

# Echanis Wind Energy Project – Habitat Mitigation Plan

---

## I. Introduction

This Habitat Mitigation Plan (Plan) describes actions the Bureau of Land Management (BLM) will undertake pursuant to an enforceable Letter of Agreement (LOA) between Echanis, LLC (Echanis) and BLM for the long-term enhancement and preservation of multiple areas of land (Mitigation Areas or MA) and to mitigate effects of the Echanis Wind Energy Project, including the North Steens Transmission Line (collectively, the “Project”) on publicly-owned lands in conformance with the Record of Decision (ROD) (page 15) and the principles and standards as outlined in Appendix D of the ROD.

This Plan’s primary goal is to enhance and preserve MAs for the benefit of the Greater sage-grouse. The Plan is based on the following guidance: (a) the Principles and Standards for Development of a Habitat Mitigation Plan included as part of the ROD, signed by the Secretary of the Interior on December 28, 2011, granting Echanis a Right-Of-Way (ROW) across Bureau of Land Management (BLM) land; (b) the Oregon Department of Fish & Wildlife (ODFW) Sage-Grouse Mitigation Framework (SGMF); and (c) the Greater Sage-Grouse Conservation Assessment and Strategy for Oregon (GSCS). Echanis consulted with the BLM, ODFW and the United States Fish and Wildlife Service (FWS) in the development of this Plan. The BLM finds this Plan provides conservation benefits to the sage-grouse, a special status species, based upon the best available science (See Environmental Impact Statement 3.5-18 to 3.5-25).

The objectives of the Plan are to (a) undertake management actions described herein to enhance habitat within the MAs; (b) enhance the baseline condition of the habitat within the MAs to meet the ODFW mitigation goals; and (c) enhance broader areas of the site for sage-grouse and other wildlife.

A key limiting factor to the conservation of the sage-grouse is a healthy sagebrush ecosystem that contains sagebrush with a strong, native herbaceous understory composed of grasses and forbs. The BLM has concluded management actions including weed treatments, sagebrush seedling planting and juniper removal will provide the net benefit for sage-grouse. The MAs and actions of this Plan are part of a larger, landscape-level effort put forth by the BLM in an effort to improve habitat for a number of species not limited to sage-grouse. Sage-grouse use a large number of acres throughout the year and as such, a landscape level plan is necessary. The management actions put forth in this Plan will complement the BLM-led actions happening nearby including, but not limited to: Five Creeks Restoration Project and the North Steens Ecosystem Restoration Project. While the credit for mitigation is being given for 2,412.6 acres it should be noted treatment actions, particularly in the area of weed treatment, are being done on a much broader scale than is required in cooperation with BLM weed treatments. As a result, the BLM believes the net benefit for sage-grouse is much greater than the actual acreages treated and credited.

## Echanis Wind Energy Project – Habitat Mitigation Plan

---

Although the Echanis Wind Energy Project (turbines) is located entirely on private land, portions of the transmission line, roads and noise impacts from the wind turbines occur on public land. The estimated acreage of publicly-owned land impacted by the Project's features, as calculated using the formulae set forth in the Framework, is shown in Table 1.

*Table 1: Estimated Acres of Publicly-Owned Land Impacted by the Echanis Wind Energy Project*

<b>Project Feature</b>	<b>Estimated Acreage Impacted</b>
Transmission Line	1,971.4
Roads	316.9
Noise	178.3
<b>Total</b>	<b>2,412.6</b>

This Plan (a) identifies and describes the MAs; (b) discusses management actions that will take place within each MA; (c) includes a schedule and process for conducting an ecological evaluation of the MAs, which shall be used to ensure management actions achieve net benefits similar to the type and amount of impacts incurred due to impacts of the transmission line, roads and noise impacts on public lands, and (d) includes monitoring protocols that ensure compliance with the procedural requirements and implementation of the Plan itself, as well as determining if the Plan is achieving the desired ecological outcomes. The Plan also includes a proposed schedule of implementation as well as binding funding commitments as set forth in the LOA.

In accordance with the Principles and Standards for Development of a Habitat Mitigation Plan, Attachment D of the ROD, North Steens 230kV Transmission Line Project, the management actions outlined in this Plan will occur on BLM-administered lands 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.

