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Mitigation Monitoring Annual Report Template

1. Mitigation Monitoring Report Cover Sheet

1: Project Name Identifiers: Long Tom Mitigation Bank

DSL Permit # 41168-RF	Corps Permit # NWP-2007-719	Permittee: EcoBank LLC
County Lane	Report Date 21SEP12	Monitoring Year 1 2 3 (4) 5
Date Removal-Fill Activity Completed 31MAY11		
Date mitigation was completed: Grading 31MAY11		Planting ongoing
Date(s) of data collection: 14-15MAY12		
Report prepared by: Timothy A. Acker		

2: Monitoring Report Purpose:

- This monitoring report is for a project that includes: (check all that apply):
- Compensatory **freshwater, non-tidal** wetland mitigation for permanent wetland impacts.
 - Compensatory **estuarine** wetland mitigation for permanent wetland impacts.
 - Only non-wetland** compensatory mitigation.
 - Only** mitigation for **temporary** impacts that had a monitoring requirement.
 - Voluntary** wetland enhancement, creation or restoration (General authorization or individual permit) not funded with money from DSL's wetland mitigation fund.
 - Voluntary wetland enhancement, creation or restoration (General authorization or individual permit) funded with money from DSL's **wetland mitigation fund**.
 - Mitigation Bank Report**
 - Other _____

3: Results: (add more rows if needed)

Performance standards (verbatim from permit)	Fully Met? (Y/N)	Comments/Reason for shortfall (mark NA if doesn't apply this year)
1. >= 55% mean native cover (PEM)	Y	93% (CI99% 88-97%)
2. <=15% mean non-native invasive cover (PEM)	Y	0.14% (CI99% 0.00-0.42%)
3. Moisture Index <3.0	Y	2.36 (CI99% 2.22-2.50)
4. >= 10 wet prairie cohort species in plots (PEM)	Y	20
5. <=55% mean native cover (Upland)	Y	81% (CI99% 68-94%)
6. <=15% mean non-native invasive cover (Upland)	Y	0.00% (CI99% 0.00-0.22%)
7. Moisture Index >= 3.00	N	2.65 (CI99% 2.21-3.09)

4: Further Actions:

Remedial work recommended	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Deed Restriction or other protection instrument attached	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Final Monitoring Report?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Requesting release or partial release of financial security?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>

YEAR 4 MONITORING REPORT

for

EcoBank LLC
LONG TOM MITIGATION BANK
Lane County, Oregon

Oregon Department of State Lands 41168-RF
US Army Corps of Engineers NWP-2007-719

September 21, 2012



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1.0 INTRODUCTION

This document constitutes the year 4 monitoring report for the activities authorized by Oregon Department of State Lands (DSL) permit 41168-RF and US Army Corps of Engineers (Corps) permit NWP-2007-719. This project is otherwise known as the Long Tom Mitigation Bank located in Section 26, Township 15S Range 05W, W.M. at the intersection of Cox Butte Road and Washburn Lane just west of Junction City, Lane County, Oregon.

The authorized activities included the installation of 7 steel-reinforced concrete weirs within two stream channels, and the construction of one large earthen berm. The purpose of these works is to raise the local water table and to retard drainage from the mitigation bank site in order to restore historic wetlands, create wetlands from uplands in certain areas, and to enhance farmed wetlands by providing more water depth zones and by promoting wetland hydrology further into the growing season.

In addition to the grading works the site was seeded as per plan in October 2008 to establish the herbaceous foundation for the various habitat areas (see Appendix A, Figure 1).

The purpose of this report is to present evidence of the performance of the bank relative to the standards set forth in the Mitigation Bank Instrument (MBI) in regards to vegetation and hydrology. Lastly, this report will set forth the actions for the remainder of 2011 and early 2012 that will further progress the mitigation plan and keep the bank on track to success.

2.0 VEGETATION

The focus of activities regarding vegetation in 2011-12 has been weed control and completing the planting of the PFO management units. Consequently, there are no results to report for the PSS, Upland savanna, or Upland forest management units due to deferring those plantings until the 2013 planting season.

In 2011 1,000 12-18" *Fraxinus latifolia* seedlings were planted in enhanced PFO areas 1 – 8 (see Appendix A, Figure 1). The previous year's plantings suffered considerable vole damage; consequently, all seedlings were wrapped in aluminum foil prior to planting to help deter future damage. All planted tree survival will be inventoried in July 2013 and results included in the year 6 monitoring report.

Except for remedial planting, the PFO plantings are now complete.

2.1 METHODS

One hundred thirty (130) permanent sample plots were established across the site, which is equivalent to a sampling density of 1 per acre (see Appendix A, Figure 2). One hundred

fourteen (114) of the plots are located in wetland areas, and 16 plots are in uplands. Six plots are located in pre-existing forest cover; these plots were not sampled.

Fieldwork was conducted on 14-15MAY12 by Nancy Holzhauser (Environmental Solutions LLC) and John Koenig. One square meter (1m²) quadrats were installed in the NE quadrant at each sample point and absolute cover by species was estimated by eye and recorded. Additional species observed between plots was also noted. One hundred eight (108) plots were located in wetland, 16 were located in upland.

An additional eight (8) sample plots were installed in the enhanced vernal pool management units in order to provide greater resolution in determining whether those areas are meeting mitigation plan standards. Data from these plots is not included in the performance statistics.

Data was analyzed using ExcelMac 2011. The raw data can be found in Appendix C. Absolute cover was used to calculate Moisture Index scores; relative cover was used to calculate all other cover scores.

2.2 RESULTS

The following table presents the vegetation monitoring results relative to standards for the wetland, upland and vernal pool strata.

TABLE 1. Vegetation monitoring results versus MBI standards.

Wetland				
Performance Standard	Results			
	Mean	CI _{99%} low estimate	CI _{99%} high estimate	Standard Met?
>= 55% native cover	93%	88%	97%	YES
<= 15% non-native invasive cover	0.14%	0%	0.42%	YES
Moisture Index <3.0	2.36	2.22	2.50	YES
>= 10 Wet Prairie cohort species in plots	20			YES

TABLE 1. (continued)

Performance Standard	Upland			
	Mean	CI _{99%} low estimate	CI _{99%} high estimate	Standard Met?
>= 55% native cover	81%	68%	94%	YES
<= 15% non-native invasive cover	0.00%	0%	0.22%	YES
Moisture Index >= 3.0	2.65	2.21	3.09	NO

2.3 DISCUSSION

The data analysis indicates that the site is currently meeting all standards except upland moisture index (although the standard is within the 99% CI), and that the reviewer can have high confidence that the sample reflects ground truth. The data indicate increases in native cover and non-native invasive cover in the wetland compared to last year; however, the non-native cover remains a fraction of a percent. The number of wet prairie cohort species present remained unchanged at twenty. In the uplands the data indicate decreases in both native cover and non-native invasive cover compared to last year. The upland moisture index exception appears to be the result of *Deschampsia cespitosa* being able to compete successfully in upland habitats. We had previously predicted that this condition regarding upland moisture index will probably persist, and it continues to do so.

