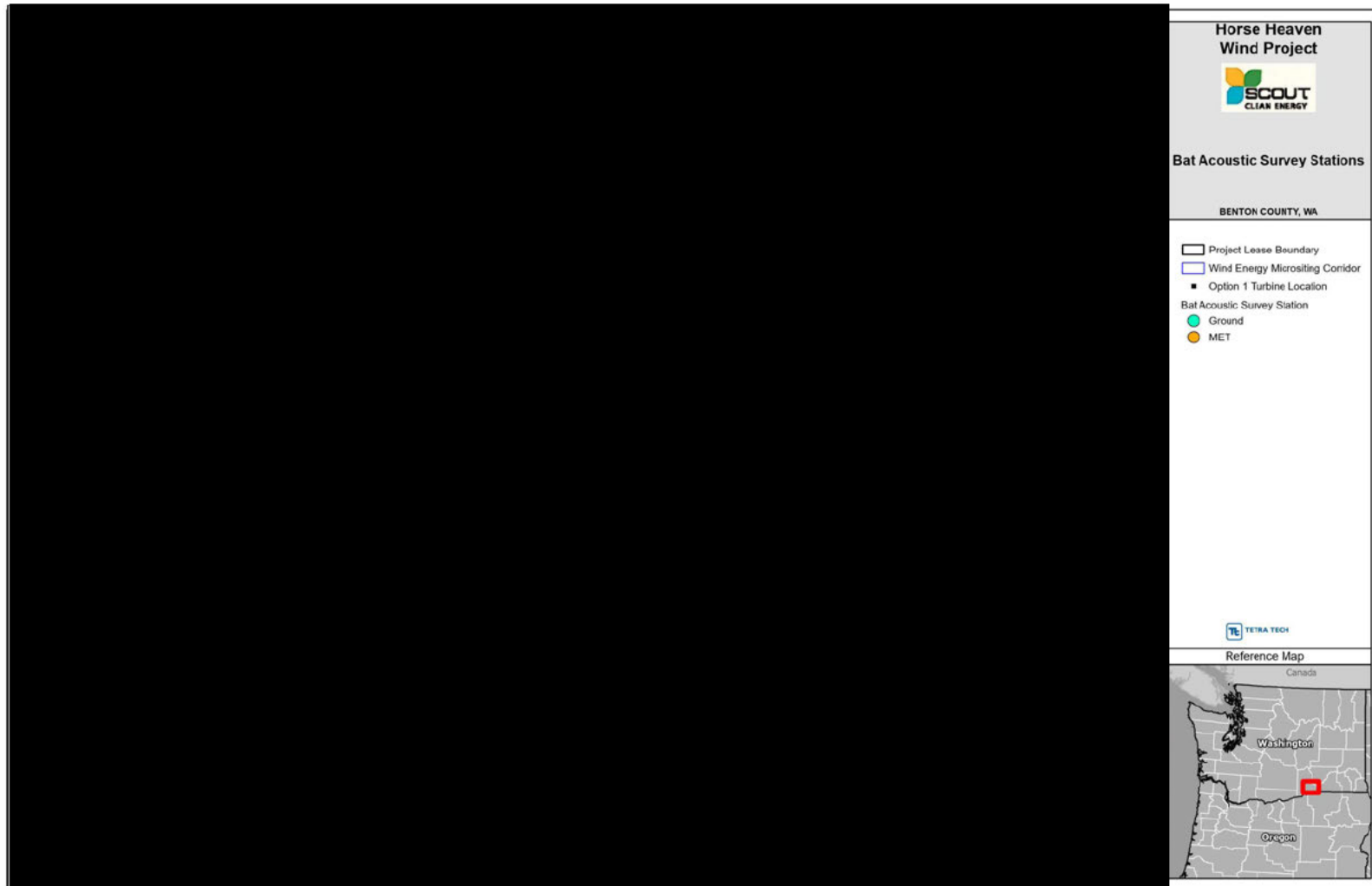


Figure 1. Proposed Location of Bat Acoustic Sampling Stations

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