The Steens Act, enacted on October 30, 2000, created Steens Mountain Wilderness and much of the surrounding areas were designated as the Steens Mountain Cooperative Management and Protection Area (CMPA). All proposed MAs occur within the CMPA on BLM-administered lands. The CMPA has a significant amount of protections for public land that exist to protect the resources in the area. Some of these include:

- Prohibition of off-road motorized or mechanized vehicle use [except for specific purposes as outline in the Steens Act [Section 112, (b)(2)] and limited to such roads and trails designated as open as part of the Travel Management Plan.
- Prohibition of new road construction on public lands
- Prohibition of commercial timber harvest
- ROW avoidance/exclusion areas
- Visual Resource Management classifications
- Areas of Critical Environmental Concern/Research Natural Areas

# Echanis Wind Energy Project – Habitat Mitigation Plan

---

- A mineral withdrawal that closes all land from all forms of entry, appropriation, or disposal under the public land laws.
- Wilderness and Wilderness Study Designations

In addition to the protections Congress placed on the CMPA, BLM will ensure BLM-administered lands where mitigation actions occur, are managed in accordance with WO-IM-2012-043 Interim Management for Sage-Grouse Conservation. Although livestock grazing will be allowed in the area, according to ODFW's SGCS, when BLM rangeland health standards are being met, livestock grazing does not conflict with sage-grouse conservation.

## II. Mitigation Areas and Actions

The Plan will result in an improvement to the baseline condition of the lands on which those actions occur. The Plan establishes MAs as shown on Maps A, B, and C. The MAs chosen are aligned with the criteria outlined in the Principles and Standards, Attachment D-6. In addition, MAs were chosen due to their present use by sage-grouse and the reasonable likelihood that such use would increase because of the associated management actions conducted in each MA.

### A. Mitigation Areas

The locations of MAs are depicted in Table 2. The acreages noted are ranges to account for on-the-ground conditions such as topography or other resource concerns.

*Table 2: Name and Size of MAs*

<b>MA Name</b>	<b>Size (ac)</b>
Moon Hill, Oliver Springs, Ruby Springs and Chimney Weed Treatment	1800-2000 acres
Sagebrush Seedling Planting	212.6
Juniper Removal	200-400
<b>Total</b>	<b>2,412.6</b>

Though the acreages for weed treatment and juniper removal may fluctuate within the ranges shown, the total mitigation will not occur on less than 2412.6 acres

The general area is east of Malheur National Wildlife Refuge and extends to the east about 10 miles to McCoy Creek, and north from Bridge Creek to Krumbo Reservoir. Elevations range from about 4,300 feet at the refuge boundary to about 6,400 feet near Ham Brown Lake. Historically, some of the lower elevations near the refuge boundary were a mixture of Wyoming big sagebrush and low sagebrush sites. These were sprayed to reduce sagebrush in the 1950-60s

## Echanis Wind Energy Project – Habitat Mitigation Plan

---

and were subsequently seeded and then burned in the Granddad Fire in 2006. This has reduced the sagebrush canopy cover to near zero. The juniper sites are higher in elevation and have been described in the North Steens Ecosystem Restoration Project Environmental Impact Statement (EIS). Juniper canopy cover ranges from 1% to about 25% at higher densities. Sagebrush at this elevation is a mixture of low sagebrush and mountain big sagebrush. The weed treatment sites are mostly in this latter vegetation type. The densities and amount of weeds at each site varies.

