

Mitigation Monitoring Report Cover Sheet

1: Report Information

DSL Permit # 36499-RF Corps Permit # 200500621 Permittee: Wetland Systems, LLC
 County: Clackamas Report Date: 12/20/2018
 Monitoring Year: 10
 Date Removal-Fill Activity Completed: NA
 Date mitigation was completed: Grading: 2006; Planting: 2011
 Date(s) of data collection: June 15 – 18, 2018
 Report prepared by: Mark Vlahakis, Wetland Systems, LLC

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.	Prairie – Percent Cover Native Species	Y	
2.	Prairie – Percent Cover Invasive Species	Y	
3.	Prairie – Vegetation Diversity	Y	
4.	Prairie – Percent Cover Trees & Shrubs	Y	
5.	PFO – Number of Native Trees & Shrubs	Y	
6.	PFO – Density of Native Shrub Species	Y	
7.	PFO – Percent Cover Native Herbaceous Species	Y	
8.	PFO – Percent Cover Invasive Species	Y	

4: Further Actions:

Remedial work recommended

Yes

No

Deed Restriction or other protection instrument attached

Yes

No

Final Monitoring Report?

Yes

No

Requesting release or partial release of financial security?

Yes

No

[FOSTER CREEK WETLAND MITIGATION BANK]

2018 VEGETATION MONITORING REPORT

CLACKAMAS COUNTY, OREGON

**Wetland Systems, LLC
2016 SE Henkle Road
Corbett, Oregon 97019**

December 2018



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1 PROJECT OVERVIEW

Status and Location

Foster Creek Wetland Mitigation Bank is owned and operated by Wetland Systems, LLC. The Foster Creek Wetland Mitigation Bank was authorized with approval of the Instrument in June 2006 (Corps File Number: 200500621, and DSL Permit 36499-RF). Comments or questions concerning this report may be directed to the report's author: Mark Vlahakis at mvlahakis@q.com.

The site is located on S. Eaden Road near Barton in Clackamas County, Oregon. The Foster Creek Wetland Mitigation Bank (Bank) serves the Clackamas River basin below 1,200 feet, all of the Johnson Creek basin, all of the Abernathy Creek basin, and limited portions of the Willamette basin (around Oregon City and Milwaukie). Urban areas served by this bank include Damascus, Oregon City, portions of Gresham, Milwaukie, Portland, and Sandy; and unincorporated Clackamas County.

The Foster Creek Wetland Mitigation Bank provides Slope/Flats and Depressional wetlands according to the Hydrogeomorphic classification, and Palustrine Emergent and Palustrine Forested wetlands according to the Cowardin classification. The habitat focus of the Bank is seasonal wet prairie (55.4 acres) with a lesser amount of forested wetland (13.2 acres). The Bank has been approved for a total of 27.56 wetland mitigation credits, with 26.18 of those credits currently approved for release by regulatory oversight.

This is the tenth annual monitoring report for the Foster Creek Wetland Mitigation Bank, and seventh in succession following initial revegetation events (the 2008 annual report monitored revegetation test plots only). For purpose of discussion with this report, the site is segregated into two distinct areas related to current revegetation and vegetation monitoring activities: Wet Prairie and Forested Wetland (Figure 1).

The 68.6-acre wetland site area was fully planted in 2010, with grasses completed in 2009; forbs completed in 2010. Trees/shrubs were fully installed within the forested wetland in 2011 to complete the planting of the entire 68.6-acres. Supplemental plantings and seeding occur throughout the bank on an as-needed basis.

Summary of 2018 Credit Activity

The Foster Creek Bank is currently authorized for release of 95% (26.18) of the Bank's total credits (27.56). There were 1.30 credits sold in 2018. The total number of credits sold to-date is 20.50, with 5.68 credits currently available for transaction. A copy of the Bank's ledger is attached as Appendix A.

2 PERFORMANCE REQUIREMENTS

Summary of Vegetation Performance Standards

In 2014 a revision to the herbaceous diversity and tufted hairgrass performance standards for wet prairie were proposed by DSL/Corps and accepted by the Foster Creek Bank. The new standards replace the vegetation diversity and tufted hairgrass standards in the Bank Instrument (Table 16 of the Instrument) and are as follows:

1. Vegetation Diversity Standard:

*Delete the 2 standards under "Number of Native Species" and replace with the following:
Number of native species: For Years 3-5, the wet prairie will contain a minimum of 6 native species, or groupings of native species, each with at least 5% cover averages across all wet prairie plots. To qualify as one of the species or groupings to be counted, the species or group will occur in at least 10% of the prairie plots and have at least 1% average cover.*

2. Tufted Hairgrass Standard:

In the two standards for Percent Cover of Native Species, delete the 2nd clause "with tufted hairgrass/camas >15% in years 1-2", and the clause with "tufted hairgrass/camas >20% in years 3-5".

Vegetation performance standards and the on-going performance status for the wet prairie and forested wetland habitats are presented in Tables 1 and 2. Refer to the “*Monitoring Results*” Section in Section 4 (Page 4) for details on the individual performance criteria results based on the 2018 monitoring. A table summarizing the percent cover and occurrence of all species within wet prairie plots is presented in Appendix B. Appendix C presents yearly comparisons of cover and occurrence for targeted species (2013 – 2018).

TABLE 1 - WET PRAIRIE PERFORMANCE STANDARDS

Wet Prairie Performance Criteria	Wet Prairie Performance Criteria Benchmark	Wet Prairie Performance Criteria Time Period	Wet Prairie Performance Criteria Status: 2009-2018
Percent Cover Native Species	>50% native species	2 Years	Met for 10 Years
Percent Cover Native Species	>60% native species	3 Years	Met for 8 Years
Percent Cover Invasive Species	<20% <15% for reed canarygrass	5 Years 5 Years	Met for 10 Years Met for 10 Years
Percent Cover Trees & Shrubs	<5%	5 Years	Met for 10 Years
Number of Native Species	≥6 native species with at least 5% cover	3 Years	Met for 5 Years*

* 2014 was the first year of implementation for this criterion

TABLE 2 - FORESTED WETLAND PERFORMANCE STANDARDS

Forested Wetland Performance Criteria	Forested Wetland Performance Criteria Benchmark	Forested Wetland Performance Criteria Time Period	Forested Wetland Performance Criteria Status: 2009 - 2018
# Native Tree/Shrub Species	Minimum 1 native tree species	5 Years	Met for 10 Years
	Minimum 3 native shrub species	5 Years	Met for 10 Years
Density of Native Tree Species	Minimum of 240 stems per acre	5 Years	Met for 9 Years
Density of Native Shrub Species	Minimum of 320 stems per acre	5 Years	Met for 8 Years
Percent Cover Native Herbaceous Species	>50% cover	5 Years	Met for 7 Years
Percent Cover Invasive Species	<20%	5 Years	Met for 8 Years
	<15% reed canarygrass	5 Years	Met for 10 years

3 METHODOLOGY

Vegetation Monitoring Methodology

Vegetation data collection follows protocols described in VEMA (Marshall 2007). Vegetation monitoring was conducted in early summer (June 14-16, 2018) by GreenBanks, LLC., and categorized by the author.