The data also show that our weed control efforts continue to be paying off. Mean non-native invasive remains stable at less than 1%, while total non-native cover decreased in the wetland and increased in the upland. *Festuca trachyphylla* is the major contributor to the non-native cover. Non-native invasive weeds consisted of three plots with *Cirsium arvense* and a trace of *Rubus armeniacus* on one plot.

The data also indicates a mean relative bare cover of 15% overall – down 10% from last year. In 2011 we hayed and burned the Washburn and center fields for the second time.

Species diversity was the same as last year, holding steady at 20 Willamette Valley Wet Prairie Plant Cohort species (double what the standard requires). As intended, the increase in species diversity associated with the 2010 remedial grading appears to be persisting.

2.4 CONCLUSION

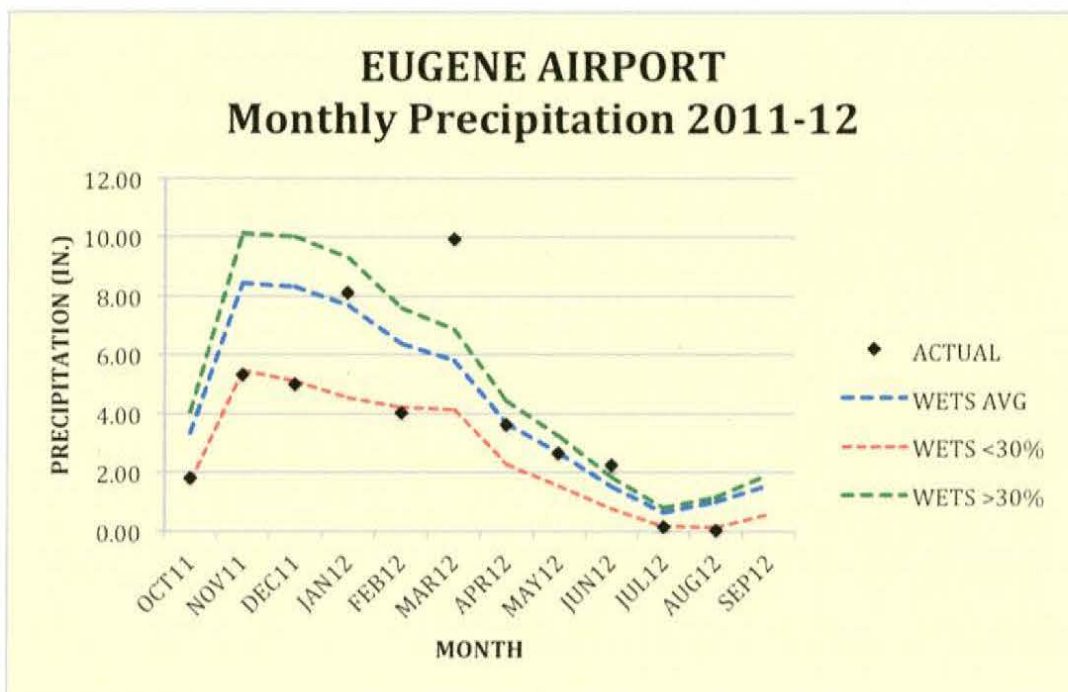
The data indicates that the Long Tom Mitigation Bank continues to meet standards as far as vegetation is concerned. The continuing challenge for the sponsors will be to maintain ongoing

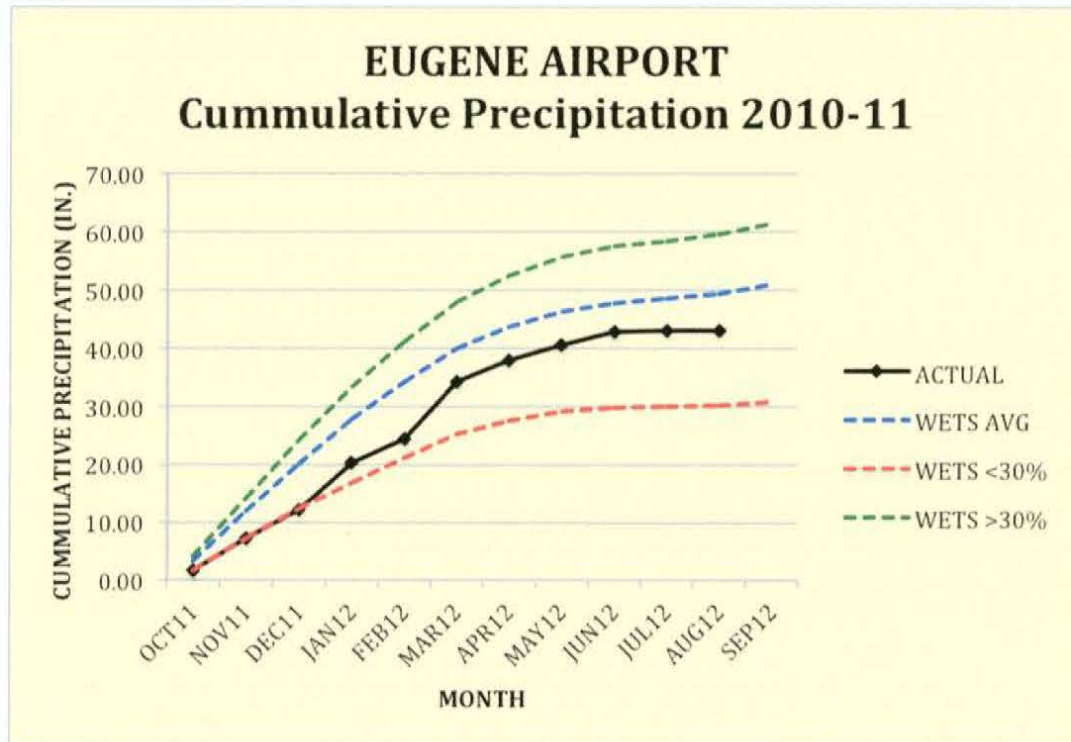
pressure on the weeds and to continue to perfect cost-effective ways to introduce additional native herbaceous species. Native hay sales have not materialized as hoped; nonetheless, we believe that periodic burning remains essential to maintaining species diversity. We are considering experimenting with a flail/burn tactic as an alternative to use in years when no hay market can be identified.

