

# Worksheet

## Documentation of Land Use Plan Conformance and NEPA Adequacy (DNA)

U.S. Department of the Interior  
Bureau of Land Management (BLM)

(OR090 -DNA-08-03)

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### **A. Description of the Proposed Action**

The Proposed Action is to implement maintenance, enhancement and expansion treatments under the *West Eugene Wetland (WEW) Schedule Environmental Assessment (EA) No. OR090-05-03* Eugene, Oregon. The BLM and the WEW partners developed an Project Implementation Prescription (PIP) for the second year of the Hansen/See-sil project, a BLM-managed site in the West Eugene Wetlands. The Hansen/See-sil project has been selected as a major implementation project under the Schedule EA. The (PIP) provides site specific treatments to maintain, enhance and expand the amount of high, medium, and low quality habitats found at the site (See Attached PIP). BLM will treat approximately 100 acres of oak & prairie habitats for phase one at the Hansen/See-sil parcel located in Township 17 south, Range 5 west, and Section 24 in 2008. This second implementation phase for the site is scheduled to commence in late July and extend through December. Project actions shall be accomplished through the use of a suite of treatment techniques described in the WEW Schedule EA & attached to this document (Table 1).

### **Background**

The West Eugene Wetlands (WEW) Project is a cooperative venture between the Bureau of Land Management (BLM), Eugene District to protect and restore prairie ecosystems in the southern Willamette Valley of Oregon. This unique program consists of a partnership between federal, state, and local agencies to manage lands and resources in an urban area for multiple public benefits. The partners in the WEW Project are the BLM, City of Eugene, The Nature Conservancy, Oregon Youth Conservation Corps, U.S. Army Corps of Engineers, U.S Fish and Wildlife Service, McKenzie River Trust, Long Tom Watershed Council, and Willamette Resources and Educational Networks. .

### **B. Conformance with the Land Use Plan (LUP) and Consistency with Related Subordinate Implementation Plans**

**LUP Name\*** Eugene District Record of Decision and Resource Management Plan (RMP)  
June 1995, as amended.

**Other documents** – West Eugene Wetland Plan (WEWP) 1992, 2000.

The BLM, Eugene District, became an active partner in 1992 when it adopted the WEWP (1992, 2000). In 2005 BLM completed a ten year landscape WEW EA which provides a schedule of on the ground actions that can accomplish maintenance, enhancement, and expansion treatments and is consistent with the 1992 WEWP and the BLM, Eugene District Resource Management Plan ( RMP).

**C. Identify the applicable NEPA document(s) and other related documents that cover the proposed action.**

List by name and date all applicable NEPA documents that cover the proposed action.

- *West Eugene Wetland Schedule Environmental Assessment (WEW EA) No. OR090-05-03 October 2005.*

List by name and date other documentation relevant to the proposed action (e.g., source drinking water assessments, biological assessment, biological opinion, watershed assessment, allotment evaluation, rangeland health standard's assessment and determinations, and monitoring the report).

- Biological Opinion and Letter of Concurrence on Effects of Implementation of the Ten-year schedule of Management Activities to Maintain, Enhance and Expand Prairie Habitats within West Eugene Wetlands (Dec. 2005)
- Biological Opinion and Letter of Concurrence for Reinitiation of Informal Consultation on the (Ten Year) Schedule of Management Activities within the WEW to Address the Potential Effects to Designated Critical Habitat (2007).

**D. NEPA Adequacy Criteria**

**1. Is the current proposed action substantially the same action (or is a part of that action) as previously analyzed?**

Yes - The Proposed Action to implement the Hansen/See –sil project is part of the proposed actions previously analyzed for the *West Eugene Wetland Schedule Environmental Assessment (October, 2005)*. Issues analyzed in the WEW Schedule EA have been summarized on page 4 -5. Detailed analyses are described in pages 29 - 42 under Environmental Effects.

**2. Is the range of alternatives analyzed in the existing NEPA document(s) appropriate with respect to the current proposed action, given current environmental concerns, interests, resource values, and circumstances?**

Yes – The *West Eugene Wetland Schedule Environmental Assessment (October, 2005)* analyzed an appropriate range of alternatives given the purpose and need for the implementation of the Hansen/See –sil project. Four alternative were analyzed, Alternative A (No action), Alternative B (minimal maintenance), Alternative C (Selected Rare species Habitat Maintenance, Enhancement, and Expansion) and Alternative D (Habitat type Maintenance, Enhancement, and Expansion). Alternative D was selected to be implemented for the next 10 years. Alternative D is designed to maintain, enhance, and expand amount of high and medium quality habitat of each eight habitat types delineated in the planning area. There are five classes of actions under this alternative; control woody vegetation encroachment, control invasive species, monitor litter and thatch build up, maintain native plant species diversity, and maintain suitable habitat conditions for western pond turtles. No new environmental concerns, interests, resource values, or circumstances have been revealed since the EA was published in 2005 that would indicate a need for additional alternatives.

**3. Is the existing analysis adequate and are the conclusions adequate in light of any new information or circumstances.**

Yes – The existing analysis is adequate and conclusions are consistent with effects analysis in *West Eugene Wetland Schedule Environmental Assessment (October, 2005)* for the implementation of the Hansen/See –sil project. There were five environmental issues analyzed under the WEW EA which included effects to; botanical special status species (including federally listed plants), the native plant community, Fender’s blue butterfly (federally listed insect), wildlife special status species, and what would the estimated cost of implementing actions by alternative.

**4. Do the methodology and analytical approach used in the existing NEPA document(s) continue to be appropriate for the current proposed action?**

Yes - In 2006, the US Fish & Wildlife Service published its final rule designating Critical Habitat for Fender’s blue butterfly, Kincaid’s lupine, and Willamette daisy. The final rule delineated a total of 3,720 acres of critical habitat for these species within the WEW project area. BLM reinitiated consultation for BLM’s West Eugene Wetlands Schedule EA in order to analyze management activities that may affect 491 acres of designated critical habitat. The USFWS responded to BLM with a Letter of Concurrence and Biological Opinion (2007) covering the actions to maintain, enhance and expand prairie habitat in the WEW. These findings are consistent with effects analysis in the WEW EA and are in compliance with Biological Opinions listed in Section C of this DNA. Resource conditions have not changed in any way that would invalidate the analyses and the conclusions. The actions being undertaken in this project include the following:

1. Control woody vegetation encroachment.
2. Control invasive species.
3. Treat litter and thatch buildup.
4. Maintain existing levels of native plant species diversity.

These actions have been analyzed in the ten year schedule EA.

**5. Are the direct and indirect impacts of the current proposed action substantially unchanged from those identified in the existing NEPA document(s)? Does the existing NEPA document sufficiently analyze site-specific impacts related to the current proposed action?**

Yes – Direct and indirect impacts of the proposed action have been identified and analyzed in the WEW EA, vegetation manipulation through prescribed fire, mowing, and woody biomass removal has been done the Wetlands for several years and the potential effects are known. Plant communities in the Willamette Valley including wet, upland, and oak habitats were maintained through frequent natural and anthropogenic fires. Treatment techniques listed on page 57, Table C-1 to maintain, enhance and expand prairies would remain the same identified in the WEW Schedule EA. This WEW EA does analyze site specific impacts related to the current Hansen/See-sil project as well as provides “Design features by Resources”. See Appendix C for

more details in the WEW Schedule EA (pages 65 - 67). The Project Implementation Prescription (IPP) for the second year for the Hansen/See-sil project also includes site specific mitigation design features.

**6. Can you conclude without additional analysis or information that the cumulative impacts that would result from implementation of the current proposed action are substantially unchanged from those analyzed in the existing NEPA document(s)?**

Yes – The current Hansen/See –sil project actions are unchanged from those analyzed in the existing WEW Schedule EA document for the project area. No cumulative impacts (beyond those already described in WEW Schedule EA) are anticipated from the implementation of the Hansen/See - sil project. The Hansen/See –sil project area is approximately 140 acres of wet, upland, and oak prairie habitats. This parcel contains a large block of medium to high quality habitat and continuing to manage and improve the 140 acres would make contribution to the conservation of these rare habitat communities in the Southern Willamette Valley. The WEW EA was completed in Oct. 2005 and BLM shall schedule annually implement actions from this Schedule EA between June and December through 2017.

**7. Are the public involvement and interagency review associated with existing NEPA? document(s) adequately for the current proposed action?**

Yes, Availability of the WEW Schedule EA and the project decision was advertised in the Eugene Register Guard; sent to interested persons on our EA mailing lists, and consulted with the USFW Service in 2005. The Hansen/See –sil project shall be advertised in the BLM’s quarterly news letter (Eye to the Future) for 2008.

**E. Interdisciplinary Analysis:** Identify those team members conducting or participating in the preparation of this worksheet.

<u>Name</u>	<u>Title</u>
Sally Villegas - Moore	Natural Resource Specialist
Nancy Sawtelle	Senior Botanist Specialist
Sharmila Premdas	NEPA Coordinator

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**Reviewed by:**

/s/ Sharmila Premdas  
NEPA Coordinator

8/6/2008  
Date

**CONCLUSION**

Based on the review documented above, I conclude that this proposal conforms to the applicable land use plan and that the existing NEPA documentation fully covers the proposed action and constitutes BLM's compliance with the requirements of NEPA.

Note: If one or more of the criteria are not met, a conclusion of conformance and/or NEPA adequacy cannot be made and this box cannot be checked

/s/ William E. Hatton

Signature of the Responsible Official

8/6/2008

Date

## Decision Record

I have reviewed this Documentation of Land Use Plan Conformance and NEPA Adequacy (DNA) (OR090-DNA-08-03) and have determined that the proposed action to implement the Hansen/See –sil project is in conformance with the approved land use plan (Eugene Record of Decision and Resource Management Plan, June 1995, as amended) and that no further environmental analysis is required.