Permanent monitoring transects have been laid out from a baseline transect running east to west across the property, establishing 13 monitoring transects running north and south from the baseline (Figure 1). Five transects on the north side of the baseline (T-1N to T-5N), and eight transects on the south side (T-1S to T-8S), were numbered sequentially from west to east (Transect T-8S is located slightly south of the baseline to facilitate coverage in that area). A transect's first sample plot (S1) was located at a random distance from the baseline, with subsequent plots located at 100-foot intervals from the first plot to the end of the respective transect. GPS coordinates were recorded at transect end points and for all 102 plot points. Locations of the endpoints of the baseline and transects were field-marked with wooden stakes, and sample plot locations were marked with labeled pin flags. Capped rebar was installed at all these points to create permanent location markers.

For wet prairie monitoring, a total of 79 plots of 1m² were located along the transects to sample herbaceous vegetation within the wet prairie. In addition to the transect plots, four upland (prairie) plots of 1m² (Upland plots A, B, C, and D) were also established on the south side of the baseline. For forested wetland monitoring where trees and shrubs were installed, 19 circular plots with a radius of 30-feet were sampled within five transects (T-2N, T-3N, T-4N, T-7S, T-8S) to count individual stems of trees and shrubs. The flagged sample locations were used to mark the center of the circular plot. Each of the circular plots also contained a 1m² herbaceous plot nested within it, using the same flagged point to mark the lower left corner of the plot.

4 MONITORING RESULTS

Vegetation Monitoring Summary Data

Monitoring data was summarized based on the habitat type (wet prairie or forested wetland) and the performance criteria required of each. Data was summarized by averaging the results of each sample plot within each transect, and then averaging the results of all of the transects to obtain a site-wide result for each criteria. Table 3 summarizes the site-wide results for the respective performance criteria.

TABLE 3 – PERFORMANCE CRITERIA RESULTS

WET PRAIRIE HABITAT										
Criteria Performance	Monitoring Results									
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Native species cover >50% ¹	54%	64%	70%	74%	64%	60%	68%	78%	74%	76%
Native species cover >60% ²	54%	64%	70%	74%	64%	60%	68%	78%	74%	76%
Non-native invasive species cover <20% ³	11%	9%	7%	16%	10%	17%	13%	6%	6%	7%
<15% for reed canarygrass ³	0%	<1%	<1%	0%	0%	0%	0%	0%	<1%	0%
Tree and shrub species cover <5% ³	0%	<1%	<1%	<1%	<1%	<1%	<1%	<1%	<1%	<1%
≥6 native species/groups with ≥5% cover ²	*	*	*	*	*	6	6	6	6	7

* 2014 was the first year of implementation for this criterion (see Section 2)

FORESTED WETLAND HABITAT										
Performance Criteria	Monitoring Results									
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Minimum of 1 native tree species ³	2	3	3	4	5	5	5	6	5	5
Minimum of 3 native shrub species ³	2	6	6	7	7	7	9	9	9	9
Minimum tree density of 240 stems/acre ³	189	283	480	598	636	750	658	418	861	1095
Minimum shrub density of 320 stems/acre ³	6	240	473	602	602	549	563	370	659	708
>50% cover native herbaceous species ³	49%	40%	48%	58%	54%	53%	61%	69%	65%	65%
<20% cover non-native invasive species ³	14%	42%	32%	15%	18%	13%	13%	12%	5%	9%
<15% reed canarygrass ³	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

¹ required for 2 years

² required for 3 years

³ required for 5 years

Additional Analysis

We have summarized the collected plot data for additional wet prairie criteria of interest outside of those specifically required by the Bank's performance standards (Table 4). Note that this additional criterion is not subject to the Bank's performance criteria as defined in the Instrument, but is summarized in order to facilitate identification of both short and long-term trends in vegetation composition which will assist site management efforts.

TABLE 4 – ADDITIONAL DATA ANALYSIS

		2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Number of Wet Prairie Indicator Species within Monitoring Plots ¹	VEMA Performance Standard = 10	6	17	36	34	24	37	37	25	22	29
Wet Prairie Moisture Index ²	VEMA Performance Standard = 2.0 – 3.0	2.4	2.3	2.3	2.5	2.6	3.0	3.0	2.9	2.7	2.9
Total Number Species within Monitoring Plots ³		83	104	105	86	105	107	107	96	86	88

¹ Wet prairie indicator species as identified in: *Vascular Plants of the prairies and associated habitats of the Willamette Valley-Puget Trough-Georgia Basin ecoregion, Present in Willamette Valley Section* (refer to: "Tom's Indicator List Wetland")

² Calculated average using the following indices for species recorded in the plots: OBL=1; FACW=2; FAC=3; FACU=4; UPL=5

³ Total numbers of all species recorded within monitoring plots (wet prairie, upland, and forested wetland)

Discussion of Vegetation Performance

Wet Prairie – In 2018, all annual wet prairie performance categories were met (Table 3). With the change in the wet prairie vegetation diversity standard (2014) came a revised focus in vegetation

management. We're now concentrating on a select group of native forb species to maintain target diversity. Native species within the monitoring plots remained unchanged at 76% in 2018. Non-native invasive species as listed in the Instrument increased slightly from 6% in 2017 to 7% in 2018.

Three individual species met the revised species cover criteria outright in 2017, *Deschampsia caespitosa*, *Sidalcea nelsonii*, and *Madia elegans* while four species groupings were included that meet the species cover criteria. The species groups include: *Carex* group (*Carex densa*, *C. feta*, *C. pachystachya*, and *C. unilateralis*); FACW group (*Camassia quamash*, *Epilobium ciliatum*, *Epilobium densiflorum*, *Ranunculus occidentalis*, and *Symphyotrichum subspicatum*); FAC group (*Geum macrophyllum*, and *Potentilla gracilis*); FACU group (*Achillea millefolium*, *Acmispon americanus*, *Penstemon rydbergii*, *Plectritis congesta*, and *Prunella vulgaris*).

For non-native species, the current trend is an increase in both non-native and invasive forbs, and decreases in non-native grasses and invasive grasses. A couple of species are driving the forb increases (see below).