### B. *Management Actions*

The management actions chosen are based on the criteria set forth in the Principles and Standards, Attachment D-7. Management actions undertaken in the MAs will be a combination of treatment, including (a) weed treatments, (b) sagebrush seedling planting, and (c) juniper removal. The details of each of these actions are as follows:

- *Weed Treatments* will occur in the Ruby Springs, Moon Hill, Oliver Springs and Chimney areas. These areas are comprised of both core and low density habitat as defined by the GSCS (See Map A). The effects of the transmission line as defined in the Final EIS occur in low density habitats. Improving the core areas provides a net-benefit to sage-grouse. In addition, improving low density habitat that occurs between core areas provides necessary connectivity habitat, another net-benefit for sage-grouse. Currently, areas identified for weed treatment have Canada thistle (*Cirsium arvense*) with various sizes and densities of infestations. The thistle reduces the number of forbs and native grasses important for sage-grouse food. This area is important habitat for the sage-grouse and if untreated, will provide a nucleus for continued invasion of adjacent high-quality habitat. The general area of impact is 18,914 acres, meaning the general area impacted by current weed infestation is 18,914 acres. Forty-four percent of this total area occurs within core habitat. Echanis will be financially responsible for weed treatment of at least 1,800 acres of weed infestations as described herein. The BLM will treat an additional 1,375 acres of public lands adjacent to the area funded by Echanis. The total treatment area will be 3,175 acres. Treatment of weeds in this area will provide a higher standard of sage-grouse habitat than the base line conditions that currently exist. The area has been identified as problematic from a weeds standpoint impacting the sagebrush ecosystem. Without the additional funding from Echanis, it is unlikely BLM would have the ability to achieve its mitigation objectives and restore sagebrush ecosystem structure, function and process in the near future.
- *Sagebrush seedling planting* will occur in core habitat (See Map B). Wyoming big sagebrush plant communities in the area have been severely

## Echanis Wind Energy Project – Habitat Mitigation Plan

---

degraded because of past management practices and increasing wildfire occurrence. Seeds from Wyoming big sagebrush will be collected, grown into seedlings and planted. Sagebrush planting will occur on about 200 acres within the perimeter of the previous wildfires.

The action in this particular area is important because the site has a significant need for improvement and will provide multiple species benefit. If for some reason the project is unsuccessful (see Section IV, C. Success Criteria) then BLM will complete a mitigation action on another 200 acre block of land similar to the juniper removal or weed treatments project.

- *Juniper Removal.* Juniper Removal will occur in the Moon Hill Area, which is in Core Habitat (See Map C). The methods for juniper removal will include chainsaw cutting of the trees. Depending on the density and size of the trees, smaller trees (<15 feet tall) are expected to be left on the ground if in a Phase 1 juniper stand. In a Phase 2 stand, these trees would be piled for later burning of the piles. Larger trees (>15 feet tall) would be jackpot burned or piled for later burning. Depending on the size and density of the trees, larger trees could be limbed so the height of the downed tree is reduced which leaves fewer raptor perches. The removal of juniper in core habitat will have an immediate net benefit for the sage-grouse. Enclosed maps detail the proposed locations for the above treatments. While the map details a very large area of possible juniper removal this is necessary to ensure BLM has the flexibility to pick acreages that will have the greatest benefit to sage-grouse as well as other sagebrush obligate species.

### III. Ecological Evaluation

**The Goal of the Ecological Evaluation is to ensure treatments are conducted in areas that will have a “Net Benefit” for sage-grouse. Some objectives have been identified; however, additional objectives will be determined by each specific treatment area based on information gathered during the ecological evaluation, site potential, and seasonal habitat factors identified in ODFW’s GSCS.**

This section includes a schedule and a process for documenting results of the management actions. Echanis has relied on local BLM and ODFW biologists for the identification of the MAs. The environmental impacts of such management actions on BLM lands within the MAs were analyzed as part of the North Steens Ecosystem Restoration EIS. Treatment of weeds was analyzed in the Burns District Weed EA in 1985. A new vegetation management EA is in process by BLM to analyze impacts of using more effective chemicals to treat Canada thistle.

## Echanis Wind Energy Project – Habitat Mitigation Plan

---

Prior to commencing mitigation actions, BLM biologists will conduct an ecological evaluation of the impact area to ensure the sites being mitigated closely match those impacted. Much of this work can and will be done using data BLM has available from the National Environmental Policy Act process and National Agriculture Imagery Program imagery.

The treatments and acreages proposed allow flexibility to ensure mitigation actions comply with the Principles and Standards of Habitat Mitigation as cited in Appendix D of the North Steens Transmission Line ROD. Monitoring will occur to document plant community response to management actions.