3.0 HYDROLOGY

3.1 PRECIPITATION CONTEXT

The 2011-12 water year has thus far been within the normal range, accumulating about 87 percent of normal precipitation based on the WETS long-term average at the Eugene Airport. The following charts show how the water year to-date compared to the WETS data.





The water year started drier than average through the end of the year, but a wetter than average spring has made up for some of the earlier shortfall. The effect on the bank has been generally good conditions for planting and plant establishment and survival.

4.0 2012-2013 ACTION PLAN

4.1 2011-2012 RE-CAP

In addition to routine weed control, EcoBank engaged in the following activities during the 2011-2012 work season:

1. Planted 1,000 12-18" *Fraxinus latifolia* seedlings in enhanced PFO areas 1 – 8.
2. Continued to reduce the soil stockpile resulting from the 2010 remedial grading through sales and trades to homeowners and a landscaping contractor.

4.3 VEGETATION

As shown earlier, the bank remains in pretty good shape vis-à-vis the vegetation standards. The proposed 2012-13 action plan continues to focus on four broad tasks:

1. Weed control
2. Reducing or eliminating the remedial grading soil stockpile
3. Planting trees in the upland areas
4. Continuing to work on the hay/burn/overseed process in order to improve species diversity

4.3.1 Weed Control

We continue walking the fields with backpack sprayers, hand wicks and an ATV-mounted wick and spray wand looking for spot weed infestations. These activities generally start in March and extend through September.

4.3.2 Reducing or Eliminating the Remedial Grading Stockpile

The weak economy has resulted in little demand for the soil in the stockpile. In short, we can't give the stuff away, and about half the original volume remains on-site in upland area 6. We will continue to dispose of that soil as demand for it materializes.

4.3.3 Planting Trees in the Upland Areas

Two-thousand Willamette Valley pine are on order for planting in early 2013 in the upland areas along Cox Butte Road as per the original planting plan. In addition, Oregon oak is in our nursery and ready to go in as well.

4.3.4 Burning

We are burning enthusiasts for several reasons. First and foremost, it appears to help at least maintain species diversity. Second, it facilitates weed control inasmuch as it is easier to spot weed in short grass. Third, it also facilitates plugging and other planting from the standpoint of spot weed control, planting spot marking and just being able to move around easily. Consequently, we intend to continue burning.

With that said, the hay/burn tactic may not be economically tenable in all years as we had expected. The market for native hay has not developed as we had hoped, and our product is too rough for use as regular hay/straw for domestic or export markets. Since the mowing, bailing and storage constitutes over half the cost of burning, the weak state of the credit market makes this strategy questionable. We need to be able to burn regularly regardless of the hay market, and this requires having other alternative methods of doing so. Consequently, we will be exploring whether flailing followed by propane flaming will be a viable strategy to achieve our management goals.

4.3.4 Miscellaneous

In regards to security, we had no unauthorized trespass in the past year; however, we did have the Cox Butte Road gate vandalized apparently for the metal in the chain we used to secure the gate. The lock and chain have since been replaced and all access points remain securely gated. As mentioned last year, the next security-related chore will be to replace the perimeter fences along Cox Butte Road and Washburn Lane; however, this will have to wait until the economy improves and we pay off the mortgage.

Nutria continue to be a perpetual threat, and we have trapped and shot several in the vicinity of the berm along the property's northern boundary. The integrity of the berm has not been compromised by burrowing, but we will continue shooting and trapping them as the opportunity arises. Lastly, we suffered significant mice and vole girdling damage to the planted *Fraxinus latifolia*, and in response we wrapped all planted trees with aluminum foil to deter further damage. In addition, we also sprayed the trees with Ropel[®], a systemic repellent. Next year's report will document mortality and will determine if remedial planting will be necessary

5.0 LEDGER

As of 21SEP12 the Long Tom Mitigation Bank has sold 13.775 credits of the 30.00 credits released. The master ledger can be found in Appendix E.

6.0 CONCLUSION

The monitoring data indicate that the Long Tom Mitigation Bank continues to achieve its performance goals. We have completed the certification delineation fieldwork and are currently writing up the report. We expect to petition DSL and the Corps for bank certification, release of the next credit allotment, and adjustment of the performance security by the next annual inspection.

