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2 **Leaning Juniper II Wind Project: Habitat Mitigation Plan**

3 [NOVEMBER 2009, Amended July 2024]
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6 **I. Introduction**

7 This plan describes methods and standards for preservation and enhancement of an area
8 of land near the Leaning Juniper II Wind Power Facility (LJF) to mitigate for the impacts of the
9 facility on wildlife habitat.¹ This plan addresses mitigation for both the permanent impacts of
10 facility components and the temporal impacts of facility construction. The certificate holder
11 shall protect and enhance the mitigation area as described in this plan. This plan specifies
12 habitat enhancement actions and monitoring procedures to evaluate the success of those
13 actions. Remedial action may be necessary if progress toward habitat enhancement success is
14 not demonstrated in any part of the mitigation area.

15 **II. Description of the Impacts Addressed by the Plan**

16 The estimated land area that could be occupied by permanent facility components (the
17 “footprint”) is approximately 111 acres, based on the final design configuration for LJIIA and
18 the expected configuration for LJIIB.² In addition to the footprint impacts, construction of the
19 facility could disturb approximately 850 acres. Although much of the area is cropland, habitat
20 that could be affected by construction disturbance includes areas of perennial bunchgrass,
21 desirable shrubs and juniper trees. After disturbance, the recovery of perennial bunchgrass
22 species to a mature stage might take five to seven years; recovery of juniper trees and desirable
23 shrubs such as bitterbrush and sagebrush might take ten to 30 years to reach maximum height
24 and vertical branching. Even where recovery of these habitat subtypes is successful, there is a
25 loss of habitat quality during the period of time needed to achieve recovery (temporal impact).

26 **III. Calculation of the Size of the Mitigation Area**

27 The actual footprint and construction disturbance areas cannot be determined until the
28 final design layout of the facility is known. Before beginning construction of any phase the
29 facility, the certificate holder shall provide to the Oregon Department of Energy (Department)
30 a map showing the final design configuration of that phase and a table showing the estimated
31 areas of permanent impacts and construction area impacts on habitat (by category, habitat types
32 and habitat subtypes) in that phase. The certificate holder shall calculate the size of the
33 mitigation area, as illustrated below, based on the final design configuration of the facility. The
34 certificate holder shall implement the habitat enhancement actions described in this plan, after
35 the Department has approved the size of the mitigation area. This plan does not address
36 additional mitigation that might be required under the Leaning Juniper II Wildlife Monitoring
37 and Mitigation Plan.
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¹ This plan is incorporated by reference in the site certificate for the Leaning Juniper II Wind Power Facility 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.

² The LJIIA and LJIIB areas are described in the *Final Order on Amendment #1*. The expected acres of permanent impact for LJIIA are shown in Table 6 of the Final Order. The acres of permanent impact for LJIIB are shown in Table 7.

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1 The mitigation area must be large enough to meet the habitat mitigation goals and
2 standards of the Oregon Department of Fish and Wildlife (ODFW) described in OAR 635-415-
3 0025. The ODFW goals require mitigation to achieve “no net loss” of habitat in Categories 2, 3
4 and 4 and a “net benefit” in habitat quantity or quality for impacts to habitat in Categories 2
5 and 5.

6 For the footprint impacts, the mitigation area includes two acres for every one acre of
7 Category 2 habitat affected (a 2:1 ratio) and one acre for every acre of footprint impacts to
8 Category 3, 4 and 5 habitat (a 1:1 ratio). The 2:1 ratio for Category 2 is intended to meet the
9 ODFW goals of “no net loss” of Category 2 habitat and “net benefit” of habitat quantity for
10 impacts to both Category 2 and Category 5 habitat. The 1:1 ratio for the footprint impacts to
11 Category 3, 4 and 5 habitat is intended to meet the ODFW goal of “no net loss” of habitat in
12 these categories.

13 To mitigate for construction impacts outside the footprint, the mitigation area includes ½
14 acre for every Category 2 or 3 SSA (shrub-grass; sagebrush-rabbitbrush-snakeweed/bunchgrass-
15 annual grass), SSE (bitterbrush-buckwheat-bunchgrass-annual grass) and WJ (juniper
16 woodland) habitat affected (a 0.5:1 ratio). This portion of the mitigation area is intended to
17 address the temporal loss of habitat quality during the recovery of SSA, SSE and WJ habitat
18 disturbed during construction. The size of this portion of the mitigation area is based on the
19 assumption that restoration of disturbed SSA, SSE and WJ habitat is successful, as determined
20 under the Leaning Juniper II Revegetation Plan. If the revegetation success criteria are not met
21 in the affected areas, then the Council may require the certificate holder to provide additional
22 mitigation. For the first phase of the facility (LJIIA), the areas of impact within each affected
23 habitat category and the corresponding mitigation area for each category are calculated as
24 follows, based on the final design habitat assessment.

25 Category 2

26 Footprint impacts: 6.28 acres

27 Temporal impacts to SSA and SSE: 18.19 acres

28 Mitigation area: $(6.28 \text{ acres} \times 2) + (18.19 \text{ acres} \times 0.5) = 21.66 \text{ acres}$

29 Category 3

30 Footprint impacts: 13.48 acres

31 Temporal impacts to SSA: 1.8 acres

32 Mitigation area: $13.48 \text{ acres} + (1.8 \text{ acres} \times 0.5) = 14.38 \text{ acres}$

33 Category 4

34 Footprint impacts: 1.38 acres

35 Mitigation area: 2.1 acres

36 Category 5

37 Footprint impacts: 1.34 acres

38 Mitigation area: 1.34 acres

39 **Total mitigation area for LJIIA (rounded to nearest whole acre): 39 acres**

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For the second phase of the facility (LJIIB), areas of potential impact within each affected habitat category and the corresponding mitigation area for each category are calculated as follows, based on maximum habitat impact estimates:³

Category 2

Footprint impacts: 12.16 acres

Temporal impacts to SSA, SSE and WJ: 21.86 acres

Mitigation area: $(12.16 \text{ acres} \times 2) + (21.86 \text{ acres} \times 0.5) = 35.26 \text{ acres}$

Category 3

Footprint impacts: 16.07 acres

Temporal impacts to SSA: 0.31 acres

Mitigation area: $16.07 \text{ acres} + (0.31 \text{ acres} \times 0.5) = 16.23 \text{ acres}$

Category 4

Footprint impacts: 1.44 acres

Mitigation area: 1.44 acres

Total mitigation area for LJIIB (rounded to nearest whole acre): 53 acres

IV. Description of the Mitigation Area

The certificate holder shall select a mitigation area in proximity to the facility where habitat protection and enhancement are feasible consistent with this plan.⁴ The applicant identified a 440-acre parcel in a relatively remote setting where habitat protection and enhancement are feasible and sufficient land area is available to accommodate the size of the mitigation area, based on a worst-case estimate.⁵ Before beginning construction of any phase of the facility, the certificate holder shall determine the final size of the mitigation area needed for that phase. The certificate holder shall determine the boundaries of the mitigation area in consultation with ODFW and the affected landowners and subject to the approval of the Department. The final mitigation area must contain suitable habitat to achieve the ODFW goals of no net loss of habitat in Categories 2, 3 and 4 and a net benefit in habitat quantity or quality for impacts to habitat in Categories 2 and 5 through appropriate enhancement actions. Before beginning construction of any phase of the facility, the certificate holder shall acquire the legal right to create, maintain and protect the habitat mitigation area needed for that phase for the life of the facility by means of an outright purchase, conservation easement or similar conveyance and shall provide a copy of the documentation to the Department.⁶

V. Habitat Enhancement Actions

The objectives of habitat enhancement are to protect habitat within the mitigation area from degradation and to improve the habitat quality of the mitigation area. By achieving these goals,

³ The maximum impact estimates are shown in Table 8 of the *Final Order on Amendment #1*.

⁴ OAR 635-415-0005 defines “in-proximity habitat mitigation” as follows: “habitat mitigation measures undertaken within or in proximity to areas affected by a development action. For the purposes of this policy, „in proximity to“ means within the same home range, or watershed (depending on the species or population being considered) whichever will have the highest likelihood of benefiting fish and wildlife populations directly affected by the development.”

⁵ The 440-acre parcel is described in Section IV.4.(b)(F) of the Final Order on the Application

⁶ As used in this plan, “life of the facility” means continuously until the facility site is restored and the site certificate is terminated in accordance with OAR 345-027-0110.

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2 the certificate holder can address the permanent and temporal habitat impacts of the LJF and
3 meet the ODFW goals of no net loss of habitat in Categories 2, 3 and 4 and a net benefit in
4 habitat quantity or quality for impacts to habitat in Categories 2 and 5. The certificate holder
5 shall initiate the habitat enhancement actions for each phase of the facility as soon as the final
6 design configuration of the that phase is known and the size of the mitigation area has been
7 determined and approved by the Department. The certificate holder shall implement the
8 following enhancement actions:

- 9
- 10 1. Modification of Livestock Grazing Practices. The certificate holder shall restrict grazing
11 within the habitat mitigation area. Eliminating livestock grazing within the mitigation
12 area during most of the year will enable recovery of native bunchgrass and sagebrush in
13 areas where past grazing has occurred, resulting in better vegetative structure and
14 complexity for a variety of wildlife. Reduced livestock grazing may be used as a
vegetation management tool.
 - 15 2. Shrub Planting. If, at any time, monitoring results indicate that the survival and growth
16 of sagebrush recruits are not adequate to mitigate Project related impacts, the
17 Department may require supplemental sagebrush planting up to 5 acres as originally
18 stipulated in the HMP.
 - 19 3. Weed Control. The certificate holder shall implement a weed control program. Under
20 the weed control program, the certificate holder shall monitor the mitigation area to
21 locate weed infestations. The certificate holder shall continue weed control monitoring,
22 as needed, for the life of the facility. As needed, the certificate holder shall use
23 appropriate methods to control weeds. Weed control on the mitigation site will reduce
24 the spread of noxious weeds within the habitat mitigation area and on any nearby
25 grassland, CRP or cultivated agricultural land. Weed control will promote the growth of
26 desirable native vegetation and planted sagebrush. The certificate holder may consider
27 weeds to be successfully controlled when weed clusters have been eradicated or reduced
28 to a non-competing level. Weeds may be controlled with herbicides or hand-pulling.
29 The certificate holder shall notify the landowner of the specific chemicals to be used on
30 the site and when spraying will occur. To protect locations where young desirable forbs
31 may be growing, spot-spraying may be used instead of total area spraying.
 - 32 4. Fire Control. The Certificate holder shall implement practices to minimize risk of
33 wildfire. The Certificate holder shall coordinate with adjacent landowners to minimize
34 risk of fire. If any part of the mitigation area is damaged by wildfire, the certificate
35 holder shall assess the extent of the damage and implement appropriate actions to
36 restore habitat quality in the damaged area. The Certificate Holder acknowledges that
37 wildfires are natural part of shrub steppe ecology and post-fire restoration actions would
38 focus on reestablishment of native vegetation and control of weeds. Restoration actions
39 would be coordinated with ODOE and described in the Facility's annual report.
40 Management Practices include:
 - 41 i. If Employees or Contractors are driving to the mitigation site:
 - 42 a. Require employees and contractors to park away from combustible
43 vegetation.
 - 44 b. All employee or contractor vehicles traveling to the HMA will be equipped
45 with a shovel and fire extinguisher.

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- 1 ii. Carry a form of communication to report fire should one be observed.
- 2 iii. Prohibit all hot work.
- 3 iv. Prohibit smoking.
- 4 v. Prohibit the stockpiling of combustible materials.
- 5 vi. Report hazards such as natural accumulations of combustible materials to the
- 6 landowner.
- 7 5. Nest platforms. The certificate holder shall construct at least one artificial raptor nest
- 8 platform in the mitigation area tailored to the opportunities of the site, using best
- 9 professional judgment of raptor use in the general area. The certificate holder may
- 10 construct more than one nest platform based on the availability of suitable locations.
- 11 The certificate holder shall maintain the nest platforms for the life of the facility.
- 12 7) Habitat Protection. The certificate holder shall restrict uses of the mitigation area that
- 13 are inconsistent with the goals of no net loss of habitat in Categories 2, 3 and 4 and a
- 14 net benefit in habitat quantity or quality for impacts to habitat in Categories 2 and 5.

15 **VI. Monitoring**

16 **1. Monitoring Procedures**

17 The certificate holder shall hire a qualified investigator (an independent botanist, wildlife

18 biologist or revegetation specialist) to conduct a comprehensive monitoring program for the

19 mitigation area. The purpose of this monitoring is to evaluate on an ongoing basis the protection

20 of habitat quality, the results of enhancement actions and the use of the area by avian and

21 mammal species, especially during the wildlife breeding season.

22 The investigator shall monitor the habitat mitigation area every other year for the life of

23 the facility. The investigator shall visit the site as necessary to carry out the following monitoring

24 procedures:

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- 1) Every other year, assess vegetation cover (species, structural stage, etc.) and progress toward meeting the success criteria.
- 2) Every other year record environmental factors (such as precipitation at the time of surveys and precipitation levels for the year).
- 3) Every other year record any wildfire that occurs within the mitigation area and any remedial actions taken to restore habitat quality in the damaged area.
- 4) Every other year assess the success of the weed control program and recommend remedial action, if needed.
- 5) Assess the recovery of native bunchgrass and natural recruitment of sagebrush resulting from removal of livestock grazing pressure by comparing the quality of bunchgrass and sagebrush cover at the time of each monitoring visit with the quality observed in previous monitoring visits and as observed when the mitigation area was first established. The investigator shall establish photo plots of naturally recovering sagebrush and native bunchgrass during the first year following the beginning of construction of the LJF. The investigator shall take comparison photos in monitoring years until the subject vegetation has achieved mature stature. The investigator shall determine the extent of successful recovery of native bunchgrass based on measurable indicators (such as, signs of more abundant seed production) and shall report on the progress of recovery within in the monitoring plots. The investigator shall report on the timing and extent of any livestock grazing that has occurred within the mitigation area since the previous monitoring visit.
- 6) Assess the survival rate and growth of sagebrush. The investigator shall select several clusters for photo monitoring and shall take close-up and long-distance digital images of each selected cluster during each monitoring visit. The certificate holder shall determine the number of clusters to be photo-monitored at the time of monitoring, in consultation with the Department and ODFW. The investigator shall take comparison photos in monitoring years until the surviving planted sagebrush has achieved mature stature.
- 8) During monitoring as described above, the certificate holder or representative will record incidental observations of Federal or Oregon protected species and include a list and observation details in the monitoring report.

The certificate holder shall report the investigator’s findings and recommendations regarding the monitoring of the mitigation area to the Department and to ODFW in years when monitoring is conducted. In the annual report, the certificate holder shall describe all habitat mitigation actions carried out during the reporting year. The report to the Department may be included as part of the annual report on the LJF.

2. Success Criteria

Mitigation of the permanent and temporal habitat impacts of the facility may be considered successful if the certificate holder protects and enhances sufficient habitat within the mitigation area to meet the ODFW goals of no net loss of habitat in Categories 2, 3 and 4 and a net benefit in habitat quantity or quality for impacts to habitat in Categories 2 and 5. The certificate holder must protect the quantity and quality of habitat within the mitigation area for the life of the facility. ODFW has advised the Department that protection of habitat alone (without enhancement activity) will not meet the intent of the “net benefit” goal.

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1 The certificate holder must protect a sufficient quantity of habitat in each category to
2 meet the mitigation area requirements calculated under Section III based on the final design
3 configuration of each phase of the facility. The certificate holder shall determine the actual
4 mitigation area requirements for each phase, subject to Department approval, before beginning
5 construction of the that phase. If the land selected for the mitigation area does not already
6 contain sufficient habitat in each category to meet these requirements, then the certificate holder
7 must demonstrate improvement of habitat quality sufficient to change lower-value habitat to a
8 higher value (for example, to convert Category 3 habitat to Category 2). The certificate holder
9 may demonstrate improvement of habitat quality based on evidence of indicators such as
10 increased avian use by a diversity of species, survival of shrubs, more abundant seed
11 production of desirable native bunchgrass, natural recruitment of sagebrush and successful weed
12 control. If the certificate holder cannot demonstrate that the habitat mitigation area is trending
13 toward the habitat quality goals described above, the certificate holder shall propose remedial
14 action. The Department may require supplemental planting or other corrective measures.

15 After the certificate holder has demonstrated that the habitat quantity goals have been
16 achieved, the investigator shall verify, during subsequent monitoring visits, that the mitigation
17 area continues to meet the ODFW “no net loss” and “net benefit” goals described above. The
18 investigator shall recommend remedial action if the habitat quality within the mitigation area
19 falls below the habitat quantity goals listed above. The Department may require supplemental
20 planting, other corrective measures and additional monitoring as necessary to ensure that the
21 habitat quantity goals are achieved and maintained.

22 **VII. Amendment of the Plan**

23 This Habitat Mitigation Plan may be amended from time to time by agreement of the
24 certificate holder and the Oregon Energy Facility Siting Council (“Council”). Such amendments
25 may be made without amendment of the site certificate. The Council authorizes the Department
26 to agree to amendments to this plan. The Department shall notify the Council of all
27 amendments, and the Council retains the authority to approve, reject or modify any amendment
28 of this plan agreed to by the Department.
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