### Ecological Evaluation:

- **Weed Treatment-** Weed specialists, a wildlife biologist, and other specialists as needed, will visit the weed treatment areas and perform an ecological evaluation to ensure that the sites treated will provide a net benefit to sage-grouse habitat. In addition, weed treatment areas will undergo a site evaluation to ensure sites picked will have a high probability for success. Areas with a residual native perennial plant component will be targeted for treatment. These areas will recover and meet mitigation objectives in a shorter timeframe than areas where seeding will be required to re-introduce native perennial grasses and forbs. Sites with weed infestations affecting sage-grouse habitat that have enough native vegetative cover so that suitable habitat will recover after the treatment occurs, will be selected. Reseeding will occur to restore native vegetation to suitable habitat if residual native perennial plant density is less than 3 plants per 10ft<sup>2</sup> in three years. Areas determined to be suitable for treatment will be mapped using standard Global Positioning System (GPS) protocols. Standard vegetation sampling techniques will be used to document reduction in weed species, increase in desirable plant species or changes to the size and distribution of bare ground patches.
- **Juniper Removal-** Specialists will select western juniper woodlands for treatment that have sufficient sagebrush in the understory to provide suitable sage-grouse habitat following cutting. These sites will have sufficient desirable grass and forb species to respond following cutting and negate the need for seeding. Permanent vegetation monitoring plots/transects will be established within the treated areas and their locations permanently marked and located by GPS. Standard vegetation sampling techniques will be used to document reduction in western juniper, increase in desirable plant species and changes to the size and distribution of bare ground patches.
- **Sagebrush Planting –** Specialists will select areas within Granddad Wildfire perimeter for sagebrush planting based on environmental conditions required for specific species and subspecies of sagebrush to be planted. Only trace amounts of sagebrush (less than 0.01% canopy cover) currently exist six years after the

# Echanis Wind Energy Project – Habitat Mitigation Plan

---

wildfire. The selected areas will also be in core sage-grouse habitat or adjacent to core habitat. Sites will also have a herbaceous plant composition dominated by desirable perennial grasses and forbs. Permanent vegetation monitoring plots/transects will be established within the planted area. Latitude/Longitude for the vegetation monitoring plots will be recorded within the BLM Geographic Information System (GIS) database. Standard vegetation sampling techniques will be used to document sagebrush plant establishment and growth.

Areas to be treated will be flagged and baseline data will be recorded based on documented methods, and protocols to establish efficacy of the treatments applied. Treatment efficacy will be determined as part of the Monitoring Program described below.

## IV. Monitoring

This section describes a monitoring program to determine if the Plan is achieving the desired ecological outcomes.

### A. *Monitoring*

Pursuant to the LOA, Echanis shall provide the BLM funding to develop and implement a monitoring program for each MA. The purpose of monitoring is to evaluate the response of vegetation to management actions. The BLM shall conduct monitoring beginning in the first year after management actions. Subsequent monitoring will occur every other year until management actions objectives are achieved. Once objectives are met, monitoring frequency will be adjusted not less than once every five years for the life of the project. While the life of the project effects is unknown, it is known the ROW term is 30 years. Additional monitoring may be stipulated upon renewal of the ROW. The BLM shall visit the site as necessary to carry out the following monitoring procedures:

- Assess vegetation structure (cover, density, or frequency based on management actions objectives i.e., if the goal is to increase sagebrush plants, then density will be used. If the goal is to reduce the amount of bare ground, then plant cover will be used.).
- Identify natural disturbances that may affect the sites ability to reach the stated management objectives in accordance with SGMF within the established timelines,
- Annually assess the success of the weed control (including area seeding) and erosion control programs and recommend remedial action, if needed.
- After weed treatments: Weed treatment effectiveness will be assessed by determining the increase in desirable, perennial plant cover. Permanent photo plots will be established and photos taken at each sampling period. Plant cover and density will be determined using standard techniques. Sampling, including photos will be conducted at least every two years

## Echanis Wind Energy Project – Habitat Mitigation Plan

---

until MA objectives are achieved. Once objectives are achieved the monitoring frequency may be expanded to once every five years.