APPENDIX A

FIGURES

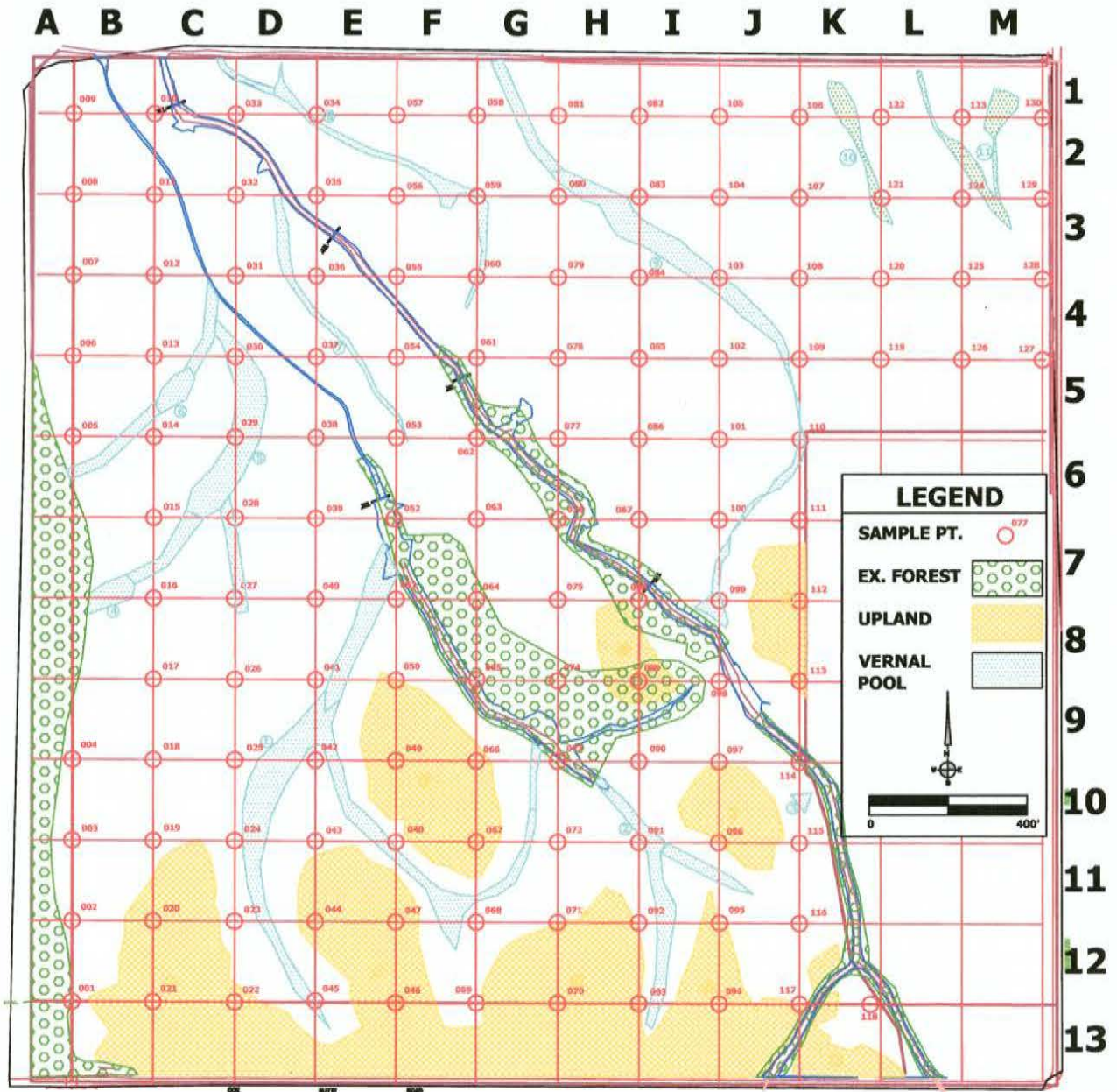


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Vegetation Sample Plot Locations

Figure 2 of 2



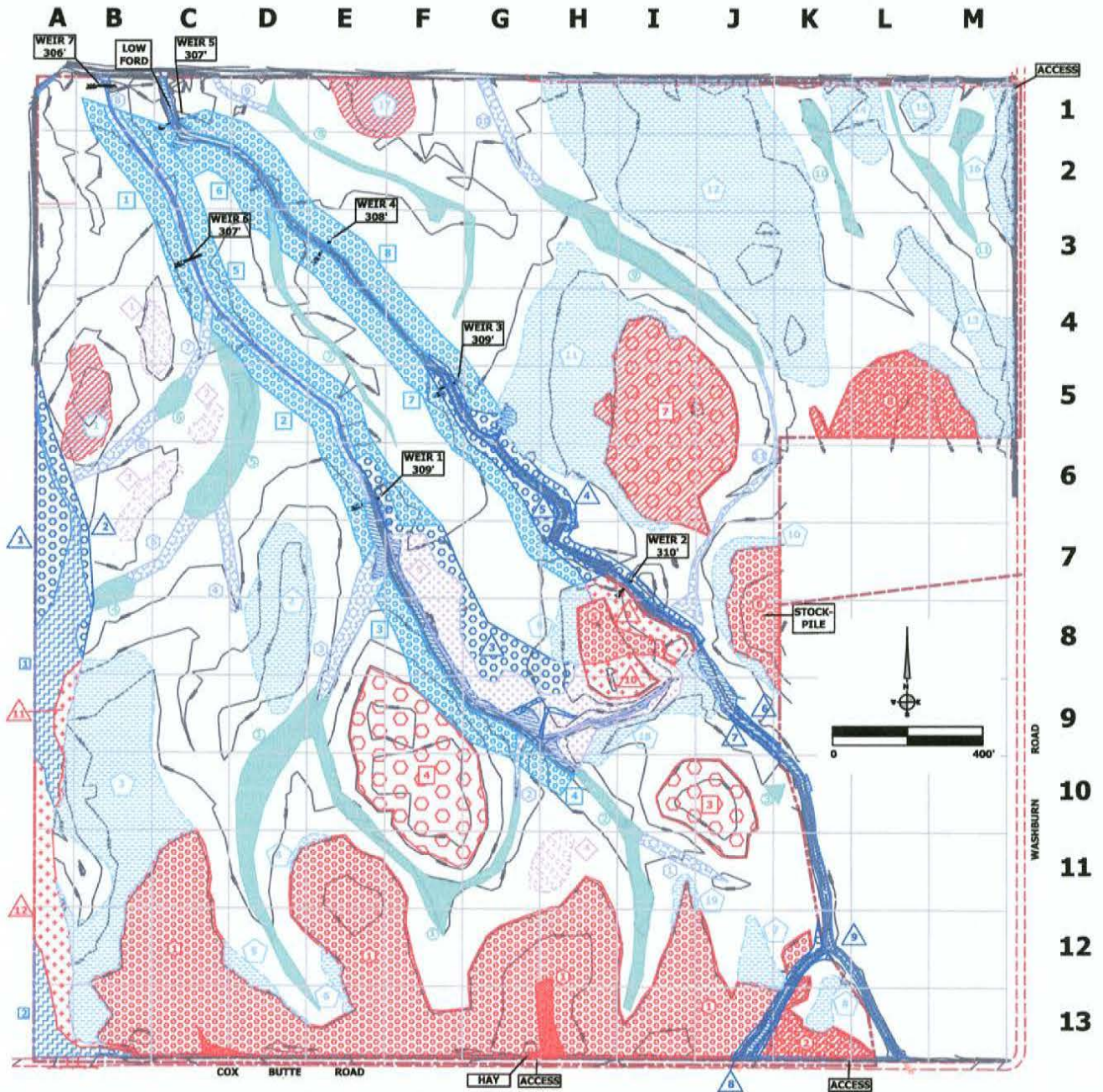


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Proposed Habitat Management Areas

Figure 1 of 2



LEGEND

PROPERTY BOUNDARY		WETLANDS & STREAMS	
CONVERSION AREAS		RESTORED PFO (2.31 ACS.)	
UPLANDS		RESTORED WET PRAIRIE (1.10 ACS.)	
EXISTING FORESTED UPLAND (2.13 ACS.)		CREATED WET PRAIRIE (23.39 ACS.)	
PROPOSED FORESTED UPLAND (14.12 ACS.)		ENHANCED PFO (8.25 ACS.)	
PROPOSED SAVANNA (6.95 ACS.)		ENHANCED PSS (3.02 ACS.)	
		ENHANCED VERNAL POOL (5.80 ACS.)	
		ENHANCED WET PRAIRIE (60.68 ACS.)	