Cover of non-native forbs increased from 7.2% in 2017 to 10.1% in 2018 and non-native grass species decreased from 5.1% in 2017 to 2.7% in 2018. Invasive forbs increased from 2.7% in 2017 to 5.0% in 2018, and invasive grasses decreased from 3.5% in 2017 to 1.9% in 2018. Invasive species with over 1% cover in 2018 include: *Leontodon taraxacoides* at 4.0% (2.2% in 2017), *Parentucellia viscosa* at 3.1% (2.4% in 2017), and *Bromus racemosus* at 1.5% (2.9% in 2017). In addition, *Geranium dissectum* increased from 0.5% in 2017 to 3.0% in 2018. These and other non-native species of concern will continue to be targeted for control in 2019.

Some additional noteworthy trends and observations revealed by the monitoring and personal observations throughout the year:

- Approximately 50% of the wet prairie was mowed and the mowed material removed as hay in July 2018. The purpose of the "haying" was to allow for application of a grass-specific herbicide to reduce non-native grasses. These non-natives have been increasing site-wide over the last several years and it was decided it was time for a "reset" on grasses to stem the increase. We'll judge the effectiveness of the October herbicide application and may perform a repeat application in the spring of 2019. We anticipate select native grass seed to be applied in fall of 2019.
- Resident elk effectively browsed *Sidalcea* flower heads again in 2018. We estimate close to 100% of the *Sidalcea* population were consumed, mainly the flower stalks. We're unsure if the reduction of cover within the plots the last couple of years is a result of elk browse, but have opted to add some commercial seed of *S. nelsonii* to a seed mix that was applied in fall 2018.

Forested Wetland – In 2018, all annual forested wetland performance categories were met (Table 3). Total native species cover increased slightly from last year (65.0% in 2018 versus 64.7% in 2017), with non-native species decreasing to 12.4% from 24.6% in 2017. Invasive cover increased to 9.1% in 2018 compared to 4.9% in 2017 largely due to *Leontodon taraxacoides* and *Anthoxanthum odoratum*.

The primary non-native species present in 2018 are *Anthoxanthum odoratum* at 6.7% (versus 10.7% in 2017), *Leontodon taraxacoides* at 6.8% cover (versus 4.0% in 2017), *Lotus corniculatus* at 0.8% (versus 4.0% in 2016), *Parentucellia viscosa* at 0.8% (versus 2.0% in 2017), *Leucanthemum vulgare* unchanged at 0.8%, and *Hypochaeris radicata* unchanged at 1.2%.

Stem counts for both trees and shrubs increased in 2018 due in-part to on-going supplemental seeding of Oregon ash seed collected from mature on-site trees. Tree density in 2018 was recorded as 1,095/acre (versus 861/acre in 2017), while shrub density was 708/acre (versus 659/acre in 2017).

5 CORRECTIVE ACTIONS AND RECOMMENDATIONS

Post monitoring corrective actions fall into two primary categories: (1) weed control to reduce the occurrence and density of targeted non-native species, and (2) native forb establishment to increase the density and occurrence of select native forb species. These two core activities are directed through an adaptive management process with numerous points of input taken into consideration, which includes formal monitoring.

Weed Control

Weed control efforts are on-going. In 2018 weed control activities concentrated primarily on spot spraying select herbicides performed with backpack applications in the spring, and mowing/haying approximately ½ of the prairie. The purpose of haying the area was to remove as much target non-native seed as possible. The hayed area was then sprayed with a grass-selective herbicide to “reset” the grass component. The grass control effort will be evaluated in spring 2019, with an additional application possible in spring when the annual grasses are emerging.

Areas of the forested wetland that contain weedy herbaceous cover will be targeted in 2019, especially targeting the recent increases of *Anthoxanthum odoratum* and *Leontodon taraxacoides*. As tree and shrub canopies establish, most of the current crop of troublesome non-native species will be disadvantaged by shade. However, that canopy development could be several more years at the current growth rates so until then annual efforts will continue to reduce non-native densities.