- The monitoring portion of the sagebrush seedling planting will be implemented and conducted by BLM and was not included in the Plan because it is not the responsibility of Echanis. Plots will be established to measure survivability of the seedlings during the first three years after planting.
- Between May 21 and June 15 the BLM shall conduct an area search survey of sagebrush obligate species in the MA. An area search survey consists of recording all species seen or heard in specific areas (for example, circular plots that are 5 to 10 acres in size). Area searches will be conducted during morning hours on days with low or no wind. The survey shall be repeated every 5 years during the life of the Project. The results of these surveys shall be used to demonstrate the enhancement of habitat quality as discussed under Section III (ecological evaluation).
- Based on standard monitoring protocols employed by the BLM and United States Department of Agriculture-Agricultural Research Service for juniper treatments on other areas of the Steens Mountain, vegetation monitoring transects would be established prior to juniper cutting to determine baseline understory characteristics and site potential and document understory response once treatments have been concluded.
- Once the sites have reached the desired state (the established goals and objectives from the ecological evaluation have been met), photo and vegetation monitoring will need to continue every 5 years over the life of the project to ensure the desired state is maintained. If as a result of the long-term monitoring (over the life of the project) it is determined by the BLM that a vegetation shift to an undesired state is occurring, BLM may resume active restoration activities.

### B. *Reporting*

The BLM shall report monitoring findings to Harney County, FWS and ODFW within six months of completing monitoring for each year sampling occurred. The report will include a description of management actions, monitoring methods, interpretation of monitoring data, progress towards meeting identified goals and objectives of the mitigation project, and management recommendations. Periodic site visits shall be scheduled to MAs. Site visits may include representatives from Harney County, BLM, FWS, and ODFW.

### C. *Success Criteria*

Mitigation of the permanent and temporary habitat impacts of the facility may be considered successful if management actions protect and enhance habitat within the MA to meet the ODFW goals of a “net benefit” to sage-grouse Section III (ecological evaluation).

## Echanis Wind Energy Project – Habitat Mitigation Plan

---

The BLM may demonstrate enhancement of habitat quality based on indicators such as: (1) increase in density or cover of desirable native species and (2) reduction to elimination of noxious weeds or other undesirable plant species. BLM may require supplemental treatment or other corrective measures if success criteria are not achieved.

Sagebrush seedling planting will be implemented by the BLM and the success of the program is not the responsibility of Echanis. The sagebrush seedling planting will be considered successful if 40% of the planted sagebrush seedlings have survived after the 3<sup>rd</sup> growing season following the planting. If the planting is deemed unsuccessful, BLM will undertake actions (similar to the juniper or weed treatments described above) in another area to ensure that the 200 acres included in sagebrush seedling planting is still mitigated for within 2-3 years after deemed unsuccessful.

Weed/invasive plant treatments would be considered successful if, over the life of the project:

- Large-scale infestations are reduced from sizes and densities requiring aerial treatment to sizes and densities requiring spot, ground treatments after two years.
- There is an increase in desirable perennial plants over five years
- The site is trending towards its ecological site description over five years.

Success criteria was determined by qualified BLM weed specialists based on experiences from past weed treatments. This criterion will provide the necessary improvement and ecological uplift for the area while still providing an attainable goal.

Phase I Juniper removal would be considered successful when juniper is removed and sage-grouse habitat is maintained.

Criteria for success for Phase II juniper removal will be identified during ecological evaluation based on the site potential.

### **V. Proposed Schedule of Implementation**

This section describes the implementation schedule in each of the applicable MAs. Parameters are:

- Implementation of Management Actions shall be underway within one year of commencement of Project construction;
- 25% of the total Management Actions shall be underway within two years commencement of Project construction;

## Echanis Wind Energy Project – Habitat Mitigation Plan

- an additional 50% of Management Actions shall be underway within five years of commencement of Project construction; and
- The remainder shall be underway no more than ten years after the start of Project construction.

The proposed implementation schedule (the “Implementation Schedule”) is set forth in Table 3. Note that the anticipated dates are based on June 2012 as the month in which construction of the Project commences. The figures in the “Months” column represent the month after commencement of construction in which the Management Action is anticipated to occur.