On the basis of the information contained in the DNA Worksheet and the existing NEPA document it references, and all other information available to me, it is my determination that implementation of the proposed action will not have significant environmental impacts beyond those already addressed in the environmental analysis (WEW Schedule EA (OR90-05-03).

The BLM has made the determination that proposed action is required to maintain, enhance, and expand the amount of high, medium, and low quality habitats located on BLM's prairies.

Therefore, it is my decision to implement the project, as described, in the DNA Worksheet.

Authorized Official: /s/ William E. Hatton  
William Hatton, Field Manager, Siuslaw Resource Area

Date: 8/6/2008

# PROJECT IMPLEMENTATION PRESCRIPTION

## See-sil (Hansen) 2008 T17S, R5W, Sections 23 & 24

### Table of Contents

<b>Project Description .....</b>	<b>1</b>
Purpose.....	1
Record of Decision and BLM Resource Management Plan.....	1
West Eugene Wetlands Schedule EA .....	1
Existing Habitat Types.....	2
Future Desired Conditions.....	3
<b>Treatments, EA Objectives, Design Features, and Mitigation Measures .....</b>	<b>4</b>
Prairie-Savanna Ecotone.....	4
Oak Savanna .....	9
Oak Woodland .....	11
Wet Prairie .....	13
Wet Prairie Hydrology Restoration.....	16
Upland Prairie .....	17
Emergent Wetland .....	19
<b>Site Resources .....</b>	<b>20</b>
Wildlife .....	20
Botany .....	21
Cultural Resources .....	22
Soils.....	22
Hydrology.....	22
<b>Budget .....</b>	<b>23</b>

**Project Description**

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**Purpose**

This Project Implementation Prescription (PIP) covers the second year of habitat enhancement treatments at the BLM See-sil (Hansen) site in the West Eugene Wetlands, Eugene, Oregon. 2008 project treatments include both maintenance of 2007 project areas (maintenance) and treatments on new acreage (new treatment).

**Record of Decision and BLM Resource Management Plan**

The proposed action is not subject to the Record of Decision and the Standards and Guidelines of the Northwest Forest Plan (USDA & USDI 1994). The proposed action complies with Eugene District Record of Decision and Resource Management Plan (USDI, 1995).

**West Eugene Wetlands Schedule EA**

Project activities are designed to implement actions identified in the West Eugene Wetlands (WEW) Schedule Environmental Assessment (EA) (No. OR090-05-03). The selected alternative (D) of the EA is designed to “maintain, enhance, and expand the amount of high and medium quality habitat of each of the eight habitat types delineated...” on 1,340 acres in the WEW.

Five actions are identified for accomplishing management under the selected alternative of the EA, four of which are addressed by this project:

1. Control woody vegetation encroachment.
2. Control invasive species.
3. Treat litter and thatch buildup.
4. Maintain existing levels of native plant species diversity.

The fifth EA action specifically addresses western pond turtle habitat, which does not occur at this site.

The planned project addresses the following acreage, according to EA categories:

	<b>Maintenance</b>	<b>New Treatment</b>	<b>Project Total</b>
<b>Habitat Class</b>			
1. High quality	5.6	42.8	48.4
2. Medium quality	14.0	25.0	39.0
3. Low quality	4.1	7.0	11.1
<b>TOTAL</b>	<b>23.7</b>	<b>74.8</b>	<b>98.5</b>
<b>EA Action*</b>			
Control woody vegetation encroachment	5.0	28.5	33.5
Control invasive species	19.0	8.5	27.5
Treat litter/thatch buildup	0.0	37.5	37.5
Maintain native plant diversity	10.0	39.3	49.3

*\*Acreage totals not calculated for EA Actions because some project activities will apply to multiple actions (e.g., a prescribed burn will address all four EA actions in one location).*

**Existing Habitat Types**

The BLM See-sil site is a complex of habitat types including wet prairie and prairie-savanna ecotone, oak savanna and woodland, and upland prairie and emergent wetland. A remnant population of the BLM Sensitive plant *Seriocarpus rigidus* (white-topped aster, formerly *Aster curtus*) is present in the wet prairie and prairie-savanna ecotone habitats. An introduced population of the federally Threatened *Lupinus sulphureus* spp. *kincaidii* (Kincaid’s lupine) is present in a fenced research plot. Upland and wet prairie habitats on the site have been designated Critical Habitat for the Fender’s blue butterfly by the US Fish and Wildlife Service.

In the absence of fire, oak communities have become overly dense, trees have begun invading prairie habitats, and *Deschampsia cespitosa*, a native wet prairie grass, is becoming overabundant and causing the accumulation of thatch in the wet prairie. In addition, non-native invasive species are a management concern in all habitats on the site.

A first phase of work was initiated on this site in 2007. 2008 project activities will include follow-up maintenance on the 2007 project areas, as well as new treatments on previously untreated acreage.

A summary of the PIP acreage by habitat types is as follows:

<b>Habitat Type</b>	<b>Maintenance</b>	<b>New Treatment</b>	<b>Project Total</b>	<b>Total Site Acres</b>
Prairie-Savanna Ecotone	3.4	4.5	7.9	15.2
Oak Savanna*	11.2	25	40.6	45.0
Oak Woodland*	4.4			
Wet Prairie	2.2	38.3	40.5	55.6
Upland Prairie	2	6.5	8.5	25.1
Emergent Wetland	0.5	0.5	1	1.2
<b>TOTAL**</b>	<b>23.7</b>	<b>74.8</b>	<b>98.5</b>	<b>142.1</b>

\*The EA did not discern between mapped savanna and woodland acreage.

\*\*Acreages calculated with GIS.

### **Future Desired Conditions**

- Major structural enhancements in both forested and grassland communities bring site under thresholds set forth in the EA.
- Prairie-Savanna Ecotone and Oak Savanna:
  - Native oak species dominate the canopy.
  - Total canopy cover of 5-30%, with no more than 5-10% relative cover by small dbh trees (20-30 cm), and 3-7 trees per acre that are >20-30 cm dbh.
  - White-topped aster (*Seriocarpus rigidus* (SERI), formerly *Aster curtus*) patches are cleared of woody and invasive species.
  - Native plant diversity is maintained in the understory.
  - Oak habitats will be managed for continued thatch reduction and invasive species control via mowing and prescribed fire in the long term.
- Oak Woodland:
  - Native oak species dominate the canopy.
  - Total canopy cover between 30-70%, not exceeding 15% relative canopy cover by small dbh trees (<15-30 cm) and not exceeding 80% relative canopy cover by large dbh trees (>15-30 cm).
  - Oak habitats will be managed for continued thatch reduction and invasive species control via mowing and prescribed fire in the long term.
  - Native plant diversity is maintained in the understory.
- Wet Prairie:
  - Thatch removal to achieve less than 10-20% cover of thatch.
  - Seeding of native species in the wet prairie maintains existing levels of native plant species diversity and provides nectar plants for the Federally endangered Fender's blue butterfly.
  - Woody plants occupy 5-10% total canopy cover in this habitat.
  - All invasive species are treated, and aggressive invasive species are treated and eradicated where possible.
  - Native plant diversity is maintained.
- Upland Prairie:
  - All invasive species are treated, and aggressive invasive species are treated and eradicated if possible.
  - Native plant diversity is maintained and enhanced.
- Emergent Wetland:
  - Reed canarygrass (*Phalaris arundinacea*) is treated.

## **Treatments, EA Objectives, Design Features, and Mitigation Measures**

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- New Treatment = Actions to be done in 2008 on acreage not treated in 2007. These actions are designed to address existing conditions and bring habitats under thresholds identified in the 10-Year Schedule EA.
- Maintenance = Maintenance on 2007 treatment areas. Actions to be done annually as needed, for a minimum of 5 years. Acreage will vary annually based on need, and is anticipated to decrease over time. Acreage presented in this document is for 2008.

### **Prairie-Savanna Ecotone**

#### **EA Objectives Addressed by Treatments**

- Action 1a. Treat all invasive tree species.
- Action 1b. Woody vegetation cover 5-10%. Trees per acre = 3-7.
- Action 2a. Invasive species control for Armenian blackberry (*Rubus armeniacus*) where it occupies >50% of a 1m<sup>2</sup> area.
- Action 2b. Treat highly aggressive weeds, including but not limited to:  
Reed canarygrass (*Phalaris arundinacea*)  
Meadow knapweed (*Centaurea pratensis*)  
Teasel (*Dipsacus fullonium*)  
Scotch broom (*Cytisus scoparius*)
- Action 4a. Monitor native plant species and recommend treatment as needed to maintain existing levels of native plant species diversity.

#### **Treatments**

##### **New Treatment – 4.5 acres**

- Thin tree canopy to 5-10% cover, retaining large-diameter open-grown oak trees while also providing areas with high light availability ( $\leq 10\%$  canopy cover) for herbaceous prairie plant species.
- Thin shrubs to 5-10% cover.
- Brush mow/masticate *Rubus armeniacus* and small diameter shrubs and trees (<4" dbh), with the exception of hazelnut (*Corylus* spp.) shrubs.
- Existing coarse downed woody debris shall be left in place.
- Remove encroaching woody species and invasive vegetation from within a 5-foot radius of and overtopping each white-topped aster (*Seriocarpus rigidus*, SERI) plant, unless removal of such vegetation would jeopardize SERI survival. Removal will be accomplished by handpulling, weedwhacking, handsaws, or mowing.
- Areas containing SERI may be mowed after plants have senesced for the season, to prevent further encroachment by invasive and woody species.
- Mowed areas may be broadcast seeded with native species; no seed will be sown in SERI occurrences.