PROPERTY BOUNDARY
CONVERSION AREAS



WETLANDS & STREAMS

- RESTORED PFO (2.31 ACS.)
- RESTORED WET PRAIRIE (1.10 ACS.)
- CREATED WET PRAIRIE (23.39 ACS.)
- ENHANCED PFO (8.25 ACS.)
- ENHANCED PSS (3.02 ACS.)
- ENHANCED VERNAL POOL (5.80 ACS.)
- ENHANCED WET PRAIRIE (60.68 ACS.)



- REMAINING PFO (3.79 ACS.)
- OHW (1.96 ACS.)
- SLOUGH (1.71 ACS.)



- PROPOSED FORESTED UPLAND NOT AVAILABLE FOR CREDIT AS BUFFER (0.29 AC.)



APPENDIX B
VIEWS FROM PERMANENT PHOTO POINTS

No site photos were taken this year.

APPENDIX C

RAW VEGETATION PLOT DATA

NOTE: **Red species** indicates non-native invasive. Black denotes PEM wetland, **gold** indicates upland, **teal** denotes vernal pool plots, **red** denotes pre-existing upland forest, and * indicates Willamette Valley Wet Prairie Cohort species.

LATIN	INDICATOR STATUS	I/N	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Achillea millefolium	FACU	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	5	0
Agrostis exarata*	FACW	N	0	1	5	0	0	5	5	5	1	5	1	10	0	10	0	5	0	1	0	0	20	10	0
Alopecurus geniculatus	OBL	N	1	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Beckmania syzigachne	OBL	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Boidsduvalia densiflora*	FACW	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Briza minor	FAC	I	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bromus carinatus	UPL	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Camassia quamash*	FACW	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cardamine oligosperma	FAC	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
Cerastium arvense	FACU	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cirsium arvense	FACU	I	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Danthonia californica*	FACU	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
Deschampsia cespitosa*	FACW	N	10	10	40	40	80	50	65	85	80	50	95	90	100	75	90	90	85	70	75	85	10	20	90
Deschampsia elongata*	FACW	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Downingia elegans*	OBL	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Eleocharis palustris	OBL	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Epilobium brachycarpum	UPL	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Epilobium ciliatum*	FACW	N	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Festuca roemerii	FACU	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Festuca trachyphylla	FACU	I	0	40	5	40	10	0	0	0	0	0	0	0	0	0	0	0	1	5	1	10	65	45	0
Fraxinus latifolia	FACW	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Galium aparine	FACU	N	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Geranium dissectum	UPL	I	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Glyceria occidentalis	OBL	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Gnaphalium palustre	FAC	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grindelia integrifolia*	FACW	N	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Holcus lanatus	FAC	I	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hordeum brachyantherum	FACW	N	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hypochaeris radicata	FACU	I	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Juncus bufonius*	FACW	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Juncus effusus	FACW	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Juncus tenuis*	FACW	N	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0
Lactuca serriola	FACU	I	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lolium multiflorum	FACU	I	50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lomatium nudicaule*	FACU	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lotus micranthus	NOL	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lotus unifolius	UPL	N	0	0	5	1	1	0	0	0	0	1	0	0	0	1	1	0	15	20	10	1	1	1	1
Lupinus bicolor	UPL	N	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lupinus polyphyllus*	FAC	N	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Myosotis discolor	FACW	I	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
Nemophila parviflora	FAC	N	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Parentucelia viscosa	FAC	I	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Plagiobothrys figuratus*	FACW	N	0	0	0	0	0	5	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Plagiobothrys scouleri*	FACW	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Plantago major	FACU	I	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Poa annua	FAC	I	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Poa trivialis	FACW	I	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0
Potentilla gracilis*	FAC	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Prunella vulgaris*	FACU	N	0	1	0	1	0	0	0	0	10	0	0	0	0	0	0	0	0	0	0	0	0	1	0
Ranunculus occidentalis*	FAC	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ranunculus orthorhynchus*	FACW	N	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ranunculus ucinatus	FAC	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rorippa curvisiliqua	OBL	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rubus ameniacus	FACU	I	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rumex salicifolius	FACW	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sonchus asper	FAC	I	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Stellaria media	FACU	I	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sisyrinchium augustifolium	FACW	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vicia sativa	UPL	I	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vulpia bromoides	FAC	I	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vulpia myuros	FAC	I	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bare			40	50	50	20	10	30	30	10	10	40	5	0	0	15	10	5	0	10	15	5	5	20	10

LATIN	INDICATOR STATUS	I/N	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69
Achillea millefolium	FACU	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	-	-	1	30	0	5
Agrostis exarata*	FACW	N	0	1	1	10	15	0	10	0	10	20	20	25	30	50	20	0	10	-	-	0	0	1	0
Alopecurus geniculatus	OBL	N	0	0	0	0	0	0	0	0	1	0	10	5	5	0	0	0	0	-	-	0	0	0	0
Beckmania syzigachne	OBL	N	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	-	-	0	0	0	0
Boidsduvalia densiflora*	FACW	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0	0
Briza minor	FAC	I	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	-	-	0	0	0	0
Bromus carinatus	UPL	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0	0
Camassia quamash*	FACW	N	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	-	-	0	0	0	0
Cardamine oligosperma	FAC	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0	0
Cerastium arvense	FACU	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0	0
Cirsium arvense	FACU	I	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	-	-	0	0	0	0
Danthonia californica*	FACU	N	0	0	0	0	0	15	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0	0
Deschampsia cespitosa*	FACW	N	70	100	80	70	50	0	5	40	30	60	65	55	40	20	60	55	50	-	-	80	20	80	85
Deschampsia elongata*	FACW	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0	0
Downingia elegans*	OBL	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0	0
Eleocharis palustris	OBL	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0	0
Epilobium brachycarpum	UPL	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	-	-	0	0	0	0
Epilobium ciliatum*	FACW	N	0	0	0	0	0	0	0	0	1	0	0	0	1	1	0	5	0	-	-	0	0	0	0
Festuca roemerii	FACU	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0	0
Festuca trachyphylla	FACU	I	25	0	20	5	10	15	0	0	0	0	0	0	0	15	0	0	10	-	-	20	30	10	0
Fraxinus latifolia	FACW	N	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	-	-	0	0	0	0
Galium aparine	FACU	N	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0	0
Geranium dissectum	UPL	I	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0	0
Glyceria occidentalis	OBL	N	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	-	-	0	0	0	0
Gnaphalium palustre	FAC	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0	0
Grindelia integrifolia*	FACW	N	0	0	0	0	0	10	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0	0
Hoccus lanatus	FAC	I	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0	0
Hordeum brachyantherum	FACW	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0	0
Hypochaeris radicata	FACU	I	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0	0
Juncus bufonius*	FACW	N	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	-	-	0	0	0	0
Juncus effusus	FACW	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0	0
Juncus tenuis*	FACW	N	0	0	0	0	0	10	0	1	1	0	0	0	0	0	0	0	0	-	-	0	0	0	0
Lactuca serriola	FACU	I	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0	0
Lolium multiflorum	FACU	I	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	-	-	0	0	0	0
Lomatium nudicaule*	FACU	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0	0
Lotus micranthus	NOL	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0	0
Lotus unifolius	UPL	N	0	0	0	0	15	0	35	0	1	0	0	0	0	1	0	5	10	-	-	1	0	15	0
Lupinus bicolor	UPL	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0	0
Lupinus polyphylus*	FAC	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0	0
Myosotis discolor	FACW	I	0	0	0	0	0	10	0	0	0	0	0	0	0	0	0	0	5	-	-	0	0	0	0
Nemophila parviflora	FAC	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0	0
Parentucella viscosa	FAC	I	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	-	-	0	0	0	0	0
Plagiobothrys figuratus*	FACW	N	0	0	0	0	0	0	0	40	0	10	0	0	1	0	0	1	10	-	-	0	0	0	0
Plagiobothrys scouleri*	FACW	N	0	0	0	0	0	0	5	0	1	0	0	0	0	0	1	0	-	-	0	0	0	0	0
Plantago major	FACU	I	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0	0
Poa annua	FAC	I	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0	0
Poa trivialis	FACW	I	0	0	0	0	0	1	20	0	5	0	0	0	0	1	0	0	0	-	-	0	0	0	0
Potentilla gracilis*	FAC	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0	0
Prunella vulgaris*	FACU	N	0	0	1	0	0	10	10	0	1	0	0	0	0	1	0	0	5	-	-	0	1	0	5
Ranunculus occidentalis*	FAC	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0	0
Ranunculus orthorhynchus*	FACW	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0	0
Ranunculus ucinatus	FAC	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0	0
Rorippa curvisiliqua	OBL	N	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0	0
Rubus ameniacus	FACU	I	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0	0
Rumex salicifolius	FACW	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0	0
Sonchus asper	FAC	I	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	-	-	0	0	0	0
Stellaria media	FACU	I	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0	0
Sisyrinchium augustifolium	FACW	N	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0	0
Vicia sativa	UPL	I	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0	0
Vulpia bromoides	FAC	I	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0	0
Vulpia myuros	FAC	I	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0	0
Bare			5	0	0	10	10	50	0	15	50	10	5	15	20	10	20	35	0	-	-	0	20	0	10

LATIN	INDICATOR STATUS	I/N	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92
Achillea millefolium	FACU	N	0	0	0	0	-	0	-	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0
Agrostis exarata*	FACW	N	0	1	0	10	-	5	-	10	15	10	10	15	5	10	10	5	5	10	-	-	75	0	5
Alopecurus geniculatus	OBL	N	0	0	0	0	-	5	-	1	20	0	1	5	1	1	1	5	1	10	-	-	5	0	0
Beckmania syzigachne	OBL	N	0	0	0	0	-	0	-	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0
Boidsduvalia densiflora*	FACW	N	0	0	0	0	-	0	-	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0
Briza minor	FAC	I	0	0	0	0	-	0	-	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0
Bromus carinatus	UPL	N	0	0	0	0	-	0	-	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	1
Camassia quamash*	FACW	N	0	0	0	0	-	0	-	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0
Cardamine oligosperma	FAC	N	0	0	0	0	-	0	-	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0
Cerastium arvense	FACU	N	0	0	0	0	-	1	-	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0
Cirsium arvense	FACU	I	0	0	0	0	-	0	-	1	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0
Danthonia californica*	FACU	N	0	0	0	0	-	0	-	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0
Deschampsia cespitosa*	FACW	N	95	90	25	30	-	50	-	5	25	70	30	50	20	75	70	30	15	30	-	-	10	100	40
Deschampsia elongata*	FACW	N	0	0	0	0	-	0	-	0	0	0	5	0	0	0	0	0	0	0	-	-	0	0	0
Downingia elegans*	OBL	N	0	0	0	0	-	0	-	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0
Eleocharis palustris	OBL	N	0	0	0	0	-	0	-	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0
Epilobium brachycarpum	UPL	N	0	0	0	0	-	0	-	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0
Epilobium ciliatum*	FACW	N	0	0	0	0	-	1	-	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0
Festuca roemerii	FACU	N	0	0	0	0	-	0	-	1	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0
Festuca trachyphylla	FACU	I	0	0	35	30	-	0	-	30	0	0	0	0	50	1	0	0	0	0	-	-	0	0	0
Fraxinus latifolia	FACW	N	0	0	0	0	-	0	-	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0
Galium aparine	FACU	N	0	0	0	0	-	0	-	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0
Geranium dissectum	UPL	I	0	0	0	0	-	0	-	0	0	0	0	0	0	0	0	0	0	0	-	-	1	0	0
Glyceria occidentalis	OBL	N	0	0	0	0	-	0	-	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0
Gnaphalium palustre	FAC	N	0	0	0	0	-	0	-	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0
Grindelia integrifolia*	FACW	N	0	0	0	0	-	0	-	0	0	0	0	0	0	0	0	5	5	0	-	-	0	0	0
Holcus lanatus	FAC	I	0	0	0	0	-	0	-	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0
Hordeum brachyantherum	FACW	N	0	0	0	0	-	0	-	0	0	0	0	0	0	0	0	5	20	0	-	-	0	0	0
Hypochaeris radicata	FACU	I	0	0	0	0	-	0	-	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0
Juncus bufonius*	FACW	N	0	0	0	0	-	0	-	0	0	0	0	0	0	5	0	0	0	0	-	-	0	0	0
Juncus effusus	FACW	N	0	0	0	0	-	0	-	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0
Juncus tenuis*	FACW	N	0	0	0	0	-	1	-	0	0	0	0	0	0	0	0	0	0	0	-	-	5	0	20
Lactuca serriola	FACU	I	0	0	0	0	-	0	-	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0
Lolium multiflorum	FACU	I	0	0	0	0	-	0	-	0	0	0	0	1	0	0	0	0	0	0	-	-	0	0	0
Lomatium nudicaule*	FACU	N	0	0	0	0	-	0	-	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0
Lotus micranthus	NOL	N	0	0	0	0	-	0	-	0	0	0	0	0	0	0	10	0	0	0	-	-	0	0	0
Lotus unifolius	UPL	N	0	0	15	30	-	20	-	60	10	1	1	1	0	5	5	10	5	5	-	-	1	1	10
Lupinus bicolor	UPL	N	0	0	0	0	-	0	-	0	0	0	1	0	0	0	0	0	0	0	-	-	0	0	0
Lupinus polyphyllus*	FAC	N	0	0	0	0	-	0	-	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0
Myosotis discolor	FACW	I	0	0	0	0	-	0	-	10	0	0	0	0	1	0	0	0	0	0	-	-	0	0	0
Nemophila parviflora	FAC	N	0	0	0	0	-	0	-	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0
Parentucella viscosa	FAC	I	0	0	0	0	-	0	-	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0
Plagiobothrys figuratus*	FACW	N	0	0	0	0	-	10	-	0	1	0	0	1	0	0	1	0	0	0	-	-	0	0	0
Plagiobothrys scouleri*	FACW	N	0	0	0	0	-	1	-	0	0	0	20	0	1	1	0	0	0	0	-	-	0	0	0
Plantago major	FACU	I	0	0	0	0	-	0	-	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0
Poa annua	FAC	I	0	0	0	0	-	0	-	0	0	0	0	0	1	0	0	1	0	0	-	-	0	0	0
Poa trivialis	FACW	I	0	0	0	0	-	1	-	0	0	0	0	0	0	1	0	0	0	15	-	-	0	0	0
Potentilla gracilis*	FAC	N	0	0	0	0	-	0	-	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0
Prunella vulgaris*	FACU	N	0	0	0	10	-	1	-	0	1	1	5	0	1	1	0	0	0	15	-	-	0	1	1
Ranunculus occidentalis*	FAC	N	0	0	0	0	-	0	-	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0
Ranunculus orthorhynchus*	FACW	N	0	0	0	0	-	0	-	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0
Ranunculus ucinatus	FAC	N	0	0	0	0	-	0	-	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0
Rorippa curvisiliqua	OBL	N	0	0	0	0	-	0	-	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0
Rubus ameniacus	FACU	I	0	0	0	0	-	0	-	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0
Rumex salicifolius	FACW	N	0	0	0	0	-	0	-	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0
Sonchus asper	FAC	I	0	0	0	0	-	0	-	0	0	0	0	0	0	1	0	0	0	1	-	-	0	0	0
Stellaria media	FACU	I	0	0	0	0	-	0	-	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0
Sisyrinchium augustifolium	FACW	N	0	0	0	0	-	0	-	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0
Vicia sativa	UPL	I	0	0	0	0	-	0	-	0	0	0	0	0	0	0	0	1	0	0	-	-	0	0	0
Vulpia bromoides	FAC	I	0	0	0	0	-	0	-	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0
Vulpia myuros	FAC	I	0	0	0	0	-	0	-	0	0	0	0	0	0	0	0	1	0	0	-	-	0	0	0
Bare			5	10	25	0	-	10	-	0	29	20	54	10	25	10	10	30	50	20	-	-	5	0	25

LATIN	INDICATOR STATUS	I/N	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115
Achillea millefolium	FACU	N	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	70	40	5	0
Agrostis exarata*	FACW	N	0	10	20	1	5	10	0	5	0	0	10	15	15	20	5	5	10	5	10	10	5	10	5
Alopecurus geniculatus	OBL	N	0	0	0	0	0	0	25	1	2	1	5	0	5	0	0	0	15	10	10	5	1	1	0
Beckmania syzigachne	OBL	N	0	0	0	0	0	5	0	0	0	0	15	0	0	0	0	0	0	5	0	0	0	0	0
Boehmeria densiflora*	FACW	N	0	0	0	0	0	0	0	0	0	10	0	0	0	0	0	1	0	0	0	0	0	0	0
Briza minor	FAC	I	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bromus carinatus	UPL	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
Camassia quamash*	FACW	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cardamine oligosperma	FAC	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cerastium arvense	FACU	N	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0
Cirsium arvense	FACU	I	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Danthonia californica*	FACU	N	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Deschampsia cespitosa*	FACW	N	95	80	80	80	80	0	50	70	0	0	1	60	0	40	55	60	45	55	60	0	0	0	80
Deschampsia elongata*	FACW	N	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0
Downingia elegans*	OBL	N	0	0	0	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0
Eleocharis palustris	OBL	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Epilobium brachycarpum	UPL	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
Epilobium ciliatum*	FACW	N	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Festuca roemerii	FACU	N	0	0	0	0	0	0	0	0	0	0	0	1	5	0	0	0	0	0	0	0	0	0	0
Festuca trachyphylla	FACU	I	0	0	0	0	0	0	0	0	0	0	0	0	0	20	10	0	0	0	0	0	0	0	0
Fraxinus latifolia	FACW	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Gallium aparine	FACU	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Geranium dissectum	UPL	I	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25	0
Glyceria occidentalis	OBL	N	0	0	0	0	0	0	0	0	0	0	35	0	0	0	0	0	15	15	1	0	0	0	0
Gnaphalium palustre	FAC	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grindelia integrifolia*	FACW	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
Holcus lanatus	FAC	I	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
Hordeum brachyantherum	FACW	N	0	0	0	0	0	1	0	5	8	0	0	0	0	0	5	0	0	0	0	0	1	0	0
Hypochaeris radicata	FACU	I	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
Juncus bufonius*	FACW	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Juncus effusus	FACW	N	0	0	0	0	0	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Juncus tenuis*	FACW	N	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	10	0	0	0	0	0	0	0
Lactuca serriola	FACU	I	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
Lolium multiflorum	FACU	I	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	5	20	0	0
Lomatium nudicaule*	FACU	N	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lotus micranthus	NOL	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lotus unifoliolatus	UPL	N	0	15	10	5	20	0	0	3	2	0	0	0	0	0	5	0	0	0	5	25	10	0	0
Lupinus bicolor	UPL	N	0	0	0	0	0	1	0	0	5	0	1	0	0	0	0	1	0	0	0	0	10	0	0
Lupinus polyphyllus*	FAC	N	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Myosotis discolor	FACW	I	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Nemophila parviflora	FAC	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Parentucelia viscosa	FAC	I	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
Plagiobothrys figuratus*	FACW	N	0	0	0	0	0	0	0	1	1	5	0	0	0	0	1	1	0	0	0	0	0	0	0
Plagiobothrys scouleri*	FACW	N	0	0	0	0	0	1	0	5	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Plantago major	FACU	I	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Poa annua	FAC	I	0	0	0	5	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
Poa trivialis	FACW	I	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0
Potentilla gracilis*	FAC	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Prunella vulgaris*	FACU	N	0	0	0	0	0	5	0	0	1	0	10	0	0	1	5	0	0	0	0	5	20	0	0
Ranunculus occidentalis*	FAC	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
Ranunculus orthorhynchus*	FACW	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ranunculus ucinatus	FAC	N	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rorippa curvisiliqua	OBL	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
Rubus ameniacus	FACU	I	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rumex salicifolius	FACW	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sonchus asper	FAC	I	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Stellaria media	FACU	I	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sisyrinchium angustifolium	FACW	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vicia sativa	UPL	I	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vulpia bromoides	FAC	I	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0
Vulpia myuros	FAC	I	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bare			5	10	0	10	0	0	0	22	85	73	5	15	5	0	0	0	0	0	0	5	0	5	15

LATIN	INDICATOR STATUS	I/N	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130
Achillea millefolium	FACU	N	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0
Agrostis exarata*	FACW	N	10	35	35	0	0	0	25	25	15	15	0	0	0	20	20
Alopecurus geniculatus	OBL	N	0	0	0	30	0	0	0	1	1	0	0	0	0	15	5
Beckmania syzigachne	OBL	N	0	0	1	0	0	20	0	0	0	0	0	0	20	0	0
Boidsdvalia densiflora*	FACW	N	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
Briza minor	FAC	I	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bromus carinatus	UPL	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Camassia quamash*	FACW	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cardamine oligosperma	FAC	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cerastium arvense	FACU	N	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0
Cirsium arvense	FACU	I	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Danthonia californica*	FACU	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Deschampsia cespitosa*	FACW	N	80	35	35	1	15	0	35	75	70	10	15	60	10	10	30
Deschampsia elongata*	FACW	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Downingia elegans*	OBL	N	0	0	0	0	0	40	0	0	0	0	0	0	0	0	0
Eleocharis palustris	OBL	N	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0
Epilobium brachycarpum	UPL	N	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
Epilobium ciliatum*	FACW	N	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0
Festuca roemerii	FACU	N	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0
Festuca trachyphylla	FACU	I	0	0	0	0	0	0	0	0	0	30	1	0	0	0	0
Fraxinus latifolia	FACW	N	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0
Galium aparine	FACU	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Geranium dissectum	UPL	I	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Glyceria occidentalis	OBL	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Gnaphalium palustre	FAC	N	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
Grindelia integrifolia*	FACW	N	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
Holcus lanatus	FAC	I	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hordeum brachyantherum	FACW	N	0	0	0	35	0	0	0	0	0	0	40	0	0	0	0
Hypochaeris radicata	FACU	I	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Juncus bufonius*	FACW	N	0	0	0	0	0	0	0	0	0	0	15	0	0	0	0
Juncus effusus	FACW	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Juncus tenuis*	FACW	N	10	0	5	0	0	0	0	0	0	0	0	0	0	0	0
Lactuca serriola	FACU	I	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lolium multiflorum	FACU	I	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
Lomatium nudicaule*	FACU	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lotus micranthus	NOL	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lotus unifolius	UPL	N	1	5	5	10	25	0	1	1	5	1	5	0	0	0	0
Lupinus bicolor	UPL	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lupinus polyphyllus*	FAC	N	0	20	0	0	0	0	0	0	0	0	0	0	0	0	0
Myosotis discolor	FACW	I	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nemophila parviflora	FAC	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Parentucelia viscosa	FAC	I	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Plagiobothrys figuratus*	FACW	N	0	0	0	30	5	0	0	0	0	0	5	0	0	0	0
Plagiobothrys scouleri*	FACW	N	0	0	0	5	70	0	0	1	0	0	0	0	0	0	0
Plantago major	FACU	I	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Poa annua	FAC	I	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
Poa trivialis	FACW	I	0	0	0	0	10	0	0	0	0	0	0	0	0	0	0
Potentilla gracilis*	FAC	N	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
Prunella vulgaris*	FACU	N	0	0	0	0	2	0	0	0	0	20	1	0	0	0	3
Ranunculus occidentalis*	FAC	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ranunculus orthorhynchus*	FACW	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Ranunculus ucinatus	FAC	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rorippa curvisiliqua	OBL	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rubus ameniacus	FACU	I	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rumex salicifolius	FACW	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sonchus asper	FAC	I	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Stellaria media	FACU	I	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sisyrinchium augustifolium	FACW	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vicia sativa	UPL	I	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vulpia bromoides	FAC	I	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vulpia myuros	FAC	I	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bare			0	5	17	0	0	35	40	0	0	0	0	40	70	55	42

APPENDIX D
CREDIT SALES LEDGER

LONG TOM MITIGATION BANK PHASE 1 CREDIT LEDGER

Permittee Name	Corps No.	DSL No.	Project Name	Impact HUC	Begin. credit bal.		Credits Sold	Credit Bal.
					Impact Acs.	Date		
Samaritan Albany General Hospital	NWP-2008-282	40496-RF	Evergreen Hospice	1709000304	0.85	2/26/09	0.850	17.150
City of Monroe	2007-00149-1	37980-FP	Wastewater Treatment Project	1709000302	0.77	3/9/09	0.770	16.380
Oregon Military Department	NWP-2008-569/1	42154-FP	Camp Adair Access Roads	1709000306	0.30	6/2/09	0.300	16.080
City of Junction City	N/A	N/A	Unspecified future projects	17090003	1.09	3/18/10	1.090	14.990
Phil Heer	2009-00362	6950-ENF	Violation	1709000301	1.29	3/31/10	1.290	13.700
Robert Brink Violation	N/A	ENF-3724	Robert Brink dba Rosewood Ltd	1709000301	2.00	5/10/10	2.000	11.700
Lane Forest Products, Inc.	NWP-2009-458-1	APP0043731	Lane Forest Products, Inc.	1709000301	1.58	5/29/10	1.580	10.120
Robert Brink Violation	N/A	ENF-3724	Robert Brink dba Rosewood Ltd	1709000301	1.00	10/6/10	1.000	9.120
City of Philomath	NWP-2009-00626	43699-FP	Water Treatment Plant	1709000305	7.20	10/7/10	1.400	7.720
Bonneville Power Administration	NWP-2011-53	46470-RF	Harrisburg Substation	1709000302	1.68	7/13/11	1.680	6.040
Bonneville Power Administration	NWP-2012-65	49228-RF	Albany-Eugene Transmission Line Rebuild	17090003	0.38	5/22/12	0.380	5.660
Polk County Public Works	NWP-2012-82	49614-RF	Fern Creek (Guthrie Rd) Bridge Project	1709000305	0.085	6/8/12	0.085	5.575
Jamie Paddock/Willow Creek 06 LL	2011-00031	46197-RF	Willow Creek Industrial Park	17090003	0.770	8/6/12	1.350	4.23
CREDIT RELEASE						7/3/12	12.00	
TOTAL							13.775	16.225