*Table 3: Implementation Schedule*

% complete	Month	Anticipated Date	Management Action(s)	Mitigation Area(s)
	12	Fall 2012	<ul style="list-style-type: none"> <li>• Gather seed for Wyoming Sagebrush seedling project</li> <li>• Plant sagebrush seed</li> <li>• Finalize Ecological Evaluation of impact site</li> </ul>	Granddad Seedling  Moon Hill
25%	24	Spring 2013  2013	<ul style="list-style-type: none"> <li>• <i>Juniper Removal</i>: conduct Ecological Site Evaluation on Juniper Removal Areas</li> <li>• <i>Sagebrush Planting</i>: begin growing</li> <li>• Gather more sagebrush seed</li> <li>• Plant gathered sagebrush seed</li> <li>• Conduct Juniper Removal</li> </ul>	To be determined based on Ecological Evaluation
	36	Spring 2014  2014	<ul style="list-style-type: none"> <li>• <i>Weed Treatment</i>: conduct Ecological Site Evaluation on Weed Treatment areas</li> <li>• <i>Sagebrush Planting</i>: continue growing</li> <li>• <i>Weed Treatment</i>: begin treatments</li> </ul>	Moon Hill/Oliver Springs
	48	Spring 2015	<ul style="list-style-type: none"> <li>• <i>Weed Treatment</i>: continue weed Treatments</li> <li>• <i>Weed Treatment Site</i> reconnaissance to determine additional weed treatment</li> <li>• <i>Sagebrush Planting</i>: Plant 2<sup>nd</sup> year seedlings on 100 acres</li> <li>• <i>Monitoring</i>-conduct as necessary, in accordance with plan, based on actions and conditions.</li> </ul>	Moon Hill/Oliver Springs
75%	60	Spring 2016	<ul style="list-style-type: none"> <li>• <i>Weed Treatment Site</i> reconnaissance to monitor success and continue weed treatment</li> </ul>	Moon Hill/Oliver Springs

## Echanis Wind Energy Project – Habitat Mitigation Plan

---

			<ul style="list-style-type: none"> <li>• <i>Sagebrush Planting</i>: Plant 2<sup>nd</sup> year seedlings on an additional 100 acres</li> <li>• <i>Monitoring</i>-conduct as necessary, in accordance with plan, based on actions and conditions.</li> </ul>	
	72	June 2017	<ul style="list-style-type: none"> <li>• <i>Weed Treatment Site</i> reconnaissance to monitor success and if necessary determine additional weed treatment</li> <li>• <i>Monitoring</i>-conduct as necessary, in accordance with plan, based on actions and conditions.</li> </ul>	Chimney Moon Hill Oliver Springs Ruby Springs
	84	June 2018	<ul style="list-style-type: none"> <li>• <i>Weed Treatment Site</i> reconnaissance to monitor success and if necessary determine additional weed treatment</li> <li>• <i>Monitoring</i>-conduct as necessary, in accordance with plan, based on actions and conditions.</li> </ul>	Chimney Moon Hill Oliver Springs Ruby Springs

### VI. Detailed Funding Plan

This section sets forth the anticipated costs for implementing the Plan according to the Implementation Schedule. The funding levels, set forth in Appendix A, are based on estimates provided by Burns BLM. Note that these are estimated costs that Echanis would incur in paying contractors to perform the management activities, and do not represent a commitment by Echanis to spend the exact amount set forth in Appendix A. Echanis will pay BLM to conduct the necessary activities described in the Plan as set forth in the LOA. The BLM will hold the funds necessary for implementation. Estimated Costs were determined using the detailed costs set forth in Appendix A.

### VII. Amendment of the Plan

This Plan may be amended by BLM for reasons such as:

- New data about sage-grouse
- Currently unforeseen inconsistencies or conflicts between various provisions of the document
- Newly identified opportunities to enhance sage-grouse populations or habitats.

BLM will make decisions regarding amendments to the Plan with recommendations provided by ODFW, FWS and Harney County. Any such amendments to the Plan are subject to and do not change the funding obligations of Echanis as set forth in the LOA.

# Echanis Wind Energy Project – Habitat Mitigation Plan

## Appendix A: Cost Estimates

### Overview

Cost analyses included in the Mitigation Plan were calculated based on per acre costs. Values are based on similar management activities conducted by the BLM over the last 3 years. Calculated values include all aspects of the mitigation action, including planning, administrative, implementation and monitoring activities. A contingency factor has also been included to account for unexpected expenses.

Chimney, Moon Hill, Oliver Springs, and Ruby Springs Weed Treatments Estimated Costs  
(See Map for treatment locations)

*Year 1 Cost of the weed treatment/activities is outlined in the following table:*

Action	#	Cost	Total
<b><i>Thistle Aerial Treatment</i></b>			
Mobilization	4 ea	\$500/ea	\$2,000
Rotary Wing	3,175ac (@ 10 gal/ac)	\$30/ac	\$95,250
Chemical	3,175 ac	*see details below	\$67,631
Field Support	Wages, Vehicles, etc	\$500/day	\$5,000
Reconnaissance and Mapping (Helicopter)	3 hrs	\$850/hr	\$2550
		<b>Sub-Total</b>	<b>\$172,431</b>

\*Herbicide Details:

Transline (herbicide) @ 1 pt/acre: 3175 acres x 1 pt = 397 gallons @\$165/gal = \$65,505  
Phase (adjuvant) @ 3.2 oz/acre: 3175 acres x 3.2 oz = 80 gallons @\$26.58/gal = \$2,126

**Year 2 Cost estimate for follow-up monitoring and secondary treatment - \$40,000**  
**Year 3 Cost estimate for follow-up monitoring and spot treatments - \$15,000**

This estimate is for the entire 3,175 acres that needs to be treated. Echanis will only be liable for treating 1,800 acres of that area. Math Calculations are listed below:

$\$172,431 / 3,175 = \$54.31$  per acre

$\$54.31$  per acre x 1,800 acres = \$97,758.00

$\$40,000 / 3,175 = \$12.60$  per acre  
 $\$12.60$  per acre x 1,800 acres = 22,680

$\$15,000 / 3,175 = \$4.72$  per acre  
 $\$4.72$  per acre x 1,800 acres = \$8,496

## Echanis Wind Energy Project – Habitat Mitigation Plan

---

$\$97,758 + \$22,680 + \$8,496 = \$128,934$

\$15,000 (or \$5000.00 every five years for the remainder of the project, after weed treatment is deemed successful) is added to the total figure to ensure the proponent is responsible for mitigation for the life of the project.

Grand Total Estimate for Weed Treatment and follow up monitoring:  
 $\$128,934 + \$15,000 = \$143,934$

### Sagebrush Planting Project Estimates:

Wyoming Big Sage Seedling Treatments *Treatment area of 200 acres, impact area will be greater.*

Action	Number	Cost	Total
Collecting Seed Heads from Wyoming Big Sage	Wages for 1, GS-4 employee for 1 month	\$2,000/per month	\$2,000.00
Growing Seeds into containered plants	440 plants per acre	\$246.00 per acre \$.56 per plant	\$49,200.00
Sagebrush planting	Estimate based on last tree planting contract	\$100/acre	\$20,000.00
		<b>Sub-Total with containers</b>	<b>\$71,200.00</b>

### Juniper Treatment Estimated Costs

2012 Government Cost Estimate + 3% per year thereafter

Cutting	\$99.72
Machine Pile	\$182.47
Total per acre cost	\$282.19
400 acres of Juniper treatment x \$282.19	\$112,876.00

**Total Cost for all Mitigation Treatments \$328,010 or \$135.99 per acre.**

### **Explanation of Contingency:**

Pursuant to the LOA, Echanis will pay the BLM \$150.00 per acre to account for any contingency funding that may be necessary to ensure adaptive management can be attained and maintained. The money will be paid to BLM within 30 days of any ground breaking activities on the ROW.

## Echanis Wind Energy Project – Habitat Mitigation Plan

---

BLM will hold the funds in a contributed fund account and use them as necessary to complete the listed mitigation actions. If the cost of mitigation actions is less than estimated, savings will be used to treat additional acres with the same conservation objectives.