- Treat all invasive and non-native species. Highly aggressive invasive species *Cystisus scoparius*, *Centaurea pratensis*, *Dipsacus fullonum*, and *Phalaris arundinacea*, are fully treated or removed.
- *Rubus armeniacus* will be mowed or weedwhacked a minimum of 1 time per growing season; 2 times are optimal. Grubbing of rootwads may be implemented in localized areas.
- Identify and map noxious/invasive weed populations to be treated and turn those maps into Siuslaw Resource Area Weed Coordinator and BLM's Natural Resource Specialist, Eugene District.
- Treat and dispose of noxious/invasive weed infestations as prescribed in the Schedule EA and in this PIP for meeting restoration goals.
- Remove or treat noxious/invasive weed seed sources and other viable reproducing plant parts within the project area that could be spread by project disturbance or by passing vehicles or foot traffic.
- Ensure establishment and maintenance of vigorous, desirable vegetation to discourage weeds. Monitor all seeded sites for weed infestation. Treat all invasive/noxious weeds adjacent to newly seeded areas prior to planting and treat planted areas for weeds in the first growing season.
- Treated areas may be planted or broadcast seeded with native species.

#### Maintenance – 3.4 acres

- Cut resprouting of trees and shrubs thinned in 2007 with a brush mower, skid-steer with a masticating head, chainsaws, weedwhackers or stump grinder.
- Remove (by hand) encroaching woody vegetation and invasive species within a 5-foot radius of and overtopping each SERI plant, unless removal of such vegetation would jeopardize their survival.
- Identify and map noxious/invasive weed populations to be treated and turn those maps into Siuslaw Resource Area Weed Coordinator, Eugene District.
- Treat and dispose of noxious/invasive weed infestations as prescribed in the schedule EA and in this PIP for meeting restoration goals.
- Remove or treat noxious/invasive weed seed sources and other viable reproducing plant parts within the project area that could be spread by project disturbance or by passing vehicles or foot traffic.
- Ensure establishment and maintenance of vigorous, desirable vegetation to discourage weeds. Monitor all seeded sites for weed infestation. Treat all invasive/noxious weeds adjacent to newly seeded areas prior to planting and treat planted areas for weeds in the first growing season.
- Treat all invasive and non-native species. Highly aggressive invasive species *Cystisus scoparius*, *Centaurea pratensis*, *Dipsacus fullonum*, and *Phalaris arundinacea*, are fully treated or removed.
- Treated areas may be planted or seeded with native species.

#### **Design Features and Mitigation Measures**

##### **Alternative 1**

- Masticate all stems below 5" dbh
- Hand fall selected trees for coarse woody debris

##### **Alternative 2**

- Hand fall all stems over 5" dbh. Limbs and tops must be severed prior to yarding.
- Skid trails every 150'.
- Trees will be winched into the skid trails by skidders remaining entirely on the skid trails, then yarded out to a landing.
- Several small landings adjacent to the unit will need to be identified for decking.
- Masticate trees less than 5" dbh; as well as any additional slash from tops and limbs left on site.

### Thinning/Woody Vegetation Removal

- Mark retain trees within each habitat type, using water-based paint.
- No felling, girdling, or topping of, or other damage to marked retain trees shall be allowed.
- Mark wildlife trees with wildlife signs.
- Operations are limited to the period when soil moisture content provides the most resistance to compaction--generally less than 25% (typically, July 1 to October 15). Operation start must be approved by the Authorized Officer, in consultation with the BLM Soil Scientist, to confirm these conditions.
- Use of low ground pressure (<6 psi), tracked yarding equipment is recommended.
- Wherever possible, skid trails must be located on existing current and historic logging trails. Project layout must employ existing trails to the maximum extent feasible. All skid trails must be designated and must be approved by the Authorized Officer.
- All yarding equipment shall operate entirely on designated skid trails maintained to a width of 12 feet, and layout shall be designed to occupy less than 10% of the thinning area as much as possible.
- Skid trails must be a minimum of 150' apart.
- Non-merchantable tops and limbs shall be removed from the site. Chipping at a landing would be allowed to facilitate removal of this material.
- All stumps must be severed at 6" or less above the stump on the high side on the tree.
- Directional felling must be used to prevent damage to reserve trees.
- Yarding equipment will remain entirely on skid trails.
- After yarding has been completed, skid trails will be decommissioned using a track mounted excavator, as approved by the Authorized Officer. Skid trail decommissioning will be limited to methods that do not damage root systems of retain trees.
- Shredded material from brush mowing or mastication will remain on the ground.
- Landing locations must be flagged in prior to operations and approved by the Authorized Officer. Landings will be a maximum size of 50' x 50'.
- Use chainsaws for all girdling/topping, or for work which poses a safety concern. Chainsaws also may be used as a follow-up treatment to mechanical thinning, where stems, stumps, or limbs were missed.
- Travel corridors must be cleared of debris to the extent possible; surface must be within a tolerance of plus or minus four inches from pre-project conditions and free of ruts, rows, compaction or other machine-influenced irregularities. Authorized Officer, in consultation with BLM Soil Scientist, will determine whether conditions differ from pre-project and surrounding areas.
- All vehicles and equipment must be clean and free of weed seeds prior to entering the site.
- A chipper may be stationed in landings to allow on-site chipping of felled trees, including limbs and tops. Chipped/mulched material will be removed from the site using chip vans. Chip van travel will be limited to existing primary access road.
- Where necessary, provide general noxious/invasive weed awareness to project workers on the identification of noxious weeds/invasive species of concern, the importance of noxious/invasive weed control and measures to minimize spread.
- Inspect and remove all mud, dirt, and plant parts (where identified) from any off-road equipment before moving into project area and before moving out of project area if equipment is likely to spread noxious/invasive weed infestations in and out of project areas. Cleaning must occur off of BLM land in an appropriate location as not to spread noxious/invasive weeds into other locations. Actions should apply to timber harvest activities, weed control activities, prescribed fire activities, and other general activities where equipment, vehicles and staff will be accessing the site.

- Designate areas for project staff to park to avoid unintentional spread into the project site. Flag any noxious/invasive weed populations that equipment/vehicles should avoid in moving about the site.
- Avoid moving weed-infested gravel, rock and other fill materials to relatively weed-free locations. Gravel and fill should come from weed-free sources. Inspect gravel pits and fill sources (if used) to identify weed-free sources.
- Use only certified weed seed free straw and mulch where such off-site materials will be used for erosion control or other purposes.
- Where prescribed, reestablish vegetation with noxious weed free seed on bare ground to minimize weed spread.
- Minimize spread of invasive/noxious weed seed in areas not yet revegetated by utilizing above prevention actions as well as education.
- Minimize soil disturbance (unless otherwise prescribed as part of this restoration project) to no more than needed to meet project objectives, especially around sensitive plant sites.
- Check areas along trails to prevent the introduction and spread of invasive/noxious weeds into the project area. Inform and educate the public about how they can prevent the spread.
- No fuel, motor oil, hydraulic fluid, grease, or any other petroleum- or chemically-based compounds associated with operating motor vehicles shall be stored on-site.
- No refueling or maintenance shall take place in on-site wetlands, wet prairie, intermittent stream channels, or open water, as identified by the Authorized Officer.
- An absorbent pad, spill pan, or other physical barrier must be in place prior to any refueling or maintenance. Chainsaws and weedwhackers must be refueled in the bed of a truck or with some other impermeable (i.e., not an absorbent pad) material between the equipment and the ground.
- Use of herbicides is not allowed at the present time, due to injunction and NEPA.

#### Decommissioning

- Till all skid trails with severe compaction as determined by Authorized Officer and Soil Scientist. Use of a small excavator (<10 feet wide) with a bucket with ripping teeth or modified for tillage that can be used to laterally shatter (lift) but not mix the soil is optimum for decommissioning skid trails. Care should be taken not to mix or displace the soil profile. Live roots can be avoided with use of a modified bucket. Tilling should immediately follow logging operations the same year (typically July 1-October 15) when moisture contents are low and provide resistance to compaction.
- Till landings as determined by Authorized Officer.

#### Sensitive Plant Protection/Enhancement

- All on-site *Serriocarpus rigidus* (SERI) occurrences will be marked with rebar and flagging by the Authorized Officer to minimize risk of trampling, crushing, pulling, cutting, or otherwise damaging each plant.
- Rebar will be transported within the site on foot or on the back of an all-terrain vehicle (ATV) with <6 psi. ATV will only travel on existing trails. Rebar will be transported only on foot from existing trails to SERI locations.
- Woody vegetation rooted within SERI occurrences will be removed to the degree possible, but may only be flush-cut or trimmed if removal would uproot, crush, or otherwise damage the SERI plants. The Authorized Officer, in consultation with BLM's Wetlands Natural Resource Specialist, will determine appropriate treatment for each such situation.

- Enforce a 3-meter buffer around each SERI occurrence while thinning operations are taking place. Written approval by the Authorized Officer of a written travel plan submitted by the Contractor is required to ensure that adequate avoidance measures are taken to prevent harm to these species from vehicular travel.
- Mechanical removal of woody vegetation from in and around SERI occurrences may be allowed; vehicle tracks must remain a minimum of 10 feet from any plant. If faller/processor is used to thin woody vegetation from SERI areas, the operator shall take all necessary measures to protect the plants from damage during cutting. This shall include, but is not limited to, a first cut on the bole of any tree or shrub a minimum of 2 feet above the ground surface, limbing and processing the tree away from the SERI occurrence, and then a second cut to remove the lowest portion of the bole.
- No more than 2/3 of the SERI population at the site, as counted by occurrences, will be mowed in one year.
- No seed will be sown in SERI occurrences.

#### Mowing

- Broadcast mowing operations are limited to the period when soil moisture content provides the most resistance to compaction--generally less than 25% (typically, July 1 to October 15). Operation start must be approved by the Authorized Officer to confirm these conditions.
- Broadcast mowing and woody vegetation removal starts after July 15 to protect nesting birds or August 15 to protect fledged birds.
- Mowed vegetation will be no more than six inches high, and woody plant material shall be chopped or mulched. Mower may make multiple passes to mulch woody vegetation.
- Use of herbicides is not allowed at the present time, due to injunction and NEPA.
- No refueling or maintenance shall take place in on-site wetlands, wet prairie, intermittent stream channels, or open water, as identified by the Authorized Officer.
- An absorbent pad, spill pan, or other physical barrier must be in place prior to any refueling or maintenance. Chainsaws and weedwhackers must be refueled in the bed of a truck or with some other impermeable (i.e., not an absorbent pad) material between the equipment and the ground.

#### Stump Grinding

- Stump grinding operations are limited to the period when soil moisture content provides the most resistance to compaction--generally less than 25% (typically, July 1 to October 15). Operation start must be approved by the Authorized Officer to confirm these conditions.
- Stump grinding will be accomplished with a stump grinding head or attachment mounted on a low-psi rubber-tracked skid steer.

#### Weedwhacking

- Weedwhacked vegetation will be no more than six inches high, and woody plant material shall be removed, chopped, or mulched. Weedwhacked vegetation such as blackberry canes, shrubs, or saplings may be chipped on site and then removed.
- Mowing and woody vegetation removal starts after July 15 to protect nesting birds or after August 15 to protect fledged birds.
- Use of herbicides is not allowed at the present time, due to injunction and NEPA.
- No refueling or maintenance shall take place in on-site wetlands, wet prairie, intermittent stream channels, or open water, as identified by the Authorized Officer.

- An absorbent pad, spill pan, or other physical barrier must be in place prior to any refueling or maintenance. Chainsaws and weedwhackers must be refueled in the bed of a truck or with some other impermeable (i.e., not an absorbent pad) material between the equipment and the ground.

### Seeding

- Thinned, burned, mowed, or disturbed areas will be assessed and may be seeded with native WEW seed, using mixes designed specifically for each habitat.
- *Serriocarpus rigidus* occurrences will not be seeded.
- Seed will be broadcast using hand-broadcasting methods, or using a broadcaster mounted on the back of a skid steer or an all-terrain vehicle with less than 6 psi.
- Seeding crews are limited to no more than six people to prevent undue trampling in any newly restored area. The skid steer or all-terrain vehicle may only be used in areas where sensitive plant communities are not present.

## **Oak Savanna**

### **EA Objectives Addressed by Treatments**

- Action 1a. Treat all invasive tree species.
- Action 1b. Woody vegetation cover small dbh trees 5-10%. Large dbh trees per acre = 3-7.
- Action 2a. Invasive species control for Armenian blackberry (*Rubus armeniacus*) where it occupies 10% cover or greater.
- Action 2b. Treat highly aggressive weeds, including but not limited to:  
Reed canarygrass (*Phalaris arundinacea*)  
Meadow knapweed (*Centaurea pratensis*)  
Teasel (*Dipsacus fullonium*)  
Scotch broom (*Cytisus scoparius*)
- Action 4a. Monitor native plant species and recommend treatment as needed to maintain existing levels of native plant species diversity.

### **Treatments**

#### New Treatment – 12.5 acres

- Remove encroaching trees and saplings to attain total canopy cover ranging from 5-30% (approx. 20-30 ft<sup>2</sup>/acre).
- Species that could be removed include all tree species known at the site: California black oak (*Quercus kelloggii*), Oregon white oak (*Quercus garryana*), Douglas-fir (*Pseudotsuga menziesii*), grand fir (*Abies grandis*), Pacific madrone (*Arbutus menziesii*), bigleaf maple (*Acer macrophyllum*), Oregon ash (*Fraxinus latifolia*), cascara (*Rhamnus purshiana*), black cottonwood (*Populus trichocarpa*), Pacific dogwood (*Cornus nuttallii*), sweet cherry (*Prunus avium*), and pine (*Pinus* spp.).
- Species to be retained include all of the species above with the exception of *Prunus avium* and any non-native pines.
- Prioritize retention of large diameter (>20" dbh) trees with open-grown canopy morphology, including both *Quercus garryana* and *Quercus kelloggii*, if present. 80% of open-grown oaks are released.

- Retain a minimum of 2 age classes of *Quercus* spp.
- *Quercus* spp. will be dominant in the canopy layer, with subdominant native species in the genera *Arbutus*, *Pseudotsuga*, *Pinus*, *Abies*, *Acer*, and *Rhamnus*.
- Conifer cover may be retained up to 10% across this habitat type.
- Remove all non-native shrubs; native shrub cover may be retained up to 10%.
- Retain existing downed coarse woody debris. Leave logs greater than 17" in DBH when possible based on tree species.
- Retain existing snags. Create snags where possible. Snag trees should be a minimum of 20" DBH and 35 feet tall. Snags can be *Pseudotsuga*, *Pinus*, *Abies*, or *Quercus* spp. BLM's Natural Resource Specialist will mark potential snags and wildlife leave logs.
- Remove as much cut wood and slash as feasible.
- Treat all non-native species. Highly aggressive invasive species *Cystisus scoparius*, *Centaurea pratensis*, and *Dipsacus fullonium* are fully treated or removed.
- *Rubus armeniacus* will be mowed or weedwhacked a minimum of 1 time per growing season; 2 times are optimal. Grubbing of rootwads may be implemented in localized areas.
- Identify and map noxious/invasive weed populations to be treated and turn those maps into Siuslaw Resource Area Weed Coordinator and BLM's Natural Resource Specialist, Eugene District.
- Treat and dispose of noxious/invasive weed infestations as prescribed in the schedule EA and in this PIP for meeting restoration goals.
- Remove or treat noxious/invasive weed seed sources and other viable reproducing plant parts within the project area that could be spread by project disturbance or by passing vehicles or foot traffic.
- Ensure establishment and maintenance of vigorous, desirable vegetation to discourage weeds. Monitor all seeded sites for weed infestation. Treat all invasive/noxious weeds adjacent to newly seeded areas prior to planting and treat planted areas for weeds in the first growing season.
- Treated areas may be planted or seeded with native species.

#### Maintenance – 11.2 acres

- Resprouting of trees and shrubs thinned in 2007 may be treated by a brush mower, stump grinder, skid-steer with a masticating head, chainsaws, or weedwhackers.
- Treat all invasive and non-native species. Highly aggressive invasive species *Cystisus scoparius*, *Centaurea pratensis*, *Dipsacus fullonium*, and *Phalaris arundinacea*, are fully treated or removed. Mow or weedwhack *Rubus armeniacus* and *Rubus laciniatus* as needed. Grubbing of rootwads may be implemented in localized areas.
- Use of herbicides is not allowed at the present time, due to injunction and NEPA.
- Identify and map noxious/invasive weed populations to be treated and turn those maps into Siuslaw Resource Area Weed Coordinator, Eugene District.
- Treat and dispose of noxious/invasive weed infestations as prescribed in the schedule EA and in this PIP for meeting restoration goals.
- Remove or treat noxious/invasive weed seed sources and other viable reproducing plant parts within the project area that could be spread by project disturbance or by passing vehicles or foot traffic.
- Ensure establishment and maintenance of vigorous, desirable vegetation to discourage weeds. Monitor all seeded sites for weed infestation. Treat all invasive/noxious weeds adjacent to newly seeded areas prior to planting and treat planted areas for weeds in the first growing season.
- Treated areas may be planted or seeded with native species.
- Remove debris, trash, and spoil piles unearthed following 2007 thinning activities.

## **Design Features and Mitigation Measures**

<u>Thinning/Woody Vegetation Removal</u>	See p. 6.
<u>Decommissioning</u>	See p. 7
<u>Sensitive Plant Protection/Enhancement</u>	See p. 7.
<u>Mowing</u>	See p. 8.
<u>Stump Grinding</u>	See p. 8.
<u>Weedwhacking</u>	See p. 8.
<u>Seeding</u>	See p. 9.

### Prescribed Burning

- Prescribed burning may occur on up to 1.5 acres of oak savanna contiguous with approximately 40 acres of wet prairie where a prescribed fire is planned.
- See p. 14 for Design Features & Mitigation Measures.

## **Oak Woodland**

### **EA Objectives Addressed by Treatments**

- Action 1a. Treat all invasive tree species.
- Action 1b. Woody vegetation cover small dbh trees 10-15%. Large dbh trees per acre = 7-15.
- Action 2a. Invasive species control for Armenian blackberry (*Rubus armeniacus*) where it occupies 10% cover or greater.
- Action 2b. Treat highly aggressive weeds, including but not limited to:  
Reed canarygrass (*Phalaris arundinacea*)  
Meadow knapweed (*Centaurea pratensis*)  
Teasel (*Dipsacus fullonium*)  
Scotch broom (*Cytisus scoparius*)
- Action 4a. Monitor native plant species and recommend treatment as needed to maintain existing levels of native plant species diversity.

### **Treatments**

#### New Treatment – 12.5 acres

- Remove encroaching trees and saplings to attain total canopy cover ranging from 40-75%.
- Species that could be removed include all tree species known at the site: California black oak (*Quercus kelloggii*), Oregon white oak (*Quercus garryana*), Douglas-fir (*Pseudotsuga menziesii*), grand fir (*Abies grandis*), Pacific madrone (*Arbutus menziesii*), bigleaf maple (*Acer macrophyllum*), Oregon ash (*Fraxinus latifolia*), cascara (*Rhamnus purshiana*), black cottonwood (*Populus trichocarpa*), Pacific dogwood (*Cornus nuttallii*), sweet cherry (*Prunus avium*), and pines (*Pinus* spp.).
- Species to be retained include all of the species above with the exception of *Prunus avium* and any non-native pines.

- Prioritize retention of both *Quercus garryana* and *Quercus kelloggii*, with approx. 20-30' spacing between trees or tree groups (multiple trees which, growing too closely together, have only partly-developed canopies and together function as one large tree).
- Retain a minimum of 2 age classes of *Quercus* spp.
- *Quercus* spp. will be dominant in the canopy layer, with subdominant species in the genera *Arbutus*, *Pseudotsuga*, *Abies*, *Acer*, and *Rhamnus*.
- Conifer cover may be retained up to 20% across this habitat type.
- Remove all non-native shrubs; native shrub cover may be retained up to 20%.
- Retain existing downed coarse woody debris where present.
- Retain existing snags. Create snags where possible. Snag trees must be a minimum of 17" DBH and 30 feet tall. Snags can be *Pseudotsuga*, *Pinus*, *Abies*, or *Quercus* spp.
- Remove as much cut wood and slash as feasible.
- Treat all non-native species. Highly aggressive invasive species *Cystisus scoparius*, *Centaurea pratensis*, and *Dipsacus fullonium* are fully treated or removed.
- *Rubus armeniacus* will be mowed or weedwhacked a minimum of 1 time per growing season; 2 times are optimal. Grubbing of rootwads may be implemented in localized areas.
- Identify and map noxious/invasive weed populations to be treated and turn those maps into Siuslaw Resource Area Weed Coordinator, Eugene District.
- Treat and dispose of noxious/invasive weed infestations as prescribed in the schedule EA and in this PIP for meeting restoration goals.
- Remove or treat noxious/invasive weed seed sources and other viable reproducing plant parts within the project area that could be spread by project disturbance or by passing vehicles or foot traffic.
- Ensure establishment and maintenance of vigorous, desirable vegetation to discourage weeds. Monitor all seeded sites for weed infestation. Treat all invasive/noxious weeds adjacent to newly seeded areas prior to planting and treat planted areas for weeds in the first growing season.
- Treated areas may be planted or seeded with native species.

#### Maintenance – 4.4 acres

- Mow, weedwhack, or grind resprouting tree and shrub stumps as needed.
- Treat all invasive and non-native species. Highly aggressive invasive species *Cystisus scoparius*, *Centaurea pratensis*, *Dipsacus fullonium*, and *Phalaris arundinacea*, are fully treated or removed. Mow or weedwhack *Rubus armeniacus* and *Rubus laciniatus* as needed. Grubbing of rootwads may be implemented in localized areas.
- Identify and map noxious/invasive weed populations to be treated and turn those maps into Siuslaw Resource Area Weed Coordinator, Eugene District.
- Treat and dispose of noxious/invasive weed infestations as prescribed in the schedule EA and in this PIP for meeting restoration goals.
- Remove or treat noxious/invasive weed seed sources and other viable reproducing plant parts within the project area that could be spread by project disturbance or by passing vehicles or foot traffic.
- Ensure establishment and maintenance of vigorous, desirable vegetation to discourage weeds. Monitor all seeded sites for weed infestation. Treat all invasive/noxious weeds adjacent to newly seeded areas prior to planting and treat planted areas for weeds in the first growing season.
- Treated areas may be planted or seeded with native species.
- Remove debris, trash, and spoil piles unearthed following 2007 thinning activities.

## **Design Features and Mitigation Measures**

<u>Thinning/Woody Vegetation Removal</u>	See p. 6.
<u>Decommissioning</u>	See p. 7
<u>Sensitive Plant Protection/Enhancement</u>	See p. 7.
<u>Mowing</u>	See p. 8.
<u>Stump Grinding</u>	See p. 8.
<u>Weedwhacking</u>	See p. 8.
<u>Seeding</u>	See p. 9.

## **Wet Prairie**

### **EA Objectives Addressed by Treatments**

- Action 1b. Woody vegetation cover 5-10%.
- Action 2a. Invasive species control for Armenian blackberry (*Rubus armeniacus*) where it occupies >50% of a 1m<sup>2</sup> area.
- Action 2b. Treat highly aggressive weeds, including but not limited to:  
Reed canarygrass (*Phalaris arundinacea*)  
Meadow knapweed (*Centaurea pratensis*)  
Teasel (*Dipsacus fullonium*)  
Scotch broom (*Cytisus scoparius*)
- Action 3a. Reduce buildup of litter where it exceeds 10-20% cover and is detrimentally impacting native forb plant diversity and rare plant habitat.
- Action 4a. Monitor native plant species and recommend treatment as needed to maintain existing levels of native plant species diversity.

### **Treatments**

#### **New Treatment – 38.3 acres**

- Remove woody vegetation; canopy cover by woody vegetation ≤10%.
- Treat invasive and non-native species. Highly aggressive invasive species *Cytisus scoparius*, *Centaurea pratensis*, *Dipsacus fullonium*, and *Phalaris arundinacea*, are fully treated or removed.
- Conduct a prescribed burn on up to 40 acres of wet prairie to remove thatch, decrease grass cover, open microsites for forb establishment, and control invasive species and woody vegetation.
- Place shadecloth or wood planks to create patches of bare ground.
- Weedwhack *Rubus armeniacus* a minimum of 1 time per growing season (2 times are optimal) and chip and/or remove canes. Grubbing of rootwads may be implemented in localized areas.
- Weedwhack *Phalaris arundinacea* and install shadecloth on all patches greater than 6" in diameter. Handweed patches < 6" in diameter.
- Identify and map noxious/invasive weed populations to be treated and turn those maps into Siuslaw Resource Area Weed Coordinator and BLM's Natural Resource Specialist, Eugene District.
- Treat and dispose of noxious/invasive weed infestations as prescribed in the schedule EA and in this PIP for meeting restoration goals.

- Remove or treat noxious/invasive weed seed sources and other viable reproducing plant parts within the project area that could be spread by project disturbance or by passing vehicles or foot traffic.
- Ensure establishment and maintenance of vigorous, desirable vegetation to discourage weeds. Monitor all seeded sites for weed infestation. Treat all invasive/noxious weeds adjacent to newly seeded areas prior to planting and treat planted areas for weeds in the first growing season.
- Treated areas may be planted or seeded with native species.

#### Maintenance – 2.2 acres

- Weedwhack *Rubus armeniacus* a minimum of 1 time per growing season (2 times optimal) and chip and/or remove canes. Grubbing of rootwads may be implemented in localized areas.
- Identify and map noxious/invasive weed populations to be treated and turn those maps into Siuslaw Resource Area Weed Coordinator, Eugene District.
- Treat and dispose of noxious/invasive weed infestations as prescribed in the schedule EA and in this PIP for meeting restoration goals.
- Remove or treat noxious/invasive weed seed sources and other viable reproducing plant parts within the project area that could be spread by project disturbance or by passing vehicles or foot traffic.
- Ensure establishment and maintenance of vigorous, desirable vegetation to discourage weeds. Monitor all seeded sites for weed infestation. Treat all invasive/noxious weeds adjacent to newly seeded areas prior to planting and treat planted areas for weeds in the first growing season.

#### **Design Features and Mitigation Measures**

##### Sensitive Plant Protection/Enhancement

- Remove (by hand) encroaching woody vegetation and invasive species within a 5-foot radius of and overtopping each SERI plant, unless removal of such vegetation would jeopardize survival of SERI plants.
- All (SERI) occurrences will be marked with rebar and flagging by the Authorized Officer to minimize risk of trampling, crushing, pulling, cutting, or otherwise damaging each plant.
- Rebar will be transported within the site on foot or on the back of an all-terrain vehicle (ATV), with <6 psi. ATV will only travel on existing trails. Rebar will be transported only on foot from existing trails to SERI locations.
- Woody vegetation rooted within SERI occurrences will be removed to the degree possible, but may only be flush-cut or trimmed if removal would uproot, crush, or otherwise damage the SERI plants. The Authorized Officer, in consultation with BLM's Botany Specialist, will determine appropriate treatment for each such situation.
- No broadcast mowing of SERI plants will occur in hummocky wet prairie.
- Use of herbicides is not allowed at the present time, due to injunction and NEPA.

##### Prescribed Burning

- Prescribed burning may occur on up to 40 acres of wet prairie.
- An existing grass access road bordered by unvegetated ditches on either side provides one fire break, distinguishing a 30-acre burn unit and a 7.5-acre burn unit.

- The access road and 12-foot wide fire breaks around the remainder of the burn unit boundaries shall be mowed to a height of no more than 6 inches within one month prior to a planned burn. Mowing shall occur using a skid-steer or tractor mower with less than 6 psi.
- A skid steer with <6 psi may be used to brush mow dense *Rubus armeniacus* along the fenceline on Royal Avenue for a firebreak next to the road.
- Wooden fence sections between adjacent Corps lands to the north and the burn area to the south will be protected by wetting down prior to burn implementation.
- The prescribed burn window will be limited to after the Federally Endangered *Lomatium bradshawii* (on Corps property along fenceline) has senesced for the season. The single SERI occurrence along the fenceline/burn unit boundary will be marked off and protected similarly to the wooden fence sections. All other SERI occurrences on the site are located well outside the burn unit boundary.
- All prescribed burn planning will be approved and implementation will be accomplished by a qualified Complex Burn Boss (RXB1).
- The prescribed burn window will also be limited by acceptable wind direction parameters set forth in the LRAPA Burn Permit.

#### Weedwhacking

- Weedwhacked vegetation will be no more than six inches high, and woody plant material shall be removed, chopped, or mulched. Weedwhacked vegetation such as blackberry canes, shrubs, or saplings may be chipped on site and then removed.
- Seasonal restrictions are in place during grassland bird nesting season April 15-July 15. The first localized weedwhacking treatments may be applied before or during June, to improve the effectiveness of the treatment. All treatment areas will be cleared by the Authorized Officer and the BLM's Wetlands Natural Resource Specialist by conducting walk-through surveys to detect the presence of nesting birds. Each area of RUAR where birds are flushed will be intensively searched. If a nest is found the clump will be marked and will not be treated until after July 15. If fledglings are found the clump may not be treated until August 15.
- Use of herbicides is not allowed at the present time, due to injunction and NEPA.
- No fuel, motor oil, hydraulic fluid, grease, or any other petroleum- or chemically-based compounds associated with operating motor vehicles shall be stored on-site.
- No refueling or maintenance shall take place in or near on-site wetlands, wet prairie, intermittent stream channels, or open water, as identified by the Authorized Officer.
- An absorbent pad, spill pan, or other physical barrier must be in place prior to any refueling or maintenance. Chainsaws and weedwhackers must be refueled in the bed of a truck or with some other impermeable (i.e., not an absorbent pad) material between the equipment and the ground.

#### Mowing

- Broadcast mowing will not occur in the wet prairie anywhere where soil exhibits hummocky microtopography or where there are ant hills or small animal mounds, with the exception of a firebreak along Royal Avenue. A skid steer with <6 psi may be used to brush mow dense *Rubus armeniacus*.
- In wet prairie, mower will be rubber-tracked or rubber-tired and not exceed 6 psi. Broadcast mowing operations in non-hummocky wet prairie are limited to the period when soil moisture content provides the most resistance to compaction--generally less than 25% (typically, July 1 to October 15). Operation start must be approved by the Authorized Officer to confirm these conditions.
- Mowed vegetation will be no more than six inches high, and woody plant material shall be chopped or mulched. Mower may make multiple passes to mulch woody vegetation.

#### Seeding

See p. 9.

## Wet Prairie Hydrology Restoration

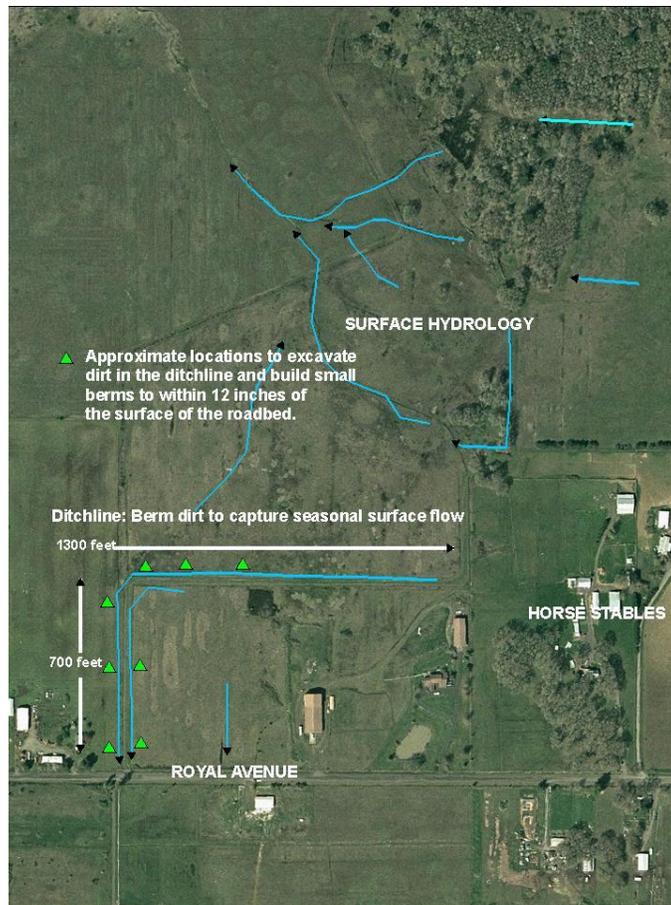
### EA Objectives Addressed by Treatments

Action 4a. Monitor native plant species and recommend treatment as needed to maintain existing levels of native plant species diversity.

### Treatments

#### New Treatment - <1 acre

- Dig/trench/place earthen fill-barriers within the ditchline. Barriers would be located approximately at the locations marked on the below map. The berms/bags should fill the ditch to within approximately 12 to 18 inches of the road surface so that overflow can reach Royal Avenue if needed during a large storm event.
- Barriers will be placed such that no flooding will occur on neighboring private property parcels.
- Barriers will not be placed where resulting hydrologic alterations will degrade habitat for federally-listed plants on adjoining Corps property, or for existing *Seriocarpus rigidus* on the project site. Several populations of rare and some occurrences of Federally Threatened and Endangered species occur on Corps lands to the north. Actions which may result in alterations to hydrology on adjoining Corps lands to north of site will be coordinated with the Corps.
- Material for earthen barriers will be free of weed seed.
- Any and all wetland permits needed to place earthen barriers are obtained before work is initiated.



## Upland Prairie

### EA Objectives Addressed by Treatments

- Action 1b. Woody vegetation cover 5-10%.
- Action 2a. Invasive species control for Armenian blackberry (*Rubus armeniacus*) when it occupies >10% cover.
- Action 2b. Treat highly aggressive weeds, including but not limited to:  
Reed canarygrass (*Phalaris arundinacea*)  
Meadow knapweed (*Centaurea pratensis*)  
Teasel (*Dipsacus fullonium*)  
Scotch broom (*Cytisus scoparius*)
- Action 4a. Monitor native plant species and recommend treatment as needed to maintain existing levels of native plant species diversity.

### Treatments

#### New Treatment – 6.5 acres

- Site preparation - Mow and shadecloth four to six ¼-acre plots adjacent to the introduced *Lupinus sulphureus ssp. kincaidii* research plot (seeding 2010).
- Remove woody vegetation; canopy cover by woody vegetation  $\leq 10\%$ .
- Mow lupine research plot after plants have senesced for the season, after August 15.
- Treat invasive and non-native species. Highly aggressive invasive species *Cytisus scoparius*, *Centaurea pratensis*, *Dipsacus fullonium*, and *Phalaris arundinacea*, are fully treated or removed.
- *Rubus armeniacus* will be mowed a minimum of 1 time per growing season (2 times optimal). Grubbing of rootwads may be implemented in localized areas.
- Identify and map noxious/invasive weed populations to be treated and turn those maps into Siuslaw Resource Area Weed Coordinator, Eugene District.
- Treat and dispose of noxious/invasive weed infestations as prescribed in the schedule EA and in this PIP for meeting restoration goals.
- Remove or treat noxious/invasive weed seed sources and other viable reproducing plant parts within the project area that could be spread by project disturbance or by passing vehicles or foot traffic.
- Ensure establishment and maintenance of vigorous, desirable vegetation to discourage weeds. Monitor all seeded sites for weed infestation. Treat all invasive/noxious weeds adjacent to newly seeded areas prior to planting and treat planted areas for weeds in the first growing season.
- Fill in two soil pits in interior upland prairie using adjacent spoil piles from when pits were excavated.

#### Maintenance – 2 acres

- Treat invasive and non-native species. Highly aggressive invasive species *Cytisus scoparius*, *Centaurea pratensis*, *Dipsacus fullonium*, and *Phalaris arundinacea*, are fully treated or removed.
- *Rubus armeniacus* will be mowed a minimum of 1-2 times per growing season. Grubbing of rootwads may be implemented in localized areas.
- Identify and map noxious/invasive weed populations to be treated and turn those maps into Siuslaw Resource Area Weed Coordinator, Eugene District.

- Treat and dispose of noxious/invasive weed infestations as prescribed in the schedule EA and in this PIP for meeting restoration goals.
- Remove or treat noxious/invasive weed seed sources and other viable reproducing plant parts within the project area that could be spread by project disturbance or by passing vehicles or foot traffic.
- Ensure establishment and maintenance of vigorous, desirable vegetation to discourage weeds. Monitor all seeded sites for weed infestation. Treat all invasive/noxious weeds adjacent to newly seeded areas prior to planting and treat planted areas for weeds in the first growing season.

### **Design Features and Mitigation Measures**

- Use of herbicides is not allowed at the present time, due to injunction and NEPA.

#### Mowing

- Upland prairie may be mowed with a tractor.
- Mowed vegetation will be no more than six inches high, and woody plant material shall be chopped or mulched. Mower may make multiple passes to mulch woody vegetation.
- Mowing starts after July 15 to protect nesting birds, and after August 15 to protect fledged birds if fledged birds are present.
- All vehicles must be clean and free of weed seeds prior to entering the site.
- No fuel, motor oil, hydraulic fluid, grease, or any other petroleum- or chemically-based compounds associated with operating motor vehicles shall be stored on-site.
- No refueling or maintenance shall take place in or near on-site wetlands, wet prairie, intermittent stream channels, or open water, as identified by the Authorized Officer.
- An absorbent pad, spill pan, or other physical barrier must be in place prior to any refueling or maintenance. Chainsaws and weedwhackers must be refueled in the bed of a truck or with some other impermeable (i.e., not an absorbent pad) material between the equipment and the ground.

#### Shadecloth

- Four ¼-acre plots in the upland prairie will be mowed to a height of no more than six inches; shadecloth will be installed and secured with wooden stakes.
- Shadecloth will remain in place for a minimum of two growing seasons to kill grasses non-native vegetation. After shadecloth is removed, plots will be planted with native species.

## **Emergent Wetland**

### **EA Objectives Addressed by Treatments**

Action 2b. Treat highly aggressive weeds, specifically reed canarygrass (*Phalaris arundinacea*).

### **Treatments**

#### New Treatment – 0.5 acres

- Weedwhack and install shadecloth on *Phalaris arundinacea* >6" in diameter.
- Seed 2005-2006 shadecloth areas with native species.

#### Maintenance – 0.5 acres

- Weedwhack and install shadecloth on *Phalaris arundinacea*.
- Seed 2005-2006 shadecloth areas with native species.

### **Design Features and Mitigation Measures**

<u>Weedwhacking</u>	See p. 8.
<u>Shadecloth</u>	See p. 18.
<u>Seeding</u>	See p. 9.

## Site Resources

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### **Wildlife**

#### Threatened and Endangered Species:

- No Federally-threatened or endangered wildlife species are present on the site.
- The Federally Endangered Fender's blue butterfly (*Icaricia icarioides fenderi*) has not been observed on the introduced population of the Federally Threatened *Lupinus sulphureus ssp. kincaidii* (Kincaid's lupine) in a fenced research plot on the southeastern corner of the site.
- The BLM Wetland's Natural Resource Specialist will inspect the Kincaid's lupine leaves in June for Fender's blue butterfly eggs prior to weed control work.
- The wet and upland prairie areas on the southern half of the site are designated as Critical Habitat for the federally endangered Fender's blue butterfly (*Icaricia icarioides fenderi*).
- The U.S. Fish and Wildlife Service issued a Biological Opinion and Letter of Concurrence for informal Consultation on the (Ten Year) Schedule of Management Activities within the WEW to address the Potential Effects to Fender's Blue butterfly, Kincaid's Lupine, and the Willamette daisy (2005).
- The U.S. Fish and Wildlife Service issued a Letter of Concurrence for Reinitiation of informal Consultation on the (Ten Year) Schedule of Management Activities within the WEW to address the Potential Effects to Designated Critical Habitat for Fender's Blue butterfly, Kincaid's Lupine, and the Willamette daisy(2007).

#### Special Status Species:

##### Bald Eagle

- The bald eagle (*Haliaeetus leucocephalus*) was formally listed as Threatened species but delisted in 2007. As per BLM policy this species automatically reverts to a BLM Sensitive Species.
- Juvenile and adult Bald Eagles have been observed using the adjacent US Army Corps land for foraging and roost habitat in the winter months. There are no known nests and limited habitat within the See-sil (Hansen) project site.

##### Other:

- Bureau Sensitive Species observed and documented in 2007 at the site: Western Meadowlark and Lewis' Woodpecker. Other Bureau Sensitive Species which could potentially be present include the following: Purple Martin, Oregon Vesper Sparrow, Grasshopper Sparrow.
- The Streaked Horned Lark is listed under the Bureau Special Status policy as a Federal Candidate species. There is limited suitable habitat for nesting but this species may forage in open bare ground and grasslands for insects/seeds.
- Seasonal mowing restrictions are in place during grassland bird nesting season April 15-July 15 for the following species: Western Meadowlark, Streaked Horned Lark, Oregon Vesper Sparrow, and Grasshopper Sparrow. Walk-through surveys will be conducted in June for all *Rubus armeniacus* clumps where treatment by weedwhacking is planned. Surveys will focus on inspections for nesting and fledged birds. If a nest is found the clump will be marked and will not be treated until after birds fledge. Surveys will be conducted by BLM's Wetland Natural Resource specialist.
- Purple Martin surveys will be conducted by BLM. If site (nest box or tree) is found to be occupied with Purple Martin, the nest will be marked and will not be disturbed until birds fledge sometime in August.

- Under the Migratory Bird Treaty Act, action treatments will avoid and minimize “take” of migratory birds.
- If a Western gray squirrel nest is found in the thinning treatment areas, the nest will be marked and an area approximately 100 ft around the nest may not be thinned.

Raptors:

- An active osprey nest is located within .25 mile of the project site, in a platform on the south side of Royal Avenue. BLM’s Wetland Natural Resource Specialist shall monitor thinning operations for noise or line of sight disturbance and may allow the operation to proceed if field exam indicates breeding and fledging activities are not affected by disturbance.
- The Authorized Officer in consultation with BLM’s Wetland Natural Resource Specialist may immediately discontinue woody removal operations if a raptor nest is discovered and a determination is made that continued operations would disturb or interfere with raptor breeding and fledging. Woody removal operations that may disturb or interfere with breeding within 0.25 miles of the nest or 0.5 miles of line of sight from the nest may be restricted during the nesting period. Nesting dates vary by species and generally fall within the following periods (raptor species may renest if the first nest fails):

Eagles – Jan 1– Aug. 31 (includes winter roosts)

Osprey – March 1 – Sept. 15

Owls, other raptors – March 1- Sept. 30

**Botany**

Threatened and Endangered Species:

- An introduced population of the Federally Threatened *Lupinus sulphureus ssp. kincaidii* (Kincaid’s lupine) is present in a fenced research plot on the southeastern corner of the site.
- Handweeding or weedwhacking of invasive vegetation may occur within the plot, but will be restricted to areas between the planted occurrences of *Lupinus sulphureus ssp. kincaidii*.
- Weedwhacking will occur a minimum of 5 feet away from *Lupinus sulphureus ssp. kincaidii*.
- Mowing within the plot can occur after the plants have senesced.

Special Status Species:

- 35 known occurrences of *Seriocarpus rigidus* (formerly *Aster curtus*, white-topped aster), a Bureau Sensitive/Oregon state-threatened plant, are dispersed throughout the northern portion of the site, in the Prairie-Savanna Ecotone and Wet Prairie habitats. Plants have been flagged and will be encircled with rebar and tape/rope to protect them from trampling and make them visible to all users and operators on the site. Vehicle travel in the vicinity of these plants is restricted; a written plan documenting travel lanes and avoidance of impacts to this plan must be approved before any canopy thinning may occur.
- *Seriocarpus rigidus* patches were mowed in 2007 and may be mowed again in 2008 following monitoring assessment.
- One historically known individual of *Horkelia congesta ssp. congesta* (shaggy horkelia), a Bureau Sensitive species, was documented on the site in 2000. This plant was not relocated during surveys

in 2003 or 2007, and is presumed to no longer be present. The plant will be searched for again in 2008, prior to implementation of any treatments.

Non-vascular Plant Survey:

- A survey of non-vascular plants will be conducted on the site between April-June 2008 in all habitat types present on the site. Follow-up visits may be conducted later in 2008 as well, to access previously inundated areas (i.e., Emergent Wetland habitats).
- If any rare, threatened, endangered, or special status non-vascular plants are identified, appropriate design and mitigation features will be applied prior to initiating any treatments. If any such species are discovered during treatment operations, the Authorized Officer may immediately halt operations.

Vascular Plant Survey:

- A survey of vascular plants will be conducted on the site between April – September in all habitat types present on the site.
- If any rare, threatened, endangered, or special status vascular plants are identified, appropriate design and mitigation features will be applied prior to initiating any treatments. If any such species are discovered during treatment operations, the Authorized Officer may immediately halt operations.

**Cultural Resources**

- A cultural resource inventory was completed over the entire See-sil (Hansen) parcel between May 30 and June 19, 2007. Following a records review at the Oregon State Historic Preservation Office and the Eugene BLM office, a field inventory was completed which included subsurface examinations from three auger holes in the wet prairie area, turf removal in the grassy areas and duff scrapes in the timbered areas along transect routes spaced generally 20 meters apart. No cultural resource sites, either prehistoric or historic in origin, were identified as a result of this inventory.
- If cultural material is discovered during ground-based thinning activities, work will be suspended until an archaeologist can assess the significance of the discovery. Post-disturbance inventory may be completed at the discretion of the archeologist upon completion of any part of the enhancement.

**Soils**

- Soil transects completed in 2007 and 2008 verified the presence of the following hydric soils: Dayton, Hazelair and Pengra (National Hydric Soils List, January 2008). Relict and recent redoximorphic features formed by the process of reduction, translocation, and oxidation of Fe and Mn oxides are present. Hydric soils are found within the forested area as well as the prairies. The area of hydric soils is greater than 8 acres in size and is considered a "significant wetland." Additionally, well drained (non-hydric) soils are present within the forest and uplands.
- Under all restoration treatments, the soil resource will be maintained or improved.

**Hydrology**

- Water tables and surface hydrology were monitored on the site throughout the winter and spring of 2007-2008. Subsurface hydrology reflected discharge during the winter months until Fern Ridge Reservoir filled to capacity in the Spring at which time recharge dominated the substrate and reflected the water table of the dam.
- Under all restoration treatments, hydrologic characteristics of the site will be maintained or improved.

**Budget**

Two versions of the budget are presented here. An overview, summarizing major actions and associated costs, is presented first. A detailed budget, by line item task, is provided second.

The See-sil (Hansen) project has \$141,000 in funds allocated for maintenance and new treatment. Surveys, prescribed fire, and seeding (partially) are covered by staff time and other funds. Project activities covered by other funds are [indicated in blue](#) in the table below.

Costs are estimated based on known management costs for projects in the West Eugene Wetlands in 2006 and 2007, as well as the thinning activities at the project site in 2007.

<b>PROJECT BUDGET SUMMARY</b>			
<b>Task</b>	<b>Funding Source</b>	<b>Total Acres</b>	<b>Total Cost</b>
<b>SURVEYS.</b>			
<a href="#">Rare plants, non-vascular plants, vascular plants, and nesting wildlife.</a>	BLM & City staff.	98.5	N/A
<b>INVASIVE SPECIES CONTROL.</b>			
Reed canary grass and blackberry weedwhacking, shadeclotthing, eradicate aggressive invasives, remove material from site.	See-sil (Hansen) Project	27.5	\$8,065
<b>OAK MARKING and LAYOUT.</b>	See-sil (Hansen) Project	25	\$1,360
<b>THINNING and WOOD REMOVAL.</b>	See-sil (Hansen) Project	25	\$70,543
<b><a href="#">PRESCRIBED FIRE.</a></b>	BLM Hazardous Fuels Reduction (2823).	40	<a href="#">\$12,344</a>
<b>UPLAND PRAIRIE SITE PREP.</b>	See-sil (Hansen) Project	1	\$1,090
<b>LUPINE RESEARCH PLOT.</b>	See-sil (Hansen) Project	.25	\$1,280
<b>SEEDING.</b>	See-sil (Hansen) Project	65 (max.)	\$13,000
<b>2008 Maintenance Subtotal</b>			<b>\$8,595</b>
<b>2008 New Treatment Subtotal</b>			<b>\$95,682</b>
<b>2008 PROJECT TOTAL</b>			<b>\$104,277</b>
<b>FUTURE MAINTENANCE OF 2007-2008 TREATMENTS (5 years).</b>	See-sil (Hansen) Project	98.5	<b>\$25,000</b>
<b>GRAND TOTAL</b>			<b>\$129,277</b>

# DETAILED PROJECT BUDGET ESTIMATE

Cost estimates are derived from a combination of 2007 known costs and proposals for similar work on other projects. These estimates are rough and expected to change. Seed costs may be refined and decreased. Management actions set forth here are intended for guidance purposes. On-site project assessments may result in amending the actual schedule, acreages, or possibly treatment types based on observed conditions. Seasonal timing designed to protect flora, fauna, and soils will not be altered. General follow-up treatment costs = \$200/acre in thinned areas, not including seed.

Management/Restoration Action	Habitat	Labor Source	2008								Estimated				Begun 2007	
			April	May	June	July	Aug.	Sept.	Oct.	Cost(\$)/Unit	Unit Type	2007 Management Area (acres)	2008 New Treatment Area (acres)	TOTAL COST		
<b>Survey Tasks</b>																
Mark ASCU with rebar and rope/tape	PSE	City-RE	x	x	x	x						0.1	0.4	NA	x	
Search for HOCO, ERDE	PSE	City-RE				x							<0.1	NA	x	
Complete non-vascular surveys	WP, PSE, OS, OW	BLM Contractor	x	x	x	x					\$20	acre	50			
Vascular plant surveys	WP, PSE, OS, OW, UP	City-RE	x	x	x	x	x							NA		
Wildlife nest surveys	WP, PSE, OS, OW, UP	BLM-NR Specialist	x	x	x	x	x	x					95	NA	x	
												<b>Survey Subtotal</b>	<b>NA</b>			
<b>Invasive Species Tasks</b>																
Delineate PHAR.	PSE, WP, EM, UP	City-RE		x									73	NA	x	
Mow/weedwhack PHAR for shadecloth prep	PSE, WP, EM	Contractor			x	x					\$150	acre	5	\$750	x	
Handweed PHAR occurrences <6" diam.	PSE, WP, EM	Contractor			x	x					\$150	acre	1	\$150		
Install shadecloth on PHAR	PSE, WP	Contractor							x		\$175	1000 sq. ft.	5	\$875	x	
Mow/weedwhack RUAR.	PSE, OS, OW, WP, UP	City Land Steward/Contractor			x				x		\$125	acre	22	10	\$4,000	x
Survey for CIAR, CIVU, CYSC, CEPR, HEHE, noxious weeds.	PSE, OS, OW, WP, UP	City-RE/City Land Steward	x	x	x	x	x					acre	19	73	NA	x
Hand pull/weed wrench CYSC.	PSE, OS, OW, UP	City Land Steward		x	x	x					\$200	1000 sq. ft.	0.5	0.5	\$200	x
Handpull CIAR.	PSE, OS, UP	City Land Steward/Contractor	x	x							\$450	1000 sq. ft.	0.25	0.25	\$225	x
Hand pull basal rosettes and stems of CIVU.	PSE, OS, UP	City Land Steward		x	x						\$450	1000 sq. ft.	0.25	0.25	\$225	x
Hand pull CEPR.	PSE, OS, UP	City Land Steward		x	x	x					\$450	1000 sq. ft.	0.5	0.5	\$450	x
Handweed HEHE.	OW, OS	City Land Steward		x	x	x					\$450	acre	0.1	0.1	\$90	x
Mow/weedwhack PHAR (no shadecloth).	UP	City Land Steward			x	x					\$100	acre		1	\$100	x
Remove invasive species material from site and dispose properly.	PSE, OS, OW, WP, UP	City Land Steward/Contractor	x	x	x	x	x	x	x		\$500	each	1	1	\$1,000	x
												<b>Invasives Subtotal</b>	<b>\$8,065</b>			
<b>Oak Treatment Survey/Marking Tasks</b>																
Delineate treatment areas by planned habitat type.	PSE, OW, OS	City-RE/Contractor			x	x	x						25	NA	x	
Mark trees to be to be retained, resulting in oak savanna and oak woodland prescriptions. Include snag trees. Write up summary + provide map.	OS	City-RE/Contractor				x	x				\$85	hour	16	\$1,360	x	
												<b>Oak Marking Subtotal</b>	<b>\$1,360</b>			
<b>Thinning/Wood Removal Tasks</b>																
Prep: lay out project according to contract specs, submit required plans.	PSE, OS, OW	Contractor									\$150	acre		25	\$3,750	
Thin treatment area to specs using hand felling and winch. Travel along skid roads according to contract specs.	PSE, OS, OW	Contractor				x	x	x			\$1,500	acre		25	\$37,500	x
Decommission skid trails and landings, leaving skid trails passable for mowing in future.	PSE, OS, OW	Contractor						x			\$200	acre		25	\$5,000	
Create snags.	PSE, OS, OW	Contractor					x	x			\$100	each		5	\$500	x
Remove all (non-masticated) thinned wood from site.	PSE, OS, OW	Contractor					x	x	x		\$250	acre		25	\$6,250	x
Masticate all non-retain woody vegetation <5" dbh. Remove all non-native shrubs. Remove native shrubs 100% in PSE, leave up to 10% in OS and up to 20% in OW.	PSE, OS, OW	Contractor					x	x			\$700	acre		25	\$17,500	x
Remove all trees, saplings, and shrubs from interior prairie using chainsaws.	UP	Contractor					x	x			\$85	acre		0.5	\$43	x
												<b>Thinning Subtotal</b>	<b>\$70,543</b>			
<b>Prescribed Fire Tasks</b>																
Mow fire breaks.	WP	City					x				\$86	hour		4	\$344	
Conduct prescribed burn.	WP	BLM							x		\$300	acre		40	\$12,000	
												<b>Prescribed Fire Subtotal</b>	<b>\$12,344</b>			
<b>Site Prep Tasks</b>																
Mow shadecloth treatment areas to prep for shadecloth installation.	UP	City Land Steward/Contractor				x	x				\$200	acre		1	\$200	
Shadecloth for four 1/4-acre plots near research plots in southeastern corner of prairie.	UP	City Land Steward/Contractor					x				\$250	1000 sq. ft.		1	\$250	
Install shadecloth.	UP	City Land Steward/Contractor						x			\$40	hour		16	\$640	
												<b>Site Prep Subtotal</b>	<b>\$1,090</b>			
<b>Lupine Research Plot Tasks</b>																
Remove fence surrounding LUSUKI research plot and place four corner posts.	UP	City Land Steward					x	x			\$40	hour		16	\$640	x
Remove invasive species from within plot (RUAR, AREL, etc.)	UP	City Land Steward									\$40	hour		16	\$640	x
												<b>Lupine Plot Subtotal</b>	<b>\$1,280</b>			
<b>Seeding Tasks</b>																
Native grass seed for replanting habitats and reseeding disturbed areas. (Forb seed provided through WEW partnership).	PSE, OS, OW	City-NPMP									\$200	acre	19	25	\$8,800	x
Seed native species (labor cost).	PSE, OS, OW	Contractor						x	x	x	\$50	acre	19	65	\$4,200	x
												<b>Seeding Subtotal</b>	<b>\$13,000</b>			

Habitats:  
PSE: Prairie-Savanna Ecotone  
WP: Wet Prairie  
OS: Oak Savanna  
OW: Oak Woodland  
UP: Upland Prairie

Labor Sources:  
City - RE City of Eugene Restoration Ecologist  
City Land Steward City of Eugene, Vegetation Maintenance Crew for BLM lands. Possible help from NW Youth Corps.  
Contractor Contractor (Forestry services, mowing, seeding, invasive control, etc.)  
City-NPMP City of Eugene, Native Plant Materials Program

**2007 Management Subtotal \$8,595**  
**2008 New Treatment Subtotal \$95,682**  
**ESTIMATED TOTAL COST: \$104,277**