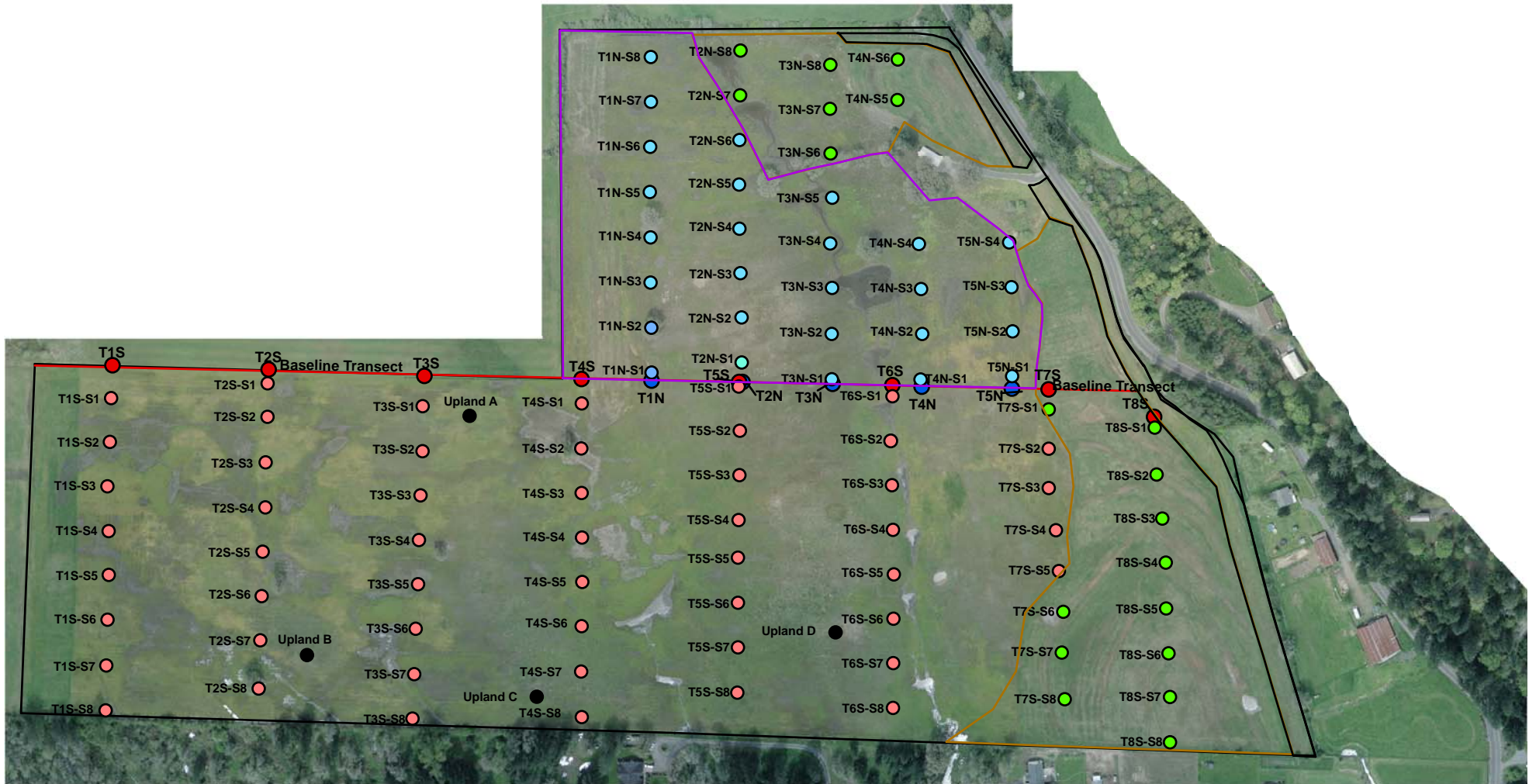
Species Establishment

Establishing additional native species and increasing the density of select prairie cohort species is a core activity at the Bank. Species for establishment are selected each year based on monitoring results, availability, integration with weed management activities, and appropriateness for the Bank’s habitats. Within the prairie, supplemental seeding of mixed species in the hayed area of the prairie was performed in fall 2018 to combat the large areas of bare ground caused by the increased vole population (they are on the upswing in their 5-year population cycle). Mole mounds throughout the prairie are seeded as they appear with native forbs from late autumn into late winter. *Amsinckia menziesii* (var. *intermedia*) and *Potentilla glandulosa* were new species incorporated by seed in 2018. We anticipate supplemental grass seeding of *Deschampsia caespitosa* in fall 2019 depending on the resultant density from the previous grass reduction activities. In the forested wetland, there will be supplemental seeding of *Hordeum brachyantherum* in various spot spray locations.

REFERENCES

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0 450 900 1,800 Feet



- South Transect ●
- South Transect Sample Plot ○
- North Transect ●
- North Transect Sample Plot ○
- Forested Wetland Sample Plot ●
- Upland Sample Plot ●

**Foster Creek Wetland Bank
2018 Monitoring Report**

Figure 1 - Monitoring Site Map

Aerial Photo Date: April 15, 2009

APPENDIX A
2018 CREDIT LEDGER

**Foster Creek Wetland Mitigation Bank
Credit Ledger**

Event/ Credit Purchaser	Date	Total Credits Eligible for Release	Total Financial Assurance of Credits	ODSL Permit #	ACOE Permit #	HGM Class and Subclass					Cowardin Class			Credit Purchase	Total Credits Sold To Date	Total Potential Credits To Be Available
						Depress Closed	Depress Outflow	Slope/ Flats	Riverine Flow-Thru	Riverine Impound	PEM	PFO	PSS			
<i>MBRT - MOA</i>	6/30/2006	4.20	-	36499-RF	200500621.00									NA	0.00	27.56
<i>DSL Initial Credit Release - 0.25</i>	9/25/2006	4.20	0.25	N/A	N/A									NA	0.00	27.56
1 - Happy Valley credits	9/29/2006	4.20	0.25	36838.00	N/A									0.04	0.04	27.52
2 - Bella Ponte Cino credits	11/21/2006	4.20	0.25	36943.00	N/A									0.06	0.10	27.46
3 - Ossey Development credits	2/2/2007	4.20	1.00	37080.00	N/A									0.21	0.31	27.25
<i>DSL 2nd Release of Initial Cr. - 0.75</i>	2/7/2007	4.20	1.00											NA	0.31	27.25
<i>Weed Control Release Request</i>	2/21/2007	4.20	1.00											NA	0.31	27.25
4 - Clackamas County credits	4/4/2007	4.20	1.00	37492.00	N/A									0.01	0.32	27.24
5-Eastridge Covenant Church credits	4/24/2007	4.20	1.00	26078.00	N/A									0.04	0.36	27.20
<i>As-Built Report Submittal</i>	7/15/2007	8.40	1.00											NA	0.36	27.20
6 - Kosrow credits	7/30/2007	8.40	1.00	37082.00	19991217.00									0.08	0.44	27.12
7 - Quadrant Homes credits	8/1/2007	8.40	1.00	38166.00	2007309.00									0.03	0.47	27.09
8 - LIRA Development credits	9/17/2007	8.40	1.00	N/A	2007495.00									0.01	0.48	27.08
9 - Goodwood Homes credits	2/29/2008	8.40	1.00	39444.00	2007928.00			0.09						0.09	0.57	26.99
10 - Clackamas County credits	3/10/2008	8.40	1.00	39516.00	2007894.00			0.09	0.12		0.12	0.09		0.12	0.69	26.87
<i>Corps Approval of Hydrol. Rpt.</i>	5/16/2008	14.00	1.00											NA	0.69	26.87
11 - N. Clackamas School District credits	6/26/2008	14.00	1.00	40136.00	2008168.00			0.12			0.12			0.12	0.81	26.75
12 - Portland General Electric credits	7/21/2008	14.00	1.00	40137.00	2008161.00			0.01	0.01		0.02			0.02	0.83	26.73
<i>Financial Assurance Purchase #3</i>	7/23/2008	14.00	3.00											NA	0.83	26.73
<i>DSL 3rd Release of Credit. - 2.0</i>	7/28/2008	14.00	3.00											NA	0.83	26.73
13 - N. Clackamas School District credits	7/29/2008	14.00	3.00	40596.00	2008310.00			0.95			0.95			0.95	1.78	25.78
<i>Credit Recalculation (-0.44)</i>	10/20/2008	14.00	4.00											NA	1.78	25.78
<i>DSL 4th Release of Credit. - 1.0</i>	2/13/2009	14.00	4.00											NA	1.78	25.78

Foster Creek Wetland Mitigation Bank - Credit Ledger 2018

Event/ Credit Purchaser	Date	Total Credits Eligible for Release	Total Financial Assurance of Credits	ODSL Permit No.	ACOE Permit No.	HGM Class and Subclass					Cowardin Class			Credit Purchase	Total Credits Sold To Date	Total Potential Credits To Be
						Depress Closed	Depress Outflow	Slope/ Flats	Riverine Flow-Thru	Riverine Impound	PEM	PFO	PSS			
14A - Oregon Military Department credits	2/16/2009	14.00	4.00	40597.00	200800143.00	0.48		0.48		0.48	0.96		0.48	1.44	3.22	24.34
14B - Oregon Military Department credits	2/16/2009	14.00	4.00	EN -4838	N/A	0.08		0.07		0.07	0.14		0.08	0.22	3.44	24.12
15 - NACO Land II credits	3/12/2009	14.00	4.00	39536.00	200700963.00			0.41			0.21		0.20	0.41	3.85	23.71
DSL Approval of Hydrology Rpt.	4/3/2009	14.00	4.00											NA	3.85	23.71
DSL 5th Release of Credit - 1.0	9/4/2009	14.00	5.00											NA	3.85	23.71
16 - Oregon Military Department credits	9/16/2009	14.00	5.00	EN -4838	N/A	0.10		0.09		0.09	0.18		0.10	0.28	4.13	23.43
DSL 6th Release of Credit - 2.00	1/18/2011	14.00													4.13	23.43
17 - Oregon City Public Works	1/18/2011	14.00	7.00	44900-RF	NWP-2010-32						1.37			1.43	5.56	22.00
18 - Bonneville Power Admin.	5/13/2011	14.00	7.00	46502-RF	N/A			0.10					0.10	0.10	5.66	21.90
19 - Oregon Dept. of Transportation	5/13/2011	14.00	7.00	16401-RF, 26248-GA	1999-00021, 2002-000902			0.45			0.45			0.45	6.11	21.45
20 - Bonneville Power Admin. Credits	5/18/2011	14.00	10.00	46157-RF	NWP-2011-438	3.64						1.14	2.50	3.64	9.75	17.81
21 - Bonneville Power Admin. Credits	7/27/2011	14.00	10.00	46502-RF	NWP-2011-88			0.03					0.03	0.03	9.78	17.78
22 - Newland Communities	11/23/2011	14.00	12.00	37480-RF	NWP-2006-888			1.23			1.23			1.23	11.01	16.55
Completion (65% v. 75%)	12/15/2011	17.91	12.00													
23 - Allen Properties, LLC	4/13/2012	17.91	12.00	48456-RF	NWP-2011-513			0.05			0.05			0.05	11.06	16.50
24 - AT Properties	1/4/2013	17.91	12.00	52049-RF	NA			0.05			0.05			0.05	11.11	16.45
25 - Oregon Dept. of Transportation	1/15/2013	17.91	12.00	52103-RF	NWP-2012-482		0.04	0.27	0.02		0.31	0.03		0.34	11.45	16.11
26 - Clackamas County DTD	1/28/2013	17.91	12.00	52031-RF	N/A			0.30			0.29		0.01	0.30	11.75	15.81
27 - ODOT	4/1/2013	17.91	12.00	52265-RF	NWP 2012-513							0.02		0.02	11.77	15.79
28 - Douglas Ridge Rifle Club	8/19/2013	17.91	12.00	WD 11-0054	NWP 2009-574			0.39			0.39			0.39	12.16	15.40
29 - TA Liesy	7/3/2014	17.91	12.00	NA	NWP-2013-81				0.01		0.02			0.02	12.18	15.38
Ray Gannon	7/25/2014	17.91	12.00	55884-RF	NWP-2014-094		0.10						0.10	0.10	12.28	15.28
DSL 9th Release of Credit - 3.0	7/30/2014	17.91	15.00											N/A		
Clackamas County Development Agency	7/30/2014	17.91	15.00	N/A	NWP-2012-181			0.25				0.25		0.25	12.53	15.03
Clackamas County DTD	7/30/2014	17.91	15.00	56071-RF	NWP-2001-996-1			0.09			0.09			0.09	12.62	14.94
Trog Properties, LLC	7/30/2014	17.91	15.00	55754-RF	NWP-214-50			1.45			1.45			1.45	14.07	13.49

Foster Creek Wetland Mitigation Bank - Credit Ledger 2018

Event/ Credit Purchaser	Date	Total Credits Eligible for Release	Total Financial Assurance of Credits	ODSL Permit No.	ACOE Permit No.	HGM Class and Subclass					Cowardin Class			Credit Purchase	Total Credits Sold To Date	Total Potential Credits To Be Available
						Depress Closed	Depress Outflow	Slope/ Flats	Riverine Flow-Thru	Riverine Impound	PEM	PFO	PSS			
Taliesin Homes NW, LLC	1/7/2015	17.91	15.00	APP0055227	NWP-2014-00022		0.32			0.32				0.32	14.39	13.17
Clackamas DTD	3/28/2015	17.91	15.00	56978-RF	NA		0.20				0.20			0.20	14.59	12.97
The Holt Group	4/24/2015	17.91	15.00	56156-RF	NWP-2014-49		0.20			0.20				0.20	14.79	12.77
Vanport Manufacturing	6/4/2015	17.91	15.00	57104-RF	NWP-2015-13				0.0633	0.0633				0.07	14.86	12.70
Jim Smith Excavating	6/17/2015	17.91	15.00	56550-RF	NWP-2014-253		0.13			0.13	0.13			0.13	14.99	12.57
PGE	6/24/2015	17.91	15.00	57606-RF	NWP-2015-110		0.0052	0.0062		0.0023		0.0091	0.0091	0.01	15.00	12.56
Graymor	7/28/2015	17.91	15.00	55217-RF	NWP-2013-441		2.80			2.80				2.80	17.80	9.76
The Holt Group	9/20/2015	17.91	15.00	58132-FP	NWP-2015-265		0.01			0.01				0.01	17.81	9.75
Rian Tuttle	12/3/2015	17.91	15.00	57922-FP	NWP-2015-183		0.49			0.49				0.49	18.30	9.26
Johnson Estates, LLC	3/20/2016	20.67	20.67	58680-RF	NWP-2016-24		0.04					0.04	0.04	0.04	18.34	9.22
Rian Tuttle	8/22/2016	20.67	20.67	59024-FP	NWP-2015-69-1		0.01			0.01				0.01	18.35	9.21
Tara Partners, LLC	9/10/2016	20.67	20.67	59240-RF	NWP-2016-328		0.07			0.07				0.07	18.42	9.14
Gary Bullock	10/14/2016	20.67	20.67				0.03	0.03		0.03	0.03			0.03	18.45	9.11
Jackson Hills	12/15/2016	26.18	27.56	590002-FP	NWP-2016-154			0.24			0.24			0.24	18.69	8.87
PGE	6/9/2017	26.18	27.56	57606-RF Mod	NWP-2015-110/2		0.47				0.47			0.47	19.16	8.40
Geo Development	7/12/2017	26.18	27.56	60168-FP	NWP-2017-193			0.04			0.04			0.04	19.20	8.36
Pleasant Valley	3/23/2018	26.18	27.56	59088-RF	NWP-2016-198			0.17			0.17			0.17	19.37	8.19
Venture Properties	3/26/2018	26.18	27.56	60735-FP	NWP-2014-48			0.11			0.11			0.11	19.48	8.08
City of Portland Water Bureau	3/27/2018	26.18	27.56	46312-RF	NWP-2011-54			0.33			0.33			0.33	19.81	7.75
North Clackamas School District	4/13/2018	26.18	27.56	60729-RF	NWP-2017-478			0.47			0.47			0.47	20.28	7.28
Park Estacada	5/22/2018	26.18	27.56	60761-RF	NWP-2017-481			0.13			0.13			0.13	20.41	7.15
Duus Solar	11/19/2018	26.18	27.56	60515-FP	NWP-2017-360			0.09			0.09			0.09	20.50	7.06

APPENDIX B

2018 Percent Species Cover by Plot

Foster Creek Wetland Bank

Upland Plot Data

Sample Dates: 6/17/2018

Upland Habitat Unit

Upland Plot

Herbaceous Species	Origin (N, NN, I)	Number	N	NN	I	Wetland Status	Average Percent Cover - By Species	A	B	C	D
Botanical Name											
<i>Achillea millefolium</i>	N	1	0.00	0.00	0.00	FACU	0.00	0	0	0	0
<i>Acmispon americanus</i> (= <i>Lotus purshianus</i>)	N	1	9.25	0.00	0.00	FACU	9.25	8	10	15	4
<i>Aira caryophylla</i>	NN	2	0.00	0.00	0.00	FACU	0.00	0	0	0	0
<i>Allium vineale</i>	NN	2	0.00	0.00	0.00	FACU	0.00	0	0	0	0
<i>Anagallis arvensis</i>	NN	2	0.00	0.00	0.00	NI	0.00	0	0	0	0
<i>Aquilegia formosa</i>	N	1	0.00	0.00	0.00	FAC	0.00	0	0	0	0
<i>Camassia quamash</i>	N	1	1.50	0.00	0.00	FACW	1.50	0	0	0	6
<i>Cardamine occidentalis</i>	N	1	0.00	0.00	0.00	FACW	0.00	0	0	0	0
<i>Carex densa</i>	N	1	0.00	0.00	0.00	OBL	0.00	0	0	0	0
<i>Carex feta</i>	N	1	0.50	0.00	0.00	FACW	0.50	0	0	0	2
<i>Carex leptopoda</i>	N	1	0.00	0.00	0.00	FAC	0.00	0	0	0	0
<i>Carex obnupta</i>	N	1	0.00	0.00	0.00	OBL	0.00	0	0	0	0
<i>Carex pachystachya</i>	N	1	0.00	0.00	0.00	FAC	0.00	0	0	0	0
<i>Carex unilateralis</i>	N	1	0.00	0.00	0.00	FACW	0.00	0	0	0	0
<i>Centaureum erythraea</i> (= <i>C. umbellatum</i>)	NN	2	0.00	0.50	0.00	FAC	0.50	1	1	0	0
<i>Cerastium arvense</i>	N	1	0.00	0.00	0.00	FACU	0.00	0	0	0	0
<i>Cerastium fontanum</i> ssp. <i>Vulgare</i>	NN	2	0.00	0.00	0.00	FACU	0.00	0	0	0	0
<i>Cerastium glomeratum</i> (= <i>C. viscosum</i>)	NN	2	0.00	0.00	0.00	FACU	0.00	0	0	0	0
<i>Cirsium arvense</i>	I	3	0.00	0.00	0.00	FAC	0.00	0	0	0	0
<i>Cirsium vulgare</i>	I	3	0.00	0.00	0.00	FACU	0.00	0	0	0	0
<i>Clarkia amoena</i>	N	1	1.50	0.00	0.00	NI	1.50	2	0	0	4
<i>Collinsia grandiflora</i>	N	1	0.00	0.00	0.00	NI	0.00	0	0	0	0
<i>Collomia grandiflora</i>	N	1	2.25	0.00	0.00	NI	2.25	0	0	4	5
<i>Crepis capillaris</i>	NN	2	0.00	0.25	0.00	FACU	0.25	0	1	0	0
<i>Daucus carota</i>	I	3	0.00	0.00	0.25	FACU	0.25	0	0	0	1
<i>Dichelostemma congestum</i>	N	1	0.00	0.00	0.00	NI	0.00	0	0	0	0
<i>Downingia elegans</i>	N	1	0.00	0.00	0.00	OBL	0.00	0	0	0	0
<i>Eleocharis acicularis</i>	N	1	0.00	0.00	0.00	OBL	0.00	0	0	0	0
<i>Eleocharis obtusa</i> (= <i>E. ovata</i>)	N	1	0.00	0.00	0.00	OBL	0.00	0	0	0	0
<i>Epilobium brachycarpum</i> (= <i>E. paniculatum</i>)	N	1	0.25	0.00	0.00	NI	0.25	0	0	1	0
<i>Epilobium ciliatum</i> ssp. <i>watsonii</i>	N	1	0.00	0.00	0.00	FACW	0.00	0	0	0	0
<i>Epilobium densiflorum</i> (= <i>Boisduvalia densiflora</i>)	N	1	1.00	0.00	0.00	FACW	1.00	2	0	1	1
<i>Erigeron philadelphicus</i>	N	1	4.00	0.00	0.00	FACU	4.00	10	6	0	0
<i>Eriophyllum lanatum</i>	N	1	2.50	0.00	0.00	NI	2.50	10	0	0	0
<i>Erythranthe guttata</i> (= <i>Mimulus guttatus</i>)	N	1	0.00	0.00	0.00	OBL	0.00	0	0	0	0
<i>Fragaria virginiana</i>	N	1	2.00	0.00	0.00	FACU	2.00	0	0	8	0
<i>Galium aparine</i>	N	1	0.00	0.00	0.00	FACU	0.00	0	0	0	0
<i>Galium trifidum</i>	N	1	0.00	0.00	0.00	FACW	0.00	0	0	0	0
<i>Geranium dissectum</i>	NN	2	0.00	5.00	0.00	NI	5.00	12	2	0	6
<i>Geranium lucidum</i>	NN	2	0.00	0.00	0.00	NI	0.00	0	0	0	0
<i>Geranium molle</i>	NN	2	0.00	0.00	0.00	NI	0.00	0	0	0	0
<i>Geum macrophyllum</i>	N	1	0.50	0.00	0.00	FAC	0.50	0	0	2	0
<i>Glyceria leptostachya</i>	N	1	0.00	0.00	0.00	OBL	0.00	0	0	0	0
<i>Glyceria occidentalis</i>	N	1	0.00	0.00	0.00	OBL	0.00	0	0	0	0
<i>Gnaphalium palustre</i>	N	1	0.00	0.00	0.00	FACW	0.00	0	0	0	0
<i>Gratiola ebracteata</i>	N	1	0.00	0.00	0.00	OBL	0.00	0	0	0	0
<i>Gratiola neglecta</i>	N	1	0.00	0.00	0.00	OBL	0.00	0	0	0	0
<i>Grindelia integrifolia</i>	N	1	0.00	0.00	0.00	FACW	0.00	0	0	0	0
<i>Hypericum anagalloides</i>	N	1	0.00	0.00	0.00	OBL	0.00	0	0	0	0
<i>Hypochaeris radicata</i>	I	3	0.00	0.00	0.50	FACU	0.50	2	0	0	0
<i>Juncus bufonis</i>	N	1	0.00	0.00	0.00	FACW	0.00	0	0	0	0
<i>Juncus ensifolius</i>	N	1	0.00	0.00	0.00	FACW	0.00	0	0	0	0
<i>Juncus patens</i>	N	1	0.00	0.00	0.00	FACW	0.00	0	0	0	0
<i>Juncus tenuis</i>	N	1	0.00	0.00	0.00	FAC	0.00	0	0	0	0
<i>Lactuca serriola</i>	NN	2	0.00	0.25	0.00	FACU	0.25	0	0	0	1
<i>Lapsana communis</i>	NN	2	0.00	0.00	0.00	FACU	0.00	0	0	0	0
<i>Leontodon taraxacoides</i>	I	3	0.00	0.00	12.25	FACU	12.25	12	25	6	6
<i>Leucanthemum vulgare</i>	NN	2	0.00	0.50	0.00	FACU	0.50	0	2	0	0
<i>Lotus corniculatus</i>	NN	2	0.00	0.25	0.00	FAC	0.25	0	0	1	0
<i>Lupinus polyphyllus</i>	N	1	0.00	0.00	0.00	FAC	0.00	0	0	0	0
<i>Lythrum portula</i>	NN	2	0.00	0.00	0.00	OBL	0.00	0	0	0	0
<i>Madia elegans</i>	N	1	1.25	0.00	0.00	NI	1.25	3	2	0	0
<i>Madia glomerata</i>	N	1	0.00	0.00	0.00	FACU	0.00	0	0	0	0
<i>Matricaria recutita</i> (+ <i>M. chamomilla</i>)	NN	2	0.00	0.00	0.00	NI	0.00	0	0	0	0
<i>Medicago lupulina</i>	NN	2	0.00	0.00	0.00	FACU	0.00	0	0	0	0
<i>Micranthes oregana</i> (+ <i>Saxifraga oregana</i>)	N	1	0.00	0.00	0.00	FACW	0.00	0	0	0	0
<i>Montia fontana</i>	N	1	0.00	0.00	0.00	FACW	0.00	0	0	0	0
<i>Montia linearis</i>	N	1	0.00	0.00	0.00	FAC	0.00	0	0	0	0
<i>Moss</i>	N	1	0.00	0.00	0.00	NI	0.00	0	0	0	0
<i>Myosotis discolor</i>	NN	2	0.00	3.00	0.00	FAC	3.00	2	8	2	0
<i>Myosotis laxa</i>	N	1	0.00	0.00	0.00	OBL	0.00	0	0	0	0
<i>Navaretia intertexta</i>	N	1	0.00	0.00	0.00	FACW	0.00	0	0	0	0
<i>Navaretia squarrosa</i>	N	1	0.00	0.00	0.00	FACU	0.00	0	0	0	0
<i>Parentucellia viscosa</i>	NN	2	0.00	5.00	0.00	FAC	5.00	8	8	2	2
<i>Penstemon rydbergii</i> (formily <i>hesperius</i>)	N	1	1.25	0.00	0.00	FACU	1.25	0	0	5	0
<i>Persicaria hydropiper</i> (= <i>Polygonum hydropiper</i>)	NN	2	0.00	0.00	0.00	OBL	0.00	0	0	0	0
<i>Plagiobothrys figuratus</i>	N	1	0.00	0.00	0.00	FACW	0.00	0	0	0	0
<i>Plagiobothrys scouleri</i>	N	1	0.00	0.00	0.00	FACW	0.00	0	0	0	0
<i>Plectritis congesta</i>	N	1	0.50	0.00	0.00	FACU	0.50	1	0	0	1
<i>Potentilla gracilis</i>	N	1	2.50	0.00	0.00	FAC	2.50	6	0	4	0
<i>Poteridium occidentale</i> (= <i>Saguisorba occidentalis</i>)	N	1	0.00	0.00	0.00	NI	0.00	0	0	0	0
<i>Prunella vulgaris</i> var. <i>lanceolata</i>	N	1	2.00	0.00	0.00	FACU	2.00	5	0	2	1
<i>Ranunculus cf. maroonii</i>	N	1	0.00	0.00	0.00	OBL	0.00	0	0	0	0
<i>Ranunculus occidentalis</i>	N	1	0.00	0.00	0.00	FACW	0.00	0	0	0	0
<i>Ranunculus orthorhynchus</i>	N	1	0.00	0.00	0.00	FACW	0.00	0	0	0	0
<i>Ranunculus parviflorus</i>	N	1	0.00	0.00	0.00	FACU	0.00	0	0	0	0
<i>Ranunculus repens</i>	I	3	0.00	0.00	0.00	FAC	0.00	0	0	0	0
<i>Ranunculus uncinatus</i>	N	1	0.00	0.00	0.00	FAC	0.00	0	0	0	0
<i>Rorippa curvisiliqua</i>	N	1	0.00	0.00	0.00	OBL	0.00	0	0	0	0

<i>Rumex acetosella</i>	NN	2	0.00	0.00	0.00	FACU	0.00	0	0	0	0
<i>Rumex crispus</i>	NN	2	0.00	0.00	0.00	FAC	0.00	0	0	0	0
<i>Rumex occidentalis</i> (= <i>R. aquaticus</i> var. <i>fenestratus</i>)	N	1	0.00	0.00	0.00	FACW	0.00	0	0	0	0
<i>Senecio jacobea</i>	NN	2	0.00	0.00	0.00	NI	0.00	0	0	0	0
<i>Senecio vulgaris</i>	NN	2	0.00	0.00	0.00	FACU	0.00	0	0	0	0
<i>Sidalcea campestris</i>	N	1	0.75	0.00	0.00	FACU	0.75	0	1	0	2
<i>Sidalcea nelsoniana</i>	N	1	5.75	0.00	0.00	FAC	5.75	12	10	1	0
<i>Sisyrinchium bellum</i>	N	1	0.00	0.00	0.00	FACW	0.00	0	0	0	0
<i>Sisyrinchium idahoense</i>	N	1	0.00	0.00	0.00	FACW	0.00	0	0	0	0
<i>Solidago elongata</i> (= <i>S. canadensis</i>)	N	1	0.50	0.00	0.00	FACU	0.50	0	1	0	1
<i>Sonchus asper</i>	NN	2	0.00	0.00	0.00	FACU	0.00	0	0	0	0
<i>Stellaria media</i>	NN	2	0.00	0.00	0.00	FACU	0.00	0	0	0	0
<i>Symphotrichum hallii</i> (= <i>Aster hallii</i>)	N	1	0.00	0.00	0.00	NI	0.00	0	0	0	0
<i>Symphotrichum subspicatum</i>	N	1	0.00	0.00	0.00	FACW	0.00	0	0	0	0
<i>Taraxacum officinale</i>	NN	2	0.00	0.00	0.00	FACU	0.00	0	0	0	0
<i>Trifolium hybridum</i>	NN	2	0.00	0.00	0.00	FAC	0.00	0	0	0	0
<i>Trifolium pratense</i>	NN	2	0.00	0.00	0.00	FACU	0.00	0	0	0	0
<i>Trifolium repens</i>	NN	2	0.00	0.00	0.00	FAC	0.00	0	0	0	0
<i>Triteleia hyacinthina</i>	N	1	0.00	0.00	0.00	FAC	0.00	0	0	0	0
<i>Veronica americana</i>	N	1	0.00	0.00	0.00	OBL	0.00	0	0	0	0
<i>Veronica arvensis</i>	NN	2	0.00	0.00	0.00	FACU	0.00	0	0	0	0
<i>Veronica peregrina</i>	NN	2	0.00	0.00	0.00	OBL	0.00	0	0	0	0
<i>Vicia hirsuta</i>	NN	2	0.00	2.00	0.00	NI	2.00	0	0	8	0
<i>Vicia sativa</i>	NN	2	0.00	0.00	0.00	UPL	0.00	0	0	0	0
<i>Vicia tetrasperma</i>	NN	2	0.00	0.00	0.00	NI	0.00	0	0	0	0

Native Herbaceous Species Cover - Average

39.75

Percent across all Upland Plots

Non-Native Herbaceous Species Cover - Average

16.75

Percent across all Upland Plots

Invasive Herbaceous Species Cover - Average

13.00

Percent across all Upland Plots

Grass Species

<i>Agrostis exarata</i>	N	1	0.00	0.00	0.00	FACW	0.00	0	0	0	0
<i>Agrostis stolonifera</i>	I	3	0.00	0.00	0.00	FAC	0.00	0	0	0	0
<i>Alopecurus geniculatus</i>	N	1	0.00	0.00	0.00	OBL	0.00	0	0	0	0
<i>Alopecurus pratensis</i>	I	3	0.00	0.00	0.00	FAC	0.00	0	0	0	0
<i>Anthoxanthum odoratum</i>	NN	2	0.00	2.75	0.00	FACU	2.75	0	1	2	8
<i>Beckmannia syzigachne</i>	N	1	0.00	0.00	0.00	OBL	0.00	0	0	0	0
<i>Bromus racemosus</i> (= <i>B. commutatus</i>)	NN	2	0.00	6.50	0.00	NI	6.50	1	10	5	10
<i>Bromus sterilis</i>	NN	2	0.00	0.00	0.00	NI	0.00	0	0	0	0
<i>Danthonia californica</i>	N	1	0.00	0.00	0.00	FAC	0.00	0	0	0	0
<i>Deschampsia caespitosa</i>	N	1	1.25	0.00	0.00	FACW	1.25	0	5	0	0
<i>Deschampsia danthonioides</i>	N	1	0.00	0.00	0.00	FACW	0.00	0	0	0	0
<i>Deschampsia elongata</i>	N	1	0.00	0.00	0.00	FACW	0.00	0	0	0	0
<i>Festuca roemerii</i> (= <i>F. idahoensis</i> in part)	N	1	0.00	0.00	0.00	NI	0.00	0	0	0	0
<i>Festuca rubra</i>	N	1	0.00	0.00	0.00	FAC	0.00	0	0	0	0
<i>Glyceria leptostachya</i>	N	1	0.00	0.00	0.00	OBL	0.00	0	0	0	0
<i>Glyceria x occidentalis</i>	N	1	0.00	0.00	0.00	OBL	0.00	0	0	0	0
<i>Holcus lanatus</i>	I	3	0.00	0.00	0.50	FAC	0.50	1	0	1	0
<i>Hordeum brachyantherum</i>	N	1	1.75	0.00	0.00	FACW	1.75	1	0	0	6
<i>Panicum</i> sp. (<i>Dichanthelium</i> ?)	N	1	0.00	0.00	0.00	NI	0.00	0	0	0	0
<i>Phalaris arundinacea</i>	I	3	0.00	0.00	0.00	FACW	0.00	0	0	0	0
<i>Poa annua</i>	NN	2	0.00	0.00	0.00	FAC	0.00	0	0	0	0
<i>Poa palustris</i>	NN	2	0.00	0.00	0.00	FAC	0.00	0	0	0	0
<i>Poa pratensis</i>	I	3	0.00	0.00	0.00	FAC	0.00	0	0	0	0
<i>Poa trivialis</i>	I	3	0.00	0.00	1.00	FAC	1.00	0	0	4	0
<i>Vulpia bromoides</i>	NN	2	0.00	2.00	0.00	FACU	2.00	2	0	2	4

Native Grass Species Cover - Average Percent

3.00

Percent across all Upland Plots

Non-Native Grass Species Cover - Average

11.25

Percent across all Upland Plots

Invasive Grass Species Cover - Average Percent

1.50

Percent across all Upland Plots

Total Percent Ground Cover

42.75

28.00

14.50

Bare Substrate (percent cover)

11.00

0

6

18

20

APPENDIX C

Percent Species Cover by Plot – Yearly Comparison

Foster Creek Wetland Bank

Percent Cover of species within wet prairie plots

(note: only wet prairie plots presented)

Yearly Comparison: 2013-2018

2013

	<i>Deschampsia caespitosa</i>	<i>Deschampsia elongata</i>	<i>Hordeum brachