

Attachment D

**Principles and Standards for Development of a Habitat
Mitigation Plan
For
RECORD OF DECISION
North Steens 230kV Transmission Line Project
Case File Number: OR-65891**

I. Introduction

This document describes the criteria that will be utilized in the development of a habitat mitigation plan (Plan) for the Echanis Wind Power Project, including access roads and the transmission line connecting the wind energy project to the regional transmission grid (collectively, the Project). The goal of this document is to create common understanding and expectations among Echanis, Harney County, ODFW, BLM and FWS about the standards, methods, time-frames and other considerations that will inform determinations about the adequacy of the Plan. The Plan will describe the actions that will be taken by Echanis, LLC (Echanis) to mitigate for the impacts of the Project on wildlife habitat, with particular emphasis on the habitat of the Greater sage-grouse. The Plan will address requirements of the CUP issued by Harney County for the Project and support consistency of the Project with the Oregon ODFW SGCS and the associated document entitled “*Implementing Habitat Mitigation for Greater Sage-grouse under the Core Area Approach*” or SGMF. The SGCS and SGMF were developed by ODFW and endorsed by the FWS and is supported by the BLM to support the conservation of sage-grouse and potentially minimize the need to list that species under the Endangered Species Act, while at the same time facilitating the development of environmentally sound energy projects. ODFW and FWS have stated that projects that are not implemented consistent with the SGCS and SGMF will not support these goals. The Plan will also describe steps to be implemented more broadly across the Project to generally improve habitat and conditions for wildlife overall. Since the Project and its impacts occur on both private and Federal lands, a variety of governmental and non-governmental entities are expected to have guidance, regulatory and/or oversight roles in the development and implementation of the Plan. The Plan shall be fully enforceable by virtue of its various components being required by the ROD and Harney County’s CUP. Both will be necessary for construction and operation of the Project.

This common awareness is necessary because elements of the Plan will not be fully developed by the date established by BLM for finalization of its ROD for Echanis’ application for a ROW grant from BLM. Instead, elements of the Plan will be developed incrementally following issuance of the ROD. This document and its provisions and the resulting Plan will be incorporated into the ROD, ROD stipulations and ROW grant conditions and into the CUP, and become requirements for compliance with those regulatory products.

This document will address the above goals and issues by describing the principles, standards, criteria, time-frames, and other considerations that: a.) generally apply to mitigation proposals for wind, transmission, and other energy and development projects in sage brush habitat in Oregon; b.) will be used to determine the types, amounts, and locations of Project impacts and

associated mitigation obligations; c.) will be used to select the habitat restoration, enhancement, protection and other management actions necessary to satisfy the Project's mitigation obligations; and d.) will be used to develop monitoring measures to evaluate the success of Project mitigation actions and broader wildlife/habitat enhancement efforts. The document will further summarize the regulatory and adaptive responses that will be taken if the Plan is not developed and implemented in accordance with applicable standards.

II. General Principles and Standards

- A. The SGMF will serve as the standard and framework for quantifying the Project's impacts and mitigation obligations in the Plan.
- B. Actions on public lands should not serve as the primary/dominant means of mitigating for impacts. In particular, impacts on private lands will be mitigated through action on private lands to the greatest extent practicable. However, mitigation on public lands may be necessary or advisable when: a.) appropriate mitigation opportunities on private lands are not available; b.) land management policies require that impacts incurred on public lands are also mitigated on public lands.
- C. Actions proposed as mitigation will result in an improvement to the baseline condition of the lands on which those actions occur, commensurate with the amount and types of impacts. If the Plan includes actions on public lands as mitigation, those actions will enhance the biological values of the public lands beyond those already provided by the existing public land management program. In most cases, the baseline which must be enhanced on public lands will include conditions that would be attained via elements of the public lands management program that are planned or required but not yet implemented. However, there may be situations in which actual attainment of those conditions via the public programs is unlikely because of funding constraints or other obstacles. In these situations and if the proposed actions and resulting biological conditions are considered to be a high-priority for the conservation of the species, then substantially expediting and expanding those actions on public lands may be an acceptable form of mitigation.
- D. Absent data and analysis to the contrary, the Plan will be based on the assumption that most Project impacts are long-term or permanent in nature. The benefits derived from mitigation actions proposed in the Plan will therefore also be long-term or permanent in nature.
- E. Because most Project impacts will occur in the early stages of a project (i.e. construction and initial operations) the benefits of mitigation actions proposed in the Plan will also begin to accrue as early in the life of the project as possible; implementation of mitigation actions in the Plan will be "front-loaded" to facilitate this.
- F. The Plan will include regulatory, legal, and funding mechanisms that assure that target biological conditions will be attained and maintained as necessary. Accordingly:

1. Mitigation actions proposed in the Plan on BLM or other Federal or public land will occur within land-use designations/classifications that will not allow for other management or uses that would degrade, delay, or otherwise undermine establishment and long-term maintenance of desired sage-grouse conservation attributes.
 2. On nonfederal land, assurances of appropriate management will be provided through conservation easements or acquisition, utilization of qualified land management and protection entities, as well as other applicable Federal and County regulatory mechanisms.
 3. The amount of financing necessary to deliver the mitigation will identified in the Plan and determined by an appropriate cost-analysis such as a Property Analysis Record (PAR); financial caps or ceilings that have not been demonstrated by appropriate cost-analysis to be adequate will not be included in the Plan. The source(s) of financing adequate for the interim and perpetual/long-term operation, management, monitoring, and documentation associated with the mitigation will be identified in the Plan and demonstrated to be secured through establishment of an endowment.
- G. Mitigation shall occur in the form of actions implemented directly by Echanis solely for the purposes of the Plan, or, at Echanis' option, either actions undertaken by other parties that address the purposes and requirements of the Plan but that are funded and enabled by Echanis; and/or purchase by Echanis of credits in mitigation banks established by public or private entities, and that meet the purposes and requirements of the Plan.

III. Impact Assessment and Calculation of the Amount of Mitigation

The amount of impact and associated mitigation will be determined as described in the SGMF. The resulting calculations identify an amount of land that is impacted by a project. The same amount of land is assumed necessary to mitigate for that impact.

The total impact/mitigation acreage is included the ROD. It will be summarized as shown in Tables 1-6, below.

Table 1: *Summary of Estimated Mitigation Acreage Requirements*

Category	Acreage
Noise (Private Land)	3,735.6
Noise (Public Land)	178.3
Road (Private Land)	1,797.8
Road (Public Land)	316.9
Transmission (Private Land)	2,939.6
Transmission (Public Land)	1,917.4
Total:	10,885.6

Table 2: *Calculation of Estimated Mitigation Area for Noise Impacts*

dB Contour	Acreage	Disturbance Factor	Mitigation Ratio	Mitigation Acreage
55+	830	1.0	2:1	1660
50-54.9	1001	0.7	2:1	1401.5
45-49.99	1634.7	0.4	1:1	653.9
40-44.9	1986.3	0.1	1:1	198.6
			Total:	1,313.9

Table 3: *Calculation of Estimated Mitigation Area for Road Impacts to Private Land*

Area	Acreage	Mitigation Acreage
Project	1,716.4	1,716.4
Low Density	81.4	81.4
		1,797.8

Table 4: *Calculation of Estimated Mitigation Area for Road Impacts to Public Land*

Area	Acreage	Mitigation Acreage
Project	0.0	0.0
Low Density	316.9	316.9
		316.9

Table 5: *Calculation of Estimated Mitigation Area for Transmission Line Impacts on Private Land*

Distance Band (miles)	Acreage	Disturbance Factor	Mitigation Acreage
0 – 0.15	1291.2	1.0	1,291.2
0.15 – 0.3	1391.7	0.8	1,113.3
0.3 – 0.45	863.7	0.4	345.5
0.45 – 0.6	947.8	0.2	189.6
			2,939.6

Table 6: *Calculation of Estimated Mitigation Area for Transmission Line Impacts on Public Land*

Distance Band (miles)	Acreage	Disturbance Factor	Mitigation Acreage
0 – 0.15	825.8	1.0	825.8
0.15 – 0.3	814.2	0.8	651.4
0.3 – 0.45	784.1	0.4	313.6
0.45 – 0.6	632.9	0.2	126.6
			1,917.4

The final Project design and associated impact and mitigation assessment that will be addressed in the Plan shall be completed prior to issuance of a NTP to Echanis by BLM. The NTP will not be issued until the final amount of mitigation has been determined.

If the Project (including the turbines, roads, substation, and transmission line) is modified, then the impact and similar mitigation assessment will be repeated based on the final Project design. If the repeated assessment identifies additional or reduced impacts, the mitigation area will be adjusted accordingly on private land and addressed by Harney County's CUP consistent with the Sage Grouse MPS. Acres, identified above for public land will remain constant. Any re-analyses of impacts and mitigation as a result of final Project design will be determined adequate by Harney County. Harney County has committed to utilizing recommendations regarding reanalysis of impacts and mitigation from BLM, ODFW, FWS or by the Local Advisory Committee (LAC) or Local Implementation Team (LIT)

The acres of mitigation will be as describe above, or the adjusted amount, if necessary, from the final project design. The actual locations and percentages of public/private will be determined as identified in section IV of this document.

IV. Identification and Description of Mitigation Locations and Actions

The Plan will identify sites on which mitigation will occur and the management actions that will occur on these sites within six months of the issuance of the ROD. This identification of locations and associated actions will be developed enough to demonstrate that adequate options for mitigation are:

a.) available, b.) being subject to “enabling” actions by Echanis; and c.) are reasonably certain to occur within the time frames described in this document. While the final suite of mitigation is expected to be based almost wholly on these locations and actions, it may not necessarily include them in their entirety.

Consistency with the SGMF will require an evaluation of “ecological site data and current vegetation condition” on both the impact areas and proposed mitigation areas prior to final selection of sites and actions. This is necessary to ensure that mitigation results in enhancement actions that achieve net benefits commensurate with the type and amounts of impacts. The

Project may utilize data from the FEIS, available studies of suitable nature for proposed mitigation areas and methodology such as that recently developed through a Conservation Innovation grant from the Natural Resources Conservation Service for the purposes of these evaluations. This methodology will result in a calculation of the amounts and types of specific habitat attributes adversely affected within the overall impact area of the Project, and similarly of the extent to which these habitat attributes exist on proposed mitigation areas. Specific mitigation areas and management actions can then be selected to most effectively achieve enhancements commensurate with impacts. A schedule and process for this evaluation will be included in the Plan within six months of the issuance of the ROD.

A. Mitigation Areas

Final locations for mitigation will be based on the SGMF, SGCS, Harney County Policy, BLM policies and requirements, the general principles and standards identified in section II of this document, and the results of the ecological evaluation referenced above. Locations will be determined by BLM, and Harney County, with recommendations provided by ODFW, FWS or by the LAC or LIT.

The SGMF provides general guidance on what criteria should be used when identifying a potential mitigation area. Specifically, the SGMF states that when selecting a mitigation area, the following factors should be considered: a.) the sage-grouse population size of the impact area; b.) the habitat quality of the mitigation area; c.) and the potential to restore the mitigation area to high quality habitat through conservation actions. In addition, the SGMF states that “the [u]se of ecological site data and current vegetation condition is recommended to assist in targeting appropriate mitigation sites.” ODFW has also stated that because the mitigation area is intended to mitigate for “landscape scale” impacts, it is appropriate to have a mitigation area be a contiguous parcel. The Mitigation Area shall not be located in an area impacted by the Project.

In selecting the Mitigation Area, criteria that will be considered will include but not be limited to:

1. Select a Mitigation Area and conservation actions in the Mitigation Area to meet the “net benefit” objective of the ODFW’s Mitigation Policy with respect to sage-grouse habitats, mitigation sites should be prioritized and selected based on the following criteria (in order of preference):
 - a. Core Areas that occur within a Conservation Opportunity Area (COA) or other landscapes with on-going sage-grouse conservation actions;
 - b. Core Areas that occur outside of a COA;
 - c. Low Density Areas that occur within a COA or other landscapes with ongoing sage-grouse conservation actions; and
 - d. Low Density Areas that occur outside of a COA.

2. Ensure vegetation on the Mitigation Area is similar to or in better condition than vegetation on project-impacted area by comparing each site using ecological site descriptions;
3. Select a Mitigation Area and actions that will result in improved habitat conditions for the life of the Project effects (i.e. for the duration of the time that the turbines, roads, and transmission line exist and any additional time to recover the habitat to pre-disturbance habitat quality conditions including use by sage-grouse);
4. Select a Mitigation Area that can be geographically consolidated at a landscape level, that can be managed for sage-grouse over the long-term, and has a reasonable probability of attaining and maintaining the required conservation attributes in light of the management actions that will be implemented under the Plan in combination with the other biological, climatic, and management factors that influence the site.
5. Evaluate habitat related factors and select sites and actions based on these factors that may be limiting sage-grouse use in the area and population growth.
6. Consider mitigation action's new contribution to conservation in relation to existing values and time lag to conservation maturity of selected actions. This is evaluated as the length of time for a mitigation action to deliver conservation at a maturity level (or ecological state) similar to that was lost at the impact site.
7. Periodically monitor vegetation and sage-grouse responses to mitigation actions by monitoring use of treated sites, and adjust mitigation if warranted.

B. Management Actions

Management actions necessary for achieving no net loss, net benefit mitigation will be based on the SGMF, SGCS, Harney County Policy, BLM policies and requirements, the general principles and standards identified in section II of this document, and the results of the ecological evaluation referenced above. Actions will be determined by BLM, and Harney County, with recommendations provided by ODFW, FWS or by the LAC or LIT.

Management actions that will be undertaken in the mitigation area(s) will be designed to a.) enhance the baseline condition of the habitat within the Mitigation Area commensurate with the types and amounts of adverse effects identified in the impact assessment and ecological evaluation and to attain the "net benefit" standard of the SGCS; b.) protect and maintain the habitat and other biological attributes required for mitigation within the Mitigation Area for the life of the Project or the Project's impacts, whichever is greater; and c.) enhance broader areas of the Project for Greater sage-grouse and other wildlife.

In selecting management actions, criteria that will be considered will include but not be limited to:

1. Habitat-related factors that may be limiting population growth of sage-grouse in the area;

2. Actions to improve habitat quality, such as:
 - a. Juniper removal
 - b. Reduce risk of wildfire (e.g. suppression efforts, fuel break placement, invasive species reduction)
 - c. Prevent invasive weed establishment
 - d. Eradicate existing invasive weeds
 - e. General improvement of sagebrush habitat condition
 - f. Fence marking or removal
 - g. Control access that compromises habitat effectiveness;
 - h. Reestablishment of Wyoming Big Brush in wildfire areas.
3. Maintaining the habitat and other attributes required for mitigation after the improvements have been attained and for the duration required to satisfy all mitigation requirements in light of the biological, climatic, management and social and economic factors that influence the site.

For the selection of both mitigation areas and actions, in situations in which all other factors are equal and result in satisfaction of the above and other applicable criteria, the relative economic and social benefits to the local community should be considered.

V. Implementation of Management and Monitoring Actions

Implementation of enhancement actions will be underway within one year of start of Project construction. 25 percent of total actions shall be underway within 2 years; another 50 percent shall be underway within 5 years and the remainder no more than 10 years after start of construction.

Implementation schedules will be consistent with achieving the outcomes described in the monitoring program (below).

The Plan will include monitoring both for compliance with the implementation and procedural requirements of the Plan and to determine whether targeted ecological outcomes are being achieved. Required ecological outcomes will be based on the results of the impact assessment and ecological evaluation, both referenced earlier in this document, and on the overall goal of the SGCS for achieving a “net benefit.”

Scientifically-accepted methods of monitoring vegetation and sage-grouse will be utilized. Specific performance targets for these ecological outcomes and a detailed regime for monitoring

and assessing their attainment will be developed by BLM, and Harney County, with recommendations provided by ODFW, FWS or by the LAC or LIT. These specifics will be included in the Plan within six months of the issuance of the ROD.

The amount of time required to attain the habitat and other attributes required for mitigation; actions should be selected so that approximately 25 percent, 75 percent, and 100 percent of the (Project total) ecological attributes required for mitigation will be fully attained no later than 7, 10, and 15 years, respectively, after commencement of construction of the Project.

Broadly, the monitoring regime should be designed to determine whether habitat enhancement and other attributes (including sage-grouse population responses), will be fully attained within this time period. If within two years prior to each these thresholds Echanis cannot demonstrate that the mitigation program is trending toward meeting them, or if at the time of each threshold date Echanis cannot demonstrate they have been attained, the BLM or Harney County may require supplemental or corrective measures, which may include increasing the size of the Mitigation Area. The monitoring should also be designed to gain data that will help more accurately identify impacts to sage-grouse and sage-grouse habitat that can result from projects of this type. It is recognized that circumstances beyond the control of Echanis could occur; such as drought, wildfire, and other unforeseen events.

Echanis shall provide funding to Harney County and the BLM adequate for the monitoring program contained in the Plan to be conducted by qualified investigators.

Echanis shall report the investigator's findings and recommendations regarding the monitoring of the Mitigation Area to BLM and/or Harney County on an annual basis. Echanis shall describe all habitat mitigation actions carried out during the reporting year and all additional work performed based on recommendations of the qualified investigator. The report shall include an evaluation of mitigation success and a description of the methods used to perform the evaluation. The report may be included as part of an annual report. Echanis shall facilitate site visits to the Mitigation Area upon request by the LAC or LIT for the purposes of monitoring the progress and effectiveness of mitigation actions.

VI. Securing Mitigation Sites, Funding for Mitigation and Monitoring, and Associated Assurances

The Plan will include regulatory, legal, and funding mechanisms that assure that target biological conditions will be attained and maintained as necessary. Section II of this document describes these requirements in more detail.

The Plan will require a detailed funding plan specifying all of the funding necessary to conduct required management actions prior to issuance of the NTP.

VII. Amendment of the Plan

Specific provisions of the Plan may be amended from time to time except as constrained by other provisions of this document, the CUP and the BLM ROW grant. The most likely reasons for amendments to the Plan are: a.) new data about sage-grouse status, biological requirements, or

about management of sage-grouse habitat—either locally or more broadly across the range of the species; b.) currently unforeseen inconsistencies or conflicts between various provisions of this document; and c.) newly identified opportunities to enhance sage-grouse populations or habitats. At no time will Plan amendments undermine the underlying tenets and goals of the SGCS; consistency with the “net benefit” standard of the SGCS should always be achieved with respect to the Project. The judgment of appropriate experts, collaborative discussion among relevant stakeholders and agencies, and best-available data should all be used to inform decisions about the necessity and implications of deviations from these principles and criteria.

Final determinations about proposed amendments will be developed by BLM, and Harney County, with recommendations provided by ODFW, FWS or by the LAC or LIT.

VIII. Enforcement and Regulation

The BLM and Harney County will adopt the HMP and its applicable components into the respective permitting authorities. The BLM will adopt the HMP and its provisions as part of the ROD and terms/stipulations as part of the potential ROW grant. Harney County will adopt the HMP and its provisions as part of the CUP.

In addition, Harney County and the BLM will both use their regulatory authorities so that: a.) consistency with all provisions of this document, regardless of which entity may have formal jurisdiction for a specific element, is required for compliance; and, b.) non-compliance is resolved or remedied in an adequate and timely fashion. Both entities possess authorities to revoke or suspend permits or require cessation of projects if compliance remedies are not achieved.

Finally this document requires that various actions and Plan elements are completed before BLM will be able to issue its ROW grant or associated NTP.

The Table below summarizes the relationship between critical elements of this document and various regulatory processes and products.

Plan Element or Action	Regulatory Product(s)	Compliance Requirement and Mechanism
Final Impact Assessment – Section III	NTP and CUP	<i>The final Project design and associated impact and mitigation assessment that will be addressed in the Plan shall be completed prior to issuance of a NTP.</i>
Ecological Evaluation, schedule and process – Section IV	ROW stipulations/conditions and CUP	<i>A schedule and process for this evaluation will be included in the Plan within six months of the issuance of the ROD.</i>
Identification of Mitigation Sites and Management	ROW stipulations/conditions and CUP	<i>The Plan will identify sites on which mitigation will occur</i>

Actions – Section IV		<i>and the management actions that will occur on these sites within six months of the issuance of the ROD.</i>
Development of Monitoring Program – Section V	ROW stipulations/conditions and CUP	<i>Specific performance targets for these ecological outcomes and a detailed regime for monitoring and assessing their attainment will be developed by BLM, and Harney County, with recommendations provided by ODFW, FWS or by the LAC or LIT. These specifics will be included in the Plan within six months of the issuance of the ROD.</i>
Implementation of enhancement actions - Section V.	ROW stipulations/conditions and CUP	<i>Actions will be underway within one year of start of Project construction. 25 percent of total actions shall be underway within 2 years; another 50 percent shall be underway within 5 years and the remainder no more than 10 years after start of construction.</i>
Required ecological attributes attained – Section V.	ROW stipulations/conditions and CUP	<i>The amount of time required to attain the habitat and other attributes required for mitigation; actions should be selected so that approximately 25 percent, 75 percent, and 100 percent of the (Project total) ecological attributes required for mitigation will be fully attained no later than 7, 10, and 15-yrs, respectively, after commencement of construction of the Project.</i>
Protection/acquisition of mitigation area and secured funding for all management actions– Section VI	ROW stipulations/conditions and CUP	<i>The Plan will require a detailed funding plan specifying all of the funding necessary to conduct required management actions prior to issuance of the NTP</i>