



Oregon

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MEMORANDUM

To: Oregon Energy Facility Siting Council

From: Brett Farman, Siting Compliance Officer

Date: June 12, 2026

Re: Klondike III Wind Project – Annual Monitoring for Wildlife Monitoring and Mitigation Plan (Condition 95)

Attachments Wildlife Monitoring and Mitigation Plan (April 12, 2024)
2025 Wildlife Monitoring Results (Extracted from April 30, 2026 Annual Report)
2025 Raptor Nest Survey Klondike III Wind Project

Purpose

The Oregon Department of Energy (Department) prepared this staff report for the Energy Facility Siting Council to summarize the results of ongoing wildlife monitoring and results at Klondike III Wind Project. The Department is required to make available the actual results and allow for public comment. This staff report supports both Council and the public's understanding of the results and of their opportunity to review and comment.

Wildlife Monitoring and Mitigation Plan Overview

Klondike III Wind Project is a wind power generation facility consisting of 176 wind turbines, with a peak generating capacity of 300 megawatts (MW). The facility is in Sherman County, approximately 4 miles east of the town of Wasco and 5 miles south of the Columbia River. The Council issued a site certificate for the facility in 2006.

Condition 95 of the site certificate states that, "The certificate holder shall conduct wildlife monitoring as described in the Wildlife Monitoring and Mitigation Plan (WMMP) that is incorporated in the Final Order on the Application as Attachment A and as amended from time to time."

The WMMP requires that the certificate holder implement short- and long-term wildlife monitoring during facility operation. Short-term wildlife monitoring requirements include a 2-year post construction Bird and Bat Fatality Monitoring Program and Avian Use Surveys; both wildlife monitoring activities were completed in 2010-2012. On-going long-term wildlife monitoring requirements include:

- Long-Term Raptor Nesting Surveys (Every 5-years for operational life of facility; 2012, 2017, 2022, 2025, 2030, etc.)

- Wildlife Incident Response and Handling System (Ongoing)

Long-Term Raptor Nesting Surveys

Raptor nesting surveys are required to be completed for the life of the facility, on a 5-year cycle. While the last raptor nesting survey was completed in 2022, the certificate holder conducted a raptor nesting survey in 2025 to align monitoring with schedules at adjacent facilities, as stated in the 2024 Wildlife Monitoring and Mitigation Plan. Future monitoring will continue at 5-year intervals (e.g., 2030, 2035).

The objectives of raptor nesting surveys are to estimate the size of local breeding populations of tree or other above ground-nesting raptor species within a 2-mile radius of the facility, and to determine whether facility operation is contributing to a reduction in nesting activity or nesting success in local special status species raptor populations (Swainson's hawk, golden eagle, and ferruginous hawk). A summary of raptor nesting survey results to date is presented in Table 1 below. Although no statistical analysis was completed, a similar trend for both State sensitive species (Swainson's Hawk and the federal species of concern ferruginous hawk) was observed. Both hawk species are trending downward, while the more generalist species like red-tailed hawks and great horned owls have been trending up.

**Table 1: Long-Term Raptor Nesting Survey Results for Klondike III Wind Project
– Active Nests (Young Fledged)**

Species	2008 0.5 miles	2008 0.5 to 2.0 m	2012 0.5 miles	2012 0.5 to 2.0 m	2017 0.5 miles	2017 0.5 to 2 m	2022 0 to 2.0 miles	2025 0 to 2.0 miles
Golden Eagle*	0	1 (2)	0	2 (5)	0	1 (1)	1	0
Swainson's Hawk	3 (3)	3 (2)	1 (0)	0	1 (0)	2 (0)	1	0
Ferruginous Hawk	0	1 (1)	0	0	0	0	0	0
Red-tailed Hawk	2	3	10	7	2	5	7	11
Unidentified Buteo	0	1	0	0	0	0	-	0
Great Horned Owl	0	0	1	2	0	3	1	2
Barn Owl	0	0	0	2	0	0	0	0
Long-eared Owl	0	1	0	0	0	0	0	0
Total Active Nests =	5	10	12	13	3	11	11	13

*Species in bold type are those identified in the Project WMMP as target species

Wildlife Incident Response and Handling System

Monitoring activities during 2025 for this facility include the ongoing Wildlife Incident Response and Handling System, a program for responding to and handling avian and bat casualties found by personnel at the site during routine maintenance operations. No incidents were reported for 2025.

Public Comments on Wildlife Monitoring Results

Section 5 of the WMMP, Data Reporting, establishes an opportunity for the public to review and comment on monitoring results. Specifically, the WMMP states, "The public will have an opportunity to receive information about monitoring results and to offer comment. Within 30 days after receiving the annual report of monitoring results, the Department will make the report available to the public on its website and will specify a time in which the public may submit comments to the Department."

The Department received the annual monitoring results for the facility on April 30, 2026. In accordance with the terms of the WMMP, the Department provides a copy of the 2025 monitoring results for the Klondike III Wind Project to the Council for review (attached) and posted a copy to the Department's project website at: <http://www.oregon.gov/energy/facilities-safety/facilities/Pages/KWP.aspx> and has established a 30-day timeframe to accept public comments.

Comments are due within 30-days of posting, or **July 12, 2026 at 5:00 p.m.** and may be submitted to Brett Farman at brett.farman@energy.oregon.gov.

Attachment 1: Wildlife Monitoring and Mitigation Plan (April 12, 2024)

Klondike III Wind Project: Wildlife Monitoring and Mitigation Plan

[REVISED AUGUST 24, 2012]

AMENDED MARCH 2024

This plan describes wildlife monitoring that the certificate holder shall conduct during operation of the Klondike III Wind Project (KWP).¹ The monitoring objectives are to determine whether the facility causes significant fatalities of birds and bats and to determine whether the facility results in a loss of habitat quality. The KWP facility consists of up to 208 wind turbines, three non-guyed meteorological towers and other related or supporting facilities as described in the site certificate. The certificate holder completed construction of 124 turbines authorized under the Second Amended Site Certificate in October 2007.

The certificate holder shall use experienced personnel to manage the monitoring required under this plan and properly trained personnel to conduct the monitoring, subject to approval by the Oregon Department of Energy (Department) as to professional qualifications. For all components of this plan except PPM Energy's Klondike III Wind Project Wildlife Reporting and Handling System, the certificate holder shall hire an independent third party (not employees of the certificate holder) to perform monitoring tasks.

The Wildlife Monitoring and Mitigation Plan for the Klondike III Wind Project has the following components:

1) Fatality monitoring program including:

- a) Removal trials
- b) Searcher efficiency trials
- c) Fatality search protocol
- d) Statistical analysis

2) Raptor nesting surveys

3) Avian use surveys

4) PPM Energy's Klondike III Wind Project Wildlife Reporting and Handling System

Following is a discussion of the components of the monitoring plan, statistical analysis methods for fatality data, data reporting and potential mitigation.

The selection of the mitigation actions that the certificate holder may be required to implement under this plan should allow for flexibility in creating appropriate responses to monitoring results that cannot be known in advance. If the Department determines that mitigation is needed, the certificate holder shall propose appropriate mitigation actions to the Department and shall carry out mitigation actions approved by the Department, subject to review by the Oregon Energy Facility Council (Council).

¹ This plan is incorporated by reference in the site certificate for the KWP and must be understood in that context. It is not a "stand-alone" document. This plan does not contain all mitigation required of the certificate holder.

Klondike III Wildlife Monitoring and Mitigation Plan

[REVISED AUGUST 24, 2012]

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1. Fatality Monitoring

(a) Definitions and Methods

Seasons

This plan uses the following dates for defining seasons:

Season	Dates
Spring Migration	March 16 to May 15
Summer/Breeding	May 16 to August 15
Fall Migration	August 16 to October 31
Winter	November 1 to March 15

Search Plots

The certificate holder shall conduct fatality monitoring within search plots. The certificate holder, in consultation with the Oregon Department of Fish and Wildlife (ODFW), shall select search plots based on a systematic sampling design that ensures that the selected search plots are representative of the habitat conditions in different parts of the site. Each search plot will contain one turbine. Search plots will be square or circular. Circular search plots will be centered on the turbine location and will have a radius equal to the maximum blade tip height of the turbine contained within the plot. "Maximum blade tip height" is the turbine hub-height plus one-half the rotor diameter. Square search plots will be of sufficient size to contain a circular search plot as described above. The certificate holder shall provide maps of the search plots to the Department before beginning fatality monitoring at the facility. The certificate holder shall use the same search plots for each search conducted during a monitoring year.

Scheduling

In each monitoring year, the certificate holder shall conduct fatality monitoring searches at the rates of frequency shown below. Over the course of one monitoring year, the certificate holder would conduct 16 searches, as follows:

Season	Frequency
Spring Migration	2 searches per month (4 searches)
Summer/Breeding	1 search per month (3 searches)
Fall Migration	2 searches per month (5 searches)
Winter	1 search per month (4 searches)

For the 124 turbines built as of October 2007, the certificate holder shall conduct fatality monitoring for two years (32 searches), beginning November 1, 2007. For turbines built after October 2007 (up to 84 turbines), the certificate holder shall conduct fatality monitoring for two years (32 searches) beginning one month after the start of commercial operation of those turbines.

Sample Size

The sample size for fatality monitoring is the number of turbines searched per monitoring year for each phase of construction. Phase 1 consists of turbines built as of October 2007; Phase 2 consists of turbines built after October 2007. During each monitoring year, the certificate

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holder shall search a minimum of one-third of the total number of turbines that are built in the applicable phase.

As described in the site certificate, the certificate holder may choose to build the KWP using turbine types in two size classes:

- Small: turbines having a rotor diameter of 82 meters or less
- Large: turbines having a rotor diameter greater than 82 meters

If the final design of the KWP includes both small and large turbines, the certificate holder shall, at a minimum, sample one-third of the total number of turbines in each monitoring year for each phase of construction. Before beginning fatality monitoring, the certificate holder shall consult with an independent expert with experience in statistical analysis of avian fatality data to determine whether it would be possible to sample a sufficient number of the KWP turbines in each size class to allow a statistical comparison of fatality rates for all birds as a group. The certificate holder shall submit the expert's written conclusions to the Department. If sampling of one-third of the total number of all turbines per phase in each monitoring year would provide a sufficient number of turbines in each size class to allow the comparison, the certificate holder will sample the appropriate number of turbines from each class and conduct the analysis. The certificate holder may choose to sample more than one-third of the total number of all turbines in each monitoring year for each phase of construction to allow the comparison.

(b) Removal Trials

The objective of the removal trials is to estimate the length of time avian and bat carcasses remain in the search area. Carcass removal studies will be conducted during each season in the vicinity of the search plots. Estimates of carcass removal rates will be used to adjust carcass counts for removal bias. "Carcass removal" is the disappearance of a carcass from the search area due to predation, scavenging or other means such as farming activity. Removal rates will be estimated by habitat and season.

The certificate holder shall conduct carcass removal trials within each of the seasons defined above during the years in which fatality monitoring occurs. During the first year in which fatality monitoring occurs, the certificate holder shall conduct one removal trial per season (four removal trials per year). For each trial, at least 10 small bird carcasses and at least 10 large bird carcasses will be distributed throughout the project area (approximately 80 trial carcasses per year).

Before beginning removal trials for the second year of fatality monitoring, the certificate holder shall report the results of the first year removal trials to the Department and ODFW. In the report, the certificate holder shall analyze whether four removal trials per year, as described above, provides sufficient data to accurately estimate adjustment factors for carcass removal. The number of removal trials for the second year of fatality monitoring may be adjusted up or down, subject to the approval of the Department.

The "small bird" size class will use carcasses of house sparrows, starlings, commercially available game bird chicks or legally obtained native birds to simulate passerines. The "large bird" size class will use carcasses of raptors provided by agencies, commercially available adult game birds or cryptically colored chickens to simulate raptors, game birds and waterfowl. If fresh bat carcasses are available, they may also be used.

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To avoid confusion with turbine-related fatalities, planted carcasses will not be placed in fatality monitoring search plots. Planted carcasses will be placed in the vicinity of search plots but not so near as to attract scavengers to the search plots. The planted carcasses will be located randomly within the carcass removal trial plots.

Carcasses will be placed in a variety of postures to simulate a range of conditions. For example, birds will be: 1) placed in an exposed posture (e.g., thrown over the shoulder), 2) hidden to simulate a crippled bird (e.g., placed beneath a shrub or tuft of grass) and, 3) partially hidden. Trial carcasses will be marked discreetly for recognition by searchers and other personnel. Trial carcasses will be left at the location until the end of the carcass removal trial.

It is expected that carcasses will be checked as follows, although actual intervals may vary. Carcasses will be checked for a period of 40 days to determine removal rates. They will be checked approximately every day for the first 4 days, and then on day 7, day 10, day 14, day 20, day 30 and day 40. This schedule may vary depending on weather and coordination with the other survey work. At the end of the 40-day period, the trial carcasses and scattered feathers will be removed.

(c) Searcher Efficiency Trials

The objective of searcher efficiency trials is to estimate the percentage of bird and bat fatalities that searchers are able to find. The certificate holder shall conduct searcher efficiency trials on the fatality monitoring search plots in both grassland/shrub-steppe and cultivated agriculture habitat types. Searcher efficiency will be estimated by size class, habitat type and season. A pooled estimate of searcher efficiency will be used to adjust carcass counts for detection bias.

The certificate holder shall conduct searcher efficiency trials within each of the seasons defined above during the years in which the fatality monitoring occurs. During each season of the years in which fatality monitoring occurs, the certificate holder shall use approximately 25 carcasses for searcher efficiency trials (approximately 100 carcasses per year). The certificate holder shall vary the number of trials per season and the number of carcasses per trial so that the searchers will not know the total number of trial carcasses being used in any trial. The certificate holder shall distribute trial carcasses in varied habitat in rough proportion to the habitat types within the facility site. During each season, both small bird and large bird carcasses will be used in approximately equal numbers. “Small bird” and “large bird” size classes and carcass selection are as described above for the removal trials.

Before beginning searcher efficiency trials for the second year of fatality monitoring, the certificate holder shall report the results of the first year efficiency trials to the Department and ODFW. In the report, the certificate holder shall analyze whether the efficiency trials as described above (using approximately 100 carcasses per year) provides sufficient data to accurately estimate adjustment factors for carcass removal. The number of removal trials for the second year of fatality monitoring may be adjusted up or down, subject to the approval of the Department.

Personnel conducting searches will not know in advance when trials are conducted; nor will they know the location of the trial carcasses. If suitable trial carcasses are available, trials during the fall season will include several small brown birds to simulate bat carcasses. Legally obtained bat carcasses will be used if available.

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On the day of a standardized fatality monitoring search (described below) but before the beginning of the search, efficiency trial carcasses will be placed at random locations within areas to be searched. If scavengers appear attracted by placement of carcasses, the carcasses will be distributed before dawn.

Efficiency trials will be spread over the entire season to incorporate effects of varying weather and vegetation growth. Carcasses will be placed in a variety of postures to simulate a range of conditions. For example, birds will be: 1) placed in an exposed posture (thrown over the shoulder), 2) hidden to simulate a crippled bird and 3) partially hidden.

Each non-domestic carcass will be discreetly marked so that it can be identified as an efficiency trial carcass after it is found. The number and location of the efficiency trial carcasses found during the carcass search will be recorded. The number of efficiency trial carcasses available for detection during each trial will be determined immediately after the trial by the person responsible for distributing the carcasses.

If new searchers are brought into the search team, additional detection trials will be conducted to ensure that detection rates incorporate searcher differences.

(d) Coordination with the Biglow Canyon Wind Farm

The proposed Biglow Canyon Wind Farm lies to the north of the Klondike III Wind Power Project on similar terrain and habitat. If the Council approves site certificates for both facilities and requires similar wildlife monitoring, coordination of removal trials and searcher efficiency trials would be possible. Subject to the approval of both certificate holders and the Department, the number of trials at each site and the number of trial carcasses used at each site can be reduced by combining the removal data and efficiency data from both projects, if the certificate holder can demonstrate that the calculation of fatality rates would continue to have statistical validity for both facilities and that combining the data would not affect any other requirements of the monitoring plans for either facility.

(e) Fatality Monitoring Search Protocol

The objective fatality monitoring is to estimate the number of bird and bat fatalities that are attributable to facility operation. The goal of bird and bat fatality monitoring is to obtain a precise estimate of the fatality rate and associated variances. The certificate holder shall conduct fatality monitoring using standardized carcass searches.

The certificate holder shall use a worst-case analysis to resolve any uncertainty in the results and to determine whether the data indicate that additional mitigation should be considered. The Department may require additional, targeted monitoring if the data indicate the potential for significant impacts that cannot be addressed by worst-case analysis and appropriate mitigation. On an annual basis, the certificate holder shall report an estimate of fatalities in seven categories: 1) all birds, 2) small birds, 3) large birds, 4) raptors, 5) grassland birds, 6) nocturnal migrants, 7) State Sensitive Species listed under OAR 635-100-0040 and 8) bats. If there is sufficient sampling of large and small turbines, the certificate holder shall compare the fatality rates in the “all birds” category for each of the turbine size classes. The certificate holder shall calculate fatality rates using the statistical methods described in Sections (a) and (f).

The certificate holder shall estimate the number of avian and bat fatalities attributable to operation of the facility based on the number of avian and bat fatalities found at the facility site.

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All carcasses located within areas surveyed, regardless of species, will be recorded and, if possible, a cause of death determined based on blind necropsy results. If a different cause of death is not apparent, the fatality will be attributed to facility operation. The total number of avian and bat carcasses will be estimated by adjusting for removal and searcher efficiency bias.

Personnel trained in proper search techniques (“the searchers”) will conduct the carcass searches by walking parallel transects within the search plots.² Transects will be initially set at 6 meters apart in the area to be searched. A searcher will walk at a rate of approximately 45 to 60 meters per minute along each transect searching both sides out to three meters for casualties. Search area and speed may be adjusted by habitat type after evaluation of the first searcher efficiency trial. The searchers will record the condition of each carcass found, using the following condition categories:

- Intact – a carcass that is completely intact, is not badly decomposed and shows no sign of being fed upon by a predator or scavenger
- Scavenged – an entire carcass that shows signs of being fed upon by a predator or scavenger, or portions of a carcass in one location (e.g., wings, skeletal remains, legs, pieces of skin, etc.)
- Feather Spot – 10 or more feathers at one location indicating predation or scavenging or 2 or more primary feathers

All carcasses (avian and bat) found during the standardized carcass searches will be photographed, recorded and labeled with a unique number. Each carcass will be bagged and frozen for future reference and possible necropsy. A copy of the data sheet for each carcass will be kept with the carcass at all times. For each carcass found, searchers will record species, sex and age when possible, date and time collected, location, condition (e.g., intact, scavenged, feather spot) and any comments that may indicate cause of death. Searchers will photograph each carcass as found and will map the find on a detailed map of the search area showing the location of the wind turbines and associated facilities. The certificate holder shall coordinate collection of state endangered, threatened or protected species with ODFW. The certificate holder shall coordinate collection of federal endangered, threatened or protected species with the U.S. Fish and Wildlife Service (USFWS). The certificate holder shall obtain appropriate collection permits from ODFW and USFWS.

The searchers might discover carcasses incidental to formal carcass searches (e.g., while driving within the project area). For each incidentally discovered carcass, the searcher shall identify, photograph, record data and collect the carcass as would be done for carcasses within the formal search sample during scheduled searches. If the incidentally discovered carcass is found within a formal search plot, the fatality data will be included in the calculation of fatality rates. If the incidentally discovered carcass is found outside a formal search plot, the data will be reported separately. The certificate holder shall coordinate collection of incidentally discovered state endangered, threatened or protected species with ODFW. The certificate holder shall coordinate collection of incidentally discovered federal endangered, threatened or protected species with the USFWS.

² Where search plots are adjacent, the search area may be rectangular.

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Any injured native birds found on the facility site will be carefully captured by a trained project biologist or technician and transported to Jean Cypher (wildlife rehabilitator) in The Dalles, the Blue Mountain Wildlife Rehabilitation Center in Pendleton or the Audubon Bird Care Center in Portland in a timely fashion. The certificate holder shall pay costs, if any, charged for time and expenses related to care and rehabilitation of injured native birds found on the site, unless the cause of injury is clearly demonstrated to be unrelated to the facility operations.

(f) Statistical Methods for Fatality Estimates

The certificate holder shall estimate the total number of wind facility-related fatalities for each phase of construction based on:

- (1) The observed number of carcasses found during standardized searches during the two monitoring years (for the applicable phase) for which the cause of death is attributed to the facility.³
- (2) Searcher efficiency expressed as the proportion of planted carcasses found by searchers.
- (3) Removal rates expressed as the estimated average probability a carcass is expected to remain in the study area and be available for detection by the searchers during the entire survey period.

Definition of Variables

The following variables are used in the equations below:

c_i	the number of carcasses detected at plot i for the study period of interest (e.g., one year) for which the cause of death is either unknown or is attributed to the facility
n	the number of search plots
k	the number of turbines searched (includes the turbines centered within each search plot and a proportion of the number of turbines adjacent to search plots to account for the effect of adjacent turbines on the 90-meter search plot buffer area)
$\bar{c}$	the average number of carcasses observed per turbine per year
s	the number of carcasses used in removal trials
s_c	the number of carcasses in removal trials that remain in the study area after 40 days
se	standard error (square of the sample variance of the mean)
t_i	the time (days) a carcass remains in the study area before it is removed
$\bar{t}$	the average time (days) a carcass remains in the study area before it is removed
d	the total number of carcasses placed in searcher efficiency trials
p	the estimated proportion of detectable carcasses found by searchers
I	the average interval between searches in days

³ If a different cause of death is not apparent, the fatality will be attributed to facility operation.

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- 1 $\hat{\pi}$ the estimated probability that a carcass is both available to be found during a
2 search and is found
- 3 m_t the estimated annual average number of fatalities per turbine per year, adjusted
4 for removal and observer detection bias
- 5 C nameplate energy output of turbine in megawatts (MW)

6 Observed Number of Carcasses

7 The estimated average number of carcasses ($\bar{c}$) observed per turbine per year is:

8
$$\bar{c} = \frac{\sum_{i=1}^n c_i}{k} . \quad (1)$$

9 Estimation of Carcass Removal

10 Estimates of carcass removal are used to adjust carcass counts for removal bias. Mean carcass
11 removal time ($\bar{t}$) is the average length of time a carcass remains at the site before it is removed:

12
$$\bar{t} = \frac{\sum_{i=1}^s t_i}{s - s_c} . \quad (2)$$

13 This estimator is the maximum likelihood estimator assuming the removal times follow an
14 exponential distribution and there is right-censoring of data. Any trial carcasses still remaining at
15 40 days are collected, yielding censored observations at 40 days. If all trial carcasses are
16 removed before the end of the trial, then s_c is 0, and $\bar{t}$ is just the arithmetic average of the
17 removal times. Removal rates will be estimated by carcass size (small and large) and season.

18 Estimation of Observer Detection Rates

19 Observer detection rates (i.e., searcher efficiency rates) are expressed as p , the proportion
20 of trial carcasses that are detected by searchers. Observer detection rates will be estimated by
21 carcass size and season.

22 Estimation of Facility-Related Fatality Rates

23 The estimated per turbine annual fatality rate (m_t) is calculated by:

24
$$m_t = \frac{\bar{c}}{\hat{\pi}} , \quad (3)$$

25 where $\hat{\pi}$ includes adjustments for both carcass removal (from scavenging and other means) and
26 observer detection bias assuming that the carcass removal times t_i follow an exponential
27 distribution. Under these assumptions, this detection probability is estimated by:

28
$$\hat{\pi} = \frac{\bar{t} \cdot p}{I} \cdot \left[\frac{\exp\left(\frac{I}{\bar{t}}\right) - 1}{\exp\left(\frac{I}{\bar{t}}\right) - 1 + p} \right] . \quad (4)$$

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The estimated per MW annual fatality rate (m) is calculated by:

$$m = \frac{m_t}{C}. \quad (5)$$

For each phase of construction, the certificate holder shall calculate fatality estimates for: (1) all birds, (2) small birds, (3) large birds, (4) raptors, (5) grassland birds, (6) nocturnal migrants 7) State Sensitive Species listed under OAR 635-100-0040 and 8) bats. If there is sufficient sampling of large and small turbines, the certificate holder shall compare the fatality rates in the “all birds” category for each of the turbine size classes. The final reported estimates of m , associated standard errors and 90% confidence intervals will be calculated using bootstrapping (Manly 1997). Bootstrapping is a computer simulation technique that is useful for calculating point estimates, variances and confidence intervals for complicated test statistics. For each iteration of the bootstrap, the plots will be sampled with replacement, trial carcasses will be sampled with replacement and $\bar{c}$, $\bar{t}$, p , $\hat{\pi}$ and m will be calculated. A total of 5,000 bootstrap iterations will be used. The reported estimates will be the means of the 5,000 bootstrap estimates. The standard deviation of the bootstrap estimates is the estimated standard error. The lower 5th and upper 95th percentiles of the 5000 bootstrap estimates are estimates of the lower limit and upper limit of 90% confidence intervals.

Nocturnal Migrant and Bat Fatalities

Differences in observed nocturnal migrant and bat fatality rates for lit turbines, unlit turbines that are adjacent to lit turbines and unlit turbines that are not adjacent to lit turbines will be compared graphically and statistically.

(g) Mitigation

Mitigation may be appropriate if fatality rates exceed a “threshold of concern.” For the purpose of determining whether a threshold has been exceeded, the certificate holder shall calculate the average annual fatality rates for species groups for each phase of construction after two years of monitoring. Based on current knowledge of the species that are likely to use the habitat in the area of the facility, the following thresholds apply to the Klondike III facility:

Species Group	Threshold of Concern (fatalities per MW)
Raptors (All eagles, hawks, falcons and owls, including burrowing owls.)	0.09
Raptor species of special concern (Swainson’s hawk, ferruginous hawk, peregrine falcon, golden eagle, bald eagle, burrowing owl and any federal threatened or endangered raptor species.)	0.06
Grassland species (All native bird species that rely on grassland habitat and are either resident species, occurring year round, or species that nest in the area, excluding horned lark, burrowing owl and northern harrier.)	0.59
State sensitive avian species listed under OAR 635-100-0040 (Excluding raptors listed above.)	0.2

If the data show that a threshold of concern for a species group has been exceeded, the certificate holder shall implement additional mitigation if the Department determines that mitigation is appropriate based on analysis of the data, consultation with ODFW and

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consideration of any other significant information available at the time. In addition, mitigation may be appropriate if the Department determines that fatality rates for individual avian or bat species (especially State Sensitive Species) are higher than expected and at a level of biological concern. If mitigation is appropriate, the certificate holder, in consultation with the Department and ODFW, shall propose mitigation measures designed to benefit the affected species. The certificate holder shall implement mitigation as approved by the Council. The Department may recommend additional, targeted data collection if the need for mitigation is unclear based on the information available at the time. The certificate holder shall implement such data collection as approved by the Council.

Mitigation should be designed to benefit the affected species group. Mitigation may include, but is not limited to, protection of nesting habitat for the affected group of native species through a conservation easement or similar agreement. Tracts of land that are intact and functional for wildlife are preferable to degraded habitat areas. Preference should be given to protection of land that would otherwise be subject to development or use that would diminish the wildlife value of the land. In addition, mitigation measures might include: enhancement of the protected tract by weed removal and control; increasing the diversity of native grasses and forbs; planting sagebrush or other shrubs; constructing and maintaining artificial nest structures for raptors; improving wildfire response; and local research that will aid in understanding more about the species and conservation needs. In considering whether additional mitigation is appropriate for bat fatalities, the Department will take into account the mitigation that the certificate holder has already implemented under Condition 96 of the site certificate (a contribution of \$10,000 per year for three years, beginning in the first year of operation, to fund research toward better understanding wind facility impacts to bats and to develop mitigation solutions).

2. Raptor Nest Surveys

The objectives of raptor nest surveys are to estimate the size of the local breeding populations of tree or other above-ground-nesting raptor species in the vicinity of the facility and to determine whether operation of the facility results in a reduction of nesting activity in the local populations of the following raptor species: Swainson's hawk, golden eagle and ferruginous hawk.

(a) Survey Protocol

For the species listed above, aerial and ground surveys will be used to gather data on occupied nests. The certificate holder will share the data with state and federal biologists. The certificate holder will conduct two years of post-construction raptor nest surveys. One year of surveys will be done in 2008. The second year of surveys will be done in 2012.

During each monitoring year, the certificate holder will conduct a minimum of one helicopter survey in late May or early June and additional surveys as described in this section. All nests discovered during pre-construction surveys and any nests discovered during post-construction surveys, whether active or inactive, will be given identification numbers. Nest locations will be recorded on U.S. Geological Survey 7.5-minute quadrangle maps. Global positioning system coordinates will be recorded for each nest. Locations of inactive nests will be recorded as they may become occupied during future years.

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The certificate holder shall conduct the aerial surveys within the Klondike III site and a 2-mile buffer around the turbines to determine nest occupancy. Determining nest occupancy will likely require two helicopter visits to each nest. For occupied nests, the certificate holder shall determine nesting occupancy by a minimum of one ground visit to determine species and nesting status. Nests that cannot be monitored due to the landowner denying access will be checked from a distance where feasible.

(b) Mitigation

The certificate holder shall analyze the raptor nesting data collected to determine whether a reduction in nest occupancy has occurred in the vicinity of the Klondike III facility. Given the raptor densities in the area, statistical power to detect a relationship between distance from a wind turbine and nesting parameters (e.g., occupancy) will be very low. Therefore, impacts may have to be judged based on trends in the data, results from other wind energy facility monitoring studies and literature on what is known regarding the populations in the region.

If the analysis shows that mitigation is appropriate, the certificate holder shall propose mitigation for the affected species in consultation with the Department and ODFW. Mitigation should be designed to benefit the affected species or contribute to overall scientific knowledge and understanding what stimulates nest abandonment. Mitigation may be designed to proceed in phases over several years. It may include, but is not limited to, additional raptor nest monitoring, protection of natural nest sites from human disturbance or cattle activity (preferably within two miles of the facility) or participation in research projects designed to improve scientific understanding of the needs of the affected species.

(c) Long-term Raptor Nest Monitoring and Mitigation Plan

In addition to the two years of post-construction raptor nest surveys described in paragraph (a), the certificate holder shall conduct long-term raptor nest surveys at five-year intervals for the life of the facility. The certificate holder conducted long-term raptor nest surveys in 2017 and 2022. Next survey will be completed in 2025, to align with monitoring at adjacent facilities, and will continue on 5-year intervals (e.g., 2030,2035). In conducting long-term surveys, the certificate holder shall follow the same survey protocol that is described above in paragraph (a) unless the certificate holder proposes an alternative protocol that is approved by the Department. In developing an alternative protocol, the certificate holder shall consult with ODFW and may collaborate with the certificate holder for any other wind energy facility.

The certificate holder shall analyze the long-term survey data as described above in paragraph (b). If the analysis shows that mitigation is appropriate, the certificate holder shall propose mitigation for the affected species in consultation with the Department and ODFW as described in paragraph (b) and shall implement mitigation as approved by the Council. Any reduction in nesting occupancy could be due to operation of the KWP, operation of another wind facility in the vicinity or some other cause. The reduction shall be attributed to the KWP if the wind turbine closest to the affected nest site is a KWP turbine unless the certificate holder demonstrates, and the Department agrees, that the reduction was due to a different cause.

3. Avian Use Surveys

During each fatality monitoring search, observers will record birds detected in a ten-minute period at approximately one-third of the turbines within the fatality monitoring sample using standard variable circular plot point count survey methods. The purpose of observing and

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recording avian use while conducting the fatality monitoring is to identify additional species that may not have been listed in the original baseline survey report. In addition, avian use surveys provide a basis to evaluate, in general terms, whether the species with the highest fatality numbers are also the most common species at the site.

4. PPM Energy's Klondike III Wind Project Wildlife Reporting and Handling System

PPM Energy's Klondike III Wind Project Wildlife Reporting and Handling System (WRHS) is a monitoring program to search for and handle avian and bat casualties found by maintenance personnel during construction and operation of the facility. A similar system is in place for Klondike I and II. Construction and maintenance personnel will be trained in the methods. This monitoring program includes the initial response, the handling and the reporting of bird and bat carcasses discovered incidental to construction and maintenance operations ("incidental finds").

All carcasses discovered by maintenance personnel will be photographed and recorded. If maintenance personnel discover incidental finds at turbines that are not within search plots for the fatality monitoring searches, the data will be reported separately from fatality monitoring data. For such incidental finds, the maintenance personnel will notify a project biologist. The project biologist must be a qualified independent professional biologist who is not an employee of the certificate holder. The project biologist (or the project biologist's experienced wildlife technician) will collect the carcass or will instruct maintenance personnel to have an on-site carcass handling permittee collect the carcass. The certificate holder's on-site carcass handling permittee must be a person who is listed on state and federal scientific or salvage collection permits and who is available to process (collect) the find on the day it is discovered. The find must be processed on the same day as it is discovered.

If maintenance personnel discover carcasses within search plots, the data will be included in the calculation of fatality rates. The maintenance personnel will notify a project biologist. The project biologist will collect the carcass or will instruct maintenance personnel to have an on-site carcass handling permittee collect the carcass. As stated above, the on-site permittee must be available to process the find on the day it is discovered. The certificate holder shall coordinate collection of state endangered, threatened or protected species with ODFW. The certificate holder shall coordinate collection of federal endangered, threatened or protected species with the USFWS.

5. Data Reporting

The certificate holder will report the monitoring data and analysis to the Department. Monitoring data include fatality data, raptor nest survey data, avian use point counts and data on incidental finds by fatality searchers and KWP personnel. The report may be included in the annual report required under OAR 345-026-0080 or may be submitted as a separate document at the same time the annual report is submitted. In addition, the certificate holder shall provide to the Department any data or record generated in carrying out this monitoring plan upon request by the Department.

The certificate holder shall notify USFWS and ODFW immediately in the event that any federal or state endangered or threatened species are killed or injured on the facility site.

The public will have an opportunity to receive information about monitoring results and to offer comment. Within 30 days after receiving the annual report of monitoring results, the

Klondike III Wildlife Monitoring and Mitigation Plan

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1 Department will make the report available to the public on its website and will specify a time in
2 which the public may submit comments to the Department.⁴

6. Amendment of the Plan

4 This Wildlife Monitoring and Mitigation Plan may be amended from time to time by
5 agreement of the certificate holder and the Council. Such amendments may be made without
6 amendment of the site certificate. The Council authorizes the Department to agree to
7 amendments to this plan and to mitigation actions that may be required under this plan. The
8 Department shall notify the Council of all amendments and mitigation actions, and the Council
9 retains the authority to approve, reject or modify any amendment of this plan or mitigation action
10 agreed to by the Department.

⁴ The certificate holder may establish a Technical Advisor Committee (TAC) but is not required to do so. If the certificate holder establishes a TAC, the TAC may offer comments to the Council about the results of the monitoring required under this plan.

**Attachment 2: 2025 Wildlife Monitoring Results (Extracted from April 30,
2026 Annual Report)**



Klondike Wind Power III LLC
2701 NW Vaughn St, Suite 300
Portland, Oregon 97210

April 30, 2026

Brett Farman
Siting Compliance Officer
Oregon Department of Energy
550 Capitol St. NE
Salem, OR 97301

Re: 2025 Annual Report for Klondike Wind Power III LLC

Dear Mr. Farman,

Klondike Wind Power III LLC (Klondike III) provides this package for its yearly reporting requirement. Enclosed with this submittal is supporting material.

Facility Status – Condition 22(b)(i)

Klondike Wind Power III completes semi-annual and annual maintenance each year. In 2025, both semi-annual maintenance and annual maintenance were completed with no major issues to report, see documentation provided under Condition 62.

Spill Prevention, Control, and Countermeasure (SPCC) inspections are conducted on a monthly basis to identify any leaks, spills, damage to equipment, wildlife incidents (injuries, fatalities, live sighting, or nests), and erosion issues. No spills, wildlife incidents, or erosion issues occurred in 2025, see *KWPOPS Condition 82 2025 SPCC inspections*.

One reportable incident occurred in 2025. A fire caused by a junction box in part of the underground collection system (L1JB1) was reported to ODOE on May 21, 2025, see *KWPOPS Condition 20 Fire Notification 2025-05-21*.

Maintenance activities beyond routine O&M included gear box replacements at turbine B9, P5, and H3 and a generator replacement at turbine N4. No additional ground disturbance was required for this work.

Reliability and Efficiency of Power Production – Condition 22(b)(ii)

2025 Reliability and Efficiency of Power Production has been provided separately through a confidential submittal portal, please see *KWPOPS Condition 22 (b)(ii) 2025 Reliability and Efficiency of Power Production_Conf Record*.

Repairs that were required due to an impact of 5% or greater to monthly availability in 2025 were compiled, see *KWPOPS Condition 3 2025 Maintenance and Repairs*.

Status of Surety Information – Condition 22(b)(iv)

Bond Number K41997321 by Federal Insurance Company remained in full force and effect for all of 2025. The bond amount increased from 14,156,000.00 to 14,573,000.00, see *KWPOPS Condition 22(b)(iv) Rider 2026*.

Monitoring Report: Condition 22(b)(v)

Monitoring (Condition 20) for Klondike III includes the Revegetation Plan (Condition 81), Weed Control Plan (Condition 89), Wildlife - WMMP (Condition 95), and Habitat Mitigation Plan (Condition 97).

Condition 81: Revegetation Plan

Revegetation monitoring was transitioned to a 5-year monitoring frequency beginning in 2018, with the last monitoring year occurring in 2023. Following recommendations from the 2023 Revegetation Monitoring Report, turbine C-8 was reseeded April 14, 2025, see *KWPOPS Condition 81 C-8 Reseeding*. Additionally, the certificate holder contracted Mason, Bruce, and Girard, Inc (MB&G) to visit the site in September 2025 to identify areas for additional weed treatment, see *KWPOPS Condition 97 Weed Control Planning with MBG*. The recommended treatments were conducted Revegetation fall 2025, see *KWPOPS Condition 97 Fall 2025 HMA Treatment Records*. The Plan will continue to be implemented as required, along with recommendations from the 2023 Monitoring Report. The next revegetation monitoring will be 2028.

Condition 89: Weed Control Plan

Undesired species continue to be controlled as specified in the Weed Control Plan, see *KWPOPS Condition 89 2025 Weed control*. In 2025, MB&G was contracted to conduct an additional site visit with a weed control contractor to develop a treatment plan for 2025 and 2026, see *KWPOPS Condition 97 Weed Control Planning with MBG*. Following the recommendations from this site visit, weed treatment in the HMA occurred fall 2025, see *KWPOPS Condition 97 Fall 2025 HMA Treatment Records*.

Condition 95: Wildlife Monitoring

Certificate Holder continues to conduct wildlife monitoring as described in the Wildlife Monitoring and Mitigation Plan (WMMP) that is incorporated in the Final Order on the Application as Attachment A. Incidental monitoring conducted by on-site personnel continues to be conducted and no incidental downed wildlife observations were recorded for Klondike III in 2025. Long-term Raptor Nest Surveys were conducted in 2025, see *KWPOPS Condition 95 Raptor Nest Survey 2025-12-16*.

Wildlife Monitoring and Reporting System

No incidental wildlife observations (injuries/fatalities) were recorded for Klondike III in 2025.

Condition 97: Habitat Mitigation Plan

Habitat Mitigation Area (HMA) monitoring was transitioned to a 5-year monitoring frequency beginning in 2018, with the last monitoring year occurring in 2023. The next HMA monitoring year is planned for 2028. In 2025, the certificate holder contracted Mason, Bruce, and Girard, Inc (MB&G) to visit the site and identify areas for treatment, see *KWPOPS Condition 97 Weed Control Planning with MBG*. The recommended treatments were conducted fall 2025, see *KWPOPS Condition 97 Fall 2025 HMA Treatment Records*.

Compliance Report – Condition 22(b)(vi)

No matters of noncompliance in 2025.

Facility Modification Report – Condition 22(b)(vii)

No modifications to the facility in 2025.

Please feel free to contact Alisa Baadsgaard at (503) 939-8610 with any questions or requests for additional information.

Attachment 3: 2025 Raptor Nest Survey

**Raptor Nest Surveys
Klondike III/IIIa Wind Project
Sherman County, Oregon**

Prepared for:

Klondike III/IIIa Wind Power LLC

2701 Northwest Vaughn Street, Suite 200
Portland, Oregon 97210

Prepared by:

Western EcoSystems Technology, Inc.

2725 Northwest Walnut Boulevard,
Corvallis, Oregon 97330

December 16, 2025



Confidential Business Information - Not for Distribution

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Jaelyn Moore	Technical Editor

REPORT REFERENCE

Western EcoSystems Technology, Inc. (WEST). 2025. Raptor Nest Surveys, Klondike III/IIIa Wind Project, Sherman County, Oregon. Draft. Prepared for Klondike Wind Power III LLC, Portland, Oregon. Prepared by Western EcoSystems Technology, Inc., Corvallis, Oregon. December 1, 2025.

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INTRODUCTION

Klondike III/IIIa Wind Power LLC (Certificate Holder), a subsidiary of Avangrid Power, LLC, owns and operates the Klondike III/IIIa Wind Project (Project) in Sherman County, Oregon. The Certificate Holder contracted Western EcoSystems Technology, Inc. (WEST), to conduct raptor nest surveys within the Project and 2-mile (mi) buffer surrounding the Project turbines (collectively, the Survey Area; Figure 1). The objective of the raptor nest surveys was to identify and record the location and status of all raptor nests within the Survey Area and to determine whether operation of the Project is resulting in a reduction of nesting activity for the following focal species: Swainson's hawk (*Buteo swainsoni*), golden eagle (*Aquila chrysaetos*), and ferruginous hawk (*B. regalis*), consistent with the Project's revised Wildlife Monitoring and Mitigation Plan (WMMP), dated July 2024 (Energy Facility Siting Council [EFSC] 2024). Section 2(c) of the WMMP specifies that long-term raptor nest surveys and a nesting analysis be conducted at 5-year intervals for the life of the Project.

PROJECT DESCRIPTION

The Project includes two phases of development, Klondike III and Klondike IIIa, comprising 125 and 51 turbines, respectively, for a total of 176 turbines. Klondike III became fully operational in October 2007 and Klondike IIIa became fully operational in June 2008. The Project is located approximately two mi from Wasco, Oregon (Figure 1), in the Columbia Plateau Ecoregion, which is characterized by tablelands of moderate to high relief and irregular plains with open hills (Thorson et al. 2003). The majority of the Survey Area is situated on a plateau bounded by the John Day River to the east and south and bisected by Grass Valley Canyon to the south. Elevations within the Survey Area range from approximately 400–1,800 feet (ft) above sea level (US Geological Survey 2018). Primary vegetation communities include dryland agriculture and non-native annual grassland with smaller areas of shrub-steppe. Suitable raptor nesting substrates are present within the Survey Area primarily in isolated trees along riparian/drainage corridors, with small cliffs and rocky outcrops providing additional nesting opportunities in the steeper canyons and ravines.

METHODS

During the 2025 breeding season, WEST conducted two aerial surveys for raptor nests within the Survey Area. WEST defined raptors as medium- to large-sized birds of prey and included the following types: *Accipiter* spp., *Buteo* spp., eagles, falcons, kites, osprey (*Pandion haliaetus*), and owls. Raptor nests were defined as structures made, or the place used by raptors, for laying their eggs and sheltering their young (Steenhof and Newton 2007). All stick nests that could be constructed by any raptor species or common ravens (*Corvus corax*) were documented due to the potential for species to interchangeably use nests. Survey methods followed recommendations from the US Fish and Wildlife Service (USFWS) *Land-Based Wind Energy Guidelines* (USFWS 2012), the USFWS *Eagle Conservation Plan Guidance* (ECPG; USFWS 2013), and the USFWS *Updated Eagle Nest Survey Protocol* (USFWS 2020), as well as methods outlined in the Project WMMP (EFSC 2024).

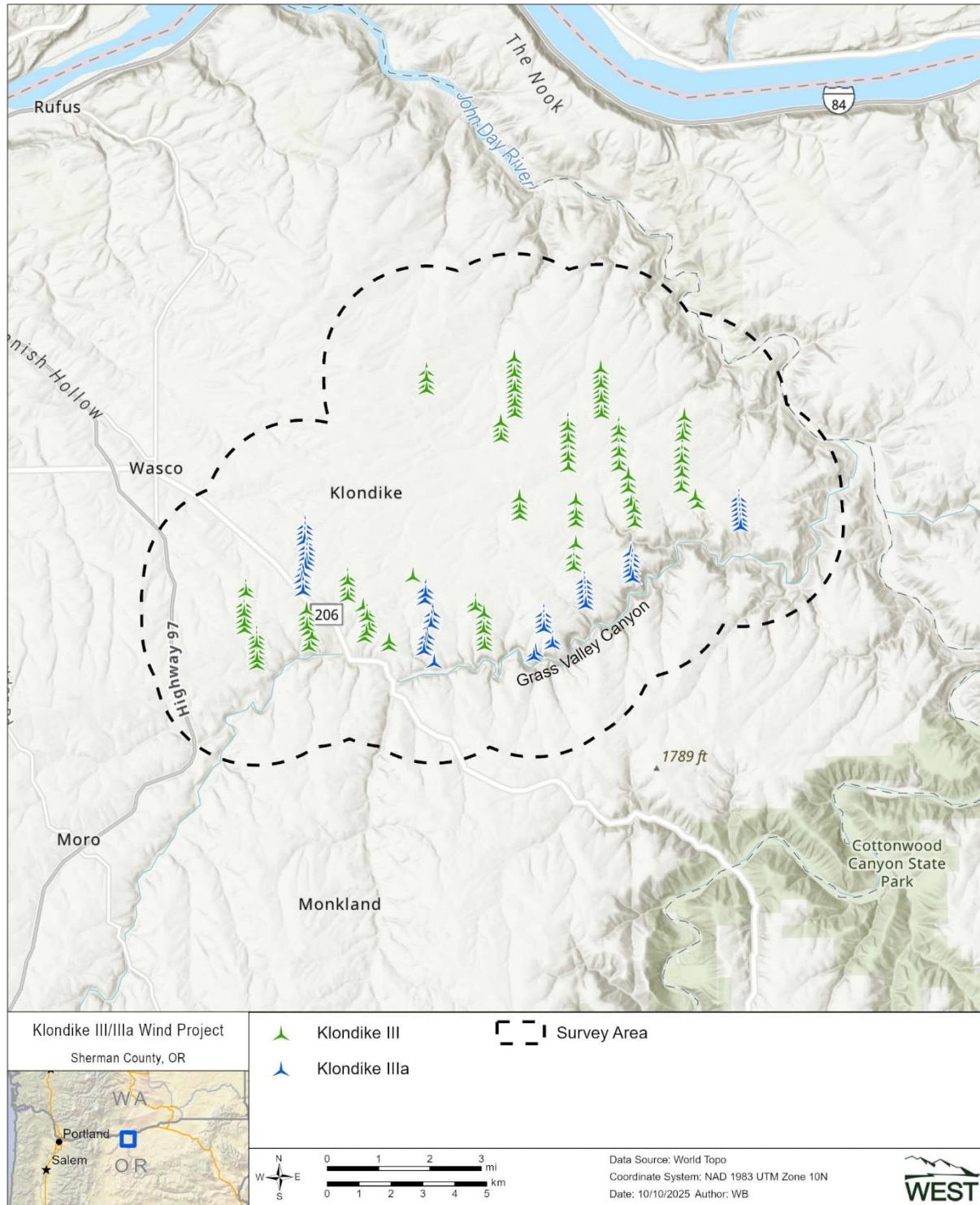


Figure 1. Location and raptor nest Survey Area of the Klondike III/IIIa Wind Project in Sherman County, Oregon.

Study Design for Aerial Surveys

The aerial surveys allowed for a thorough visual inspection of potentially suitable nesting habitats within the Survey Area. As part of the pre-flight planning, biologists conducted a desktop review of aerial imagery and land cover data to develop a survey route, and to identify potential raptor nesting habitats within the Survey Area, including riparian corridors, woodlands and forested areas, large trees, cliffs or rocky outcrops, and anthropogenic structures such as power poles. Locations of raptor nests documented during previous aerial surveys at the Project (2008, 2012, 2017, 2020, and 2022) were reviewed and included as part of the pre-flight data package to ensure these areas were surveyed.

Two experienced WEST biologists (a primary and a secondary observer) conducted the initial (Round 1) aerial raptor nest survey from a Robinson R-44 Raven II helicopter with bubble windows that provided good visibility (Pagel et al. 2010, USFWS 2013). The Round 1 survey was conducted on March 18, 2025, early in the nesting season to coincide with the period when most local raptor species were likely nesting (e.g., ferruginous hawk and great horned owl [*Bubo virginianus*]; Pagel et al. 2010, USFWS 2013); however, late-nesting species (e.g., Swainson's hawk) may not yet have been present. Timing of Round 1 also ensured easier detection of tree nests because deciduous trees had not yet begun to push out leaves, potentially obstructing views of and into nests.

The helicopter was flown at approximately 150–200 ft above ground level at an air speed of approximately 50 mi per hour. During the survey, the pilot positioned the helicopter to allow the biologists a thorough visual inspection of any stick-nests located in suitable nesting habitat. The survey team took care to minimize disturbance to breeding eagles and other raptors. When nests were located, the pilot reduced speed and adjusted the flight track such that one of the biologists could clearly see the nest to record data accurately. The pilot maintained the greatest possible distance at which nest status could be documented if raptors were present on the nest, while occupying the airspace for the minimum possible duration (no longer than 15–30 seconds; Pagel et al. 2010, USFWS 2013). Survey flight paths were recorded using a Global Positioning System- (GPS-) enabled tablet running Locus Map 3 Classic software (Locus Map 2025) to ensure the Survey Area was covered adequately (Appendix A).

To determine the status of a nest, the biologists evaluated behavior of adults on or near the nest, and the presence of eggs, young, whitewash, or fresh building materials. Species, nest status, nest condition, and nest substrate were recorded at each nest location, to the extent possible (all terms are defined in *Data Collection Methods and Terminology*).

Biologists conducted a second aerial nest survey (Round 2) on May 15, 2025, from an Enstrom 480 helicopter, and rechecked nests identified during Round 1 to confirm nest status. The Round 2 survey was also used to record information on raptors that initiate nesting later in the breeding season and followed the same methodology used during Round 1.

Data Collection Methods and Terminology

Each nest was assigned a unique nest identification number, and a location was recorded with a GPS-enabled tablet running Locus Map 3 Classic software (Locus Map 2025). Attribute data including species, condition, size, whether the nest was potentially suitable for eagle use, status, and substrate were documented. Below are detailed descriptions of nest attributes and applicable definitions and terms.

Species – A species was assigned to each nest, when observed.

Nest condition – Nest condition was categorized using descriptions ranging from poor to good, which provided a relative sense of when a nest or nest site may have been last used.

- poor: a nest that appeared dilapidated (e.g., in disrepair, sloughing, or sagging heavily) and required major repair to be suitable for successful nesting
- fair: a nest with a defined bowl, minor sagging that may require some repair in order to be used
- good: a nest with a well-defined bowl, no sagging or sloughing, and was considered suitable for nesting in its current condition
- unknown: nest condition was unknown (e.g., the nest structure could not be viewed due to access/visibility issues)

Nest substrate – Nest substrate included trees, cliffs and rock outcrops, and anthropogenic structures (e.g., power line poles and nest platforms).

Nest size

- very large nests were greater than 3.0 ft in diameter (Katzner et al. 2020, Buehler 2022)
 - o bald eagle nests typically ranged from 4.9–5.9 ft in diameter and 2.3–3.9 ft high
 - o golden eagle nests typically ranged from 3.0–5.0 ft in diameter and 2.0–3.0 ft high
- large nests ranged from 2.0–3.0 ft in diameter and were usually characteristic of nests built and/or used by non-eagle raptors; however, some large nests could potentially support eagles
- medium nests ranged from 1.0–2.0 ft in diameter
- small nests were usually less than 1.0 ft in diameter

Nest status – Nest status was categorized using definitions originally proposed by Postupalsky (1974) and these definitions follow those of the ECPG.

- occupied: 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 (or 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 the nest rim or underneath
 - o occupied active: nest had eggs, nestlings, and/or an adult in incubating/brooding position at the time of the survey
 - o occupied inactive: nest had evidence of recent tending or presence of an adult, but there were no eggs, nestlings, or adult in incubating/brooding position
- inactive: during a given visit, a nest has no evidence of tending and no eggs, nestlings, or adults present. This term only applies when enough information could be gathered to discern status during a visit (i.e., an aerial survey or four hours of ground-based monitoring). Inactive is not a final status for a breeding season (see *unoccupied* and *undetermined inactive*)
- unoccupied: a nest classified as inactive for at least two consecutive visits (at least 30 days apart) within the current nesting season
- missing: the nest was no longer present or could not be found

Nesting territory – A confined locality where nests were found, and where no more than one raptor pair was known to have bred at one time (Steenhof et al. 2017).

Data Management

Data Compilation and Storage

WEST data-entry staff were trained on proper data entry procedures, which included an independent review of the field data. System controls were implemented to ensure correct data were entered. If any errors were identified in later stages of analysis, the errors were traced back to the raw data, where appropriate changes and measures were implemented. Data were entered into a PostgreSQL (PostgreSQL Global Development Group, Berkeley, California) database and underwent a quality assurance and quality control (QA/QC) process.

Quality Assurance and Quality Control

WEST implemented QA/QC measures at all stages of the surveys, including in the field, during data entry and analysis, and report writing. All WEST field staff were trained in proper survey techniques and all data collected were recorded on paper. Data were reviewed before and after the data were submitted for data entry. If errors or anomalies were found, follow-up measures were implemented including discussions and review of field data with field coordinator and/or the Project Manager.

Reporting and Review Process

WEST's reporting and review process included technical editing and content review, senior technical review, and a final review by the Project Manager before delivery to the client.

RESULTS

A total of 27 raptor and common raven nests were documented within the Survey Area. Of the 27 nests, 19 were classified as occupied active, including 11 red-tailed hawk (*B. jamaicensis*) nests, six common raven nests, and two great horned owl nests (Table 1, Figure 2; Appendix B). A total of eight nests were classified as unoccupied (Table 1, Figure 2; Appendix B), including five historical nest locations known within the two golden eagle breeding territories overlapping the Survey Area. Additionally, 12 previously documented nests (Chatfield et al. 2022) were checked and determined to be missing.

None of the focal species identified in the Project WMMP were documented at any of the 27 occupied active nests, therefore no ground-based follow-up surveys were conducted. Fourteen of the 27 nests documented in 2025 are located in the southern portion of the Survey Area along Grass Valley Canyon or a tributary to Grass Valley Canyon (Figures 1 and 2).

Table 1. Species and status of raptor nests documented at the Klondike III/IIIa Wind Project in Sherman County, Oregon, from March – May 2025.

Species	Nest Status		
	Occupied Active	Unoccupied	Total
common raven	6	0	6
great horned owl	2	0	2
red-tailed hawk	11	0	11
no species observed	0	8	8
missing	0	0	12
Total	19	8	39

See *Nest Status* section for definitions.

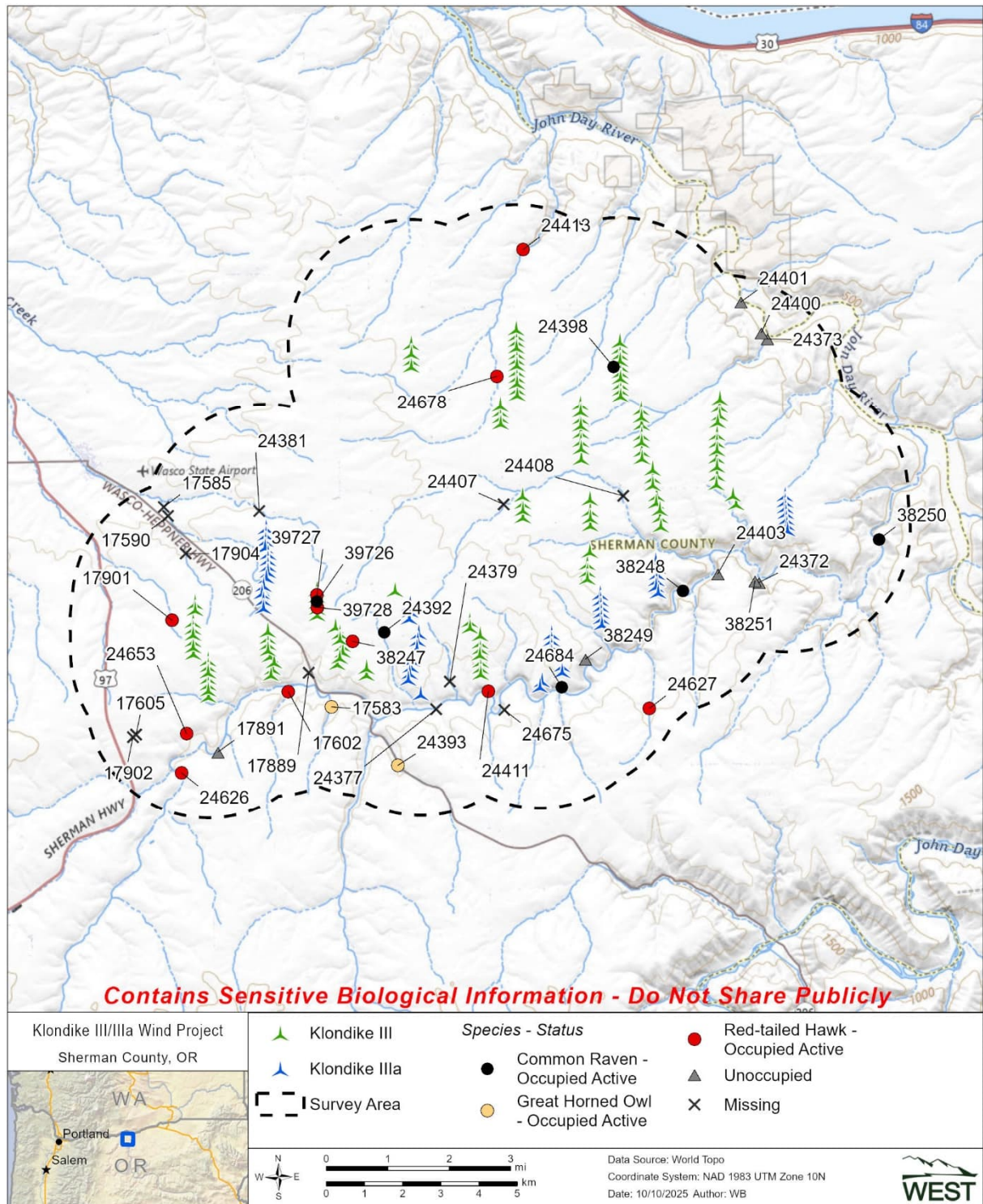


Figure 2. Location of raptor nests documented during the raptor nest surveys at the Klondike III/IIIa Wind Project in Sherman County, Oregon, from March – May 2025.

DISCUSSION

Across survey years (2008, 2012, 2017, 2020, 2022, and 2025), eight raptor species have been documented nesting within the Survey Area: ferruginous hawk, golden eagle, great horned owl, long-eared owl (*Asio otus*), red-tailed hawk, and Swainson's hawk (Table 2; Gritski et al 2010; Gerhardt and Anderson 2012, Gerhardt and Kronner 2017, Chatfield and Thompson 2020, Chatfield et al 2022).

Table 2. Summary of active raptor nests documented during surveys conducted in 2008, 2012, 2017, 2020, 2022, and 2025 within two miles of the Klondike III/IIIIa Wind Project, Sherman County, Oregon.

Active Raptor Nests Species	2008	2012	2017	2020	2022	2025
ferruginous hawk*	1	0	0	0	0	0
golden eagle	1	2	1	2	1	0
great horned owl	0	0	3	1	1	2
long-eared owl	1	0	0	0	0	0
red-tailed hawk	5	17	7	6	7	11
Swainson's hawk	6	1	3	0	1	0
unidentified <i>Buteo</i>	1	0	0	0	0	0
Total Active Raptor Nests	15	20	14	9	10	13
common raven	0	4	8	1	1	6
inactive/unoccupied nests	19	18	24	14	17	8
Total Nests	34	42	46	24	28	27

*Species in bold type are those identified in the Project WMMP as target species.

The greatest number of active raptor nests was recorded in 2012, largely attributed to greater numbers of active red-tailed hawk nests documented at the Project during that year (Table 2). In general, the lowest level of raptor nesting was observed in 2020, with raptor nest use increasing in 2022 and 2025 to a level near that recorded during baseline (pre-construction) surveys conducted in 2008 (Table 2). One occupied active ferruginous hawk nest was documented in 2008 however, no nest has been documented in that same location during subsequent survey years and no other active nests of this species have been reported in the Survey Area to date.

Golden eagle nesting has remained relatively consistent over the 17-year study period (2008 to 2025; Table 2; Gritski et al 2010; Gerhardt and Anderson 2012, Gerhardt and Kronner 2017, Chatfield and Thompson 2020, Chatfield et al 2022) averaging 1.2 active nests per survey year. All five historical nests associated with the two eagle territories, (nests 24373 and 24400 in the John Day River Territory and nests 24372, 38251, and 24003 in the Grass Valley Canyon Territory; Figure 2), were present and documented as unoccupied during 2025 surveys.

Although Swainson's hawk nest use at the Project has declined from six nests in 2008 to zero nests in 2025, at a larger, regional scale, Watson et al. (2021, 2025) found significant increases in Swainson's hawk nests at wind energy facilities in the upper Columbia Basin from up to 18 years following facility construction, with regional Swainson's hawk nest numbers more than doubling between pre- and post-construction nest surveys. Similar changes in Swainson's hawk nest use were observed at two reference areas located away from the wind energy facilities (Watson et al. 2021, 2025).

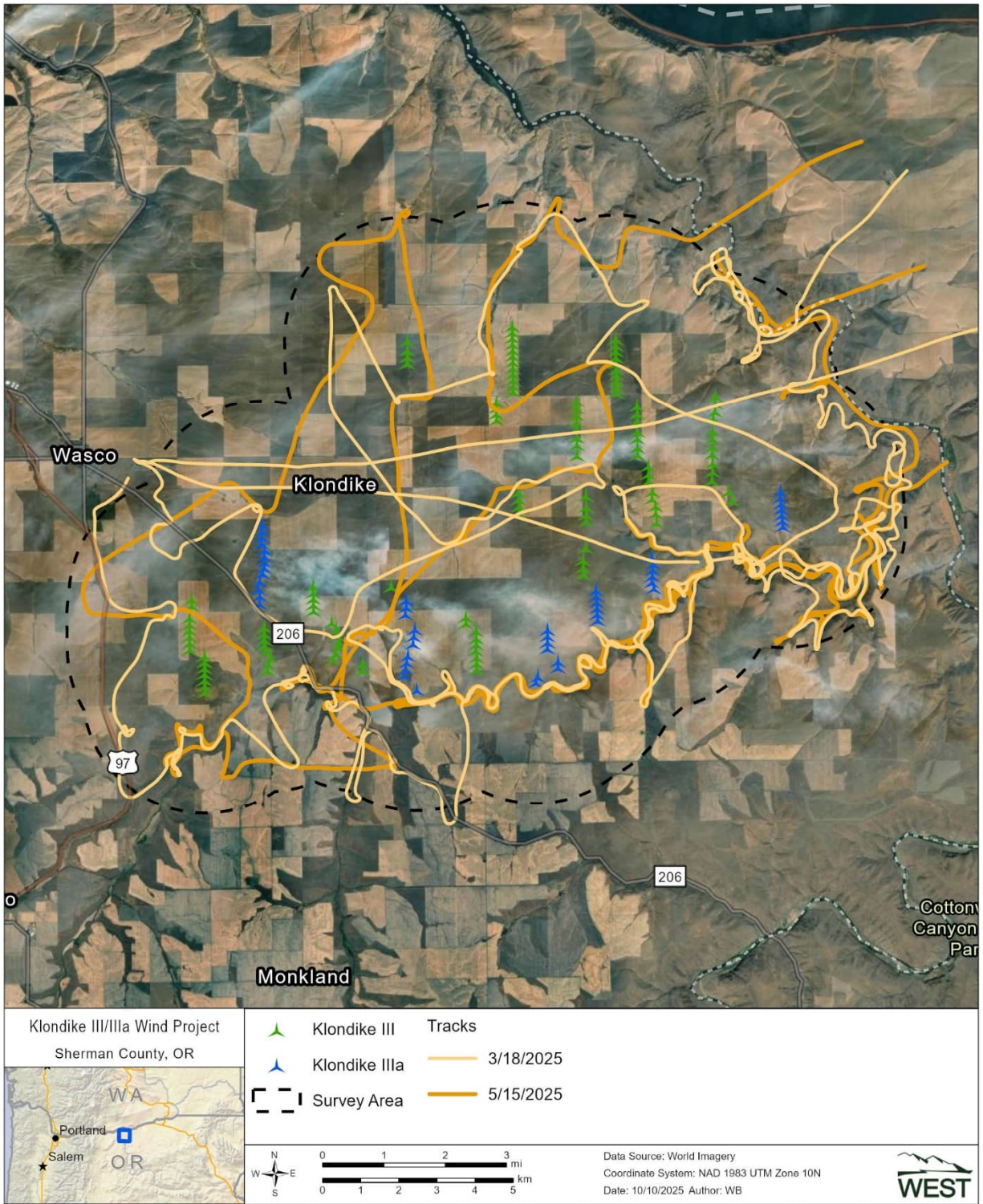
Several factors can influence annual variation in nesting occupancy among species, including land-use changes (e.g., wind energy development or conversion of dryland wheat fields to orchards or vineyards), shifts in precipitation and weather patterns, fluctuations in prey availability, and changes in suitable nesting substrates. Because these factors often interact, identifying a single causal relationship is challenging.

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**Appendix A. Aerial Survey Tracks from the Raptor Nest Surveys at the Klondike III/IIIa
Wind Project in Sherman County, Oregon, from March – May 2025**



Appendix A. Aerial survey tracks during the raptor nest surveys at Klondike III/IIIA Wind Project in Sherman County, Oregon, from March – May 2025.

**Appendix B. Raptor Nest Attributes Recorded During the Raptor Nest Surveys at the
Klondike III/IIIa Wind Project in Sherman County, Oregon, from March – May 2025**

Appendix B. Raptor nests recorded during aerial surveys at the Klondike III/IIIa Wind Project in Sherman County, Oregon, from March – May 2025.

Nest ID	Species	Status	Substrate	Condition	Size
17583	great horned owl	occupied active	deciduous tree	good	medium
17585	no species observed	missing	–	–	–
17590	no species observed	missing	–	–	–
17602	red-tailed hawk	occupied active	deciduous tree	good	medium
17605	no species observed	missing	–	–	–
17889	no species observed	missing	–	–	–
17891	no species observed	unoccupied	cliff	good	medium
17901	red-tailed hawk	occupied active	deciduous tree	good	medium
17902	no species observed	missing	–	–	–
17904	no species observed	missing	–	–	–
24372	no species observed	unoccupied	cliff	fair	very large
24373	no species observed	unoccupied	cliff	fair	very large
24377	no species observed	missing	–	–	–
24379	no species observed	missing	–	–	–
24381	no species observed	missing	–	–	–
24392	common raven	occupied active	deciduous tree	good	medium
24393	great horned owl	occupied active	–	unknown	–
24398	common raven	occupied active	deciduous tree	good	large
24400	no species observed	unoccupied	cliff	fair	very large
24401	no species observed	unoccupied	cliff	good	large
24403	no species observed	unoccupied	cliff	fair	large
24407	no species observed	missing	–	–	–
24408	no species observed	missing	–	–	–
24411	red-tailed hawk	occupied active	cliff	good	medium
24413	red-tailed hawk	occupied active	deciduous tree	good	medium
24626	red-tailed hawk	occupied active	cliff	good	medium
24627	red-tailed hawk	occupied active	deciduous tree	good	medium
24653	red-tailed hawk	occupied active	deciduous tree	good	medium
24675	no species observed	missing	–	–	–
24678	red-tailed hawk	occupied active	deciduous tree	good	medium
24684	common raven	occupied active	cliff	good	medium
38247	red-tailed hawk	occupied active	deciduous tree	good	medium
38248	common raven	occupied active	cliff	good	medium
38249	no species observed	unoccupied	cliff	fair	medium
38250	common raven	occupied active	cliff	good	medium
38251	no species observed	unoccupied	cliff	poor	large
39726	common raven	occupied active	powerline	good	medium
39727	red-tailed hawk	occupied active	deciduous tree	good	medium
39728	red-tailed hawk	occupied active	cliff	good	medium

ID = Identification; – = not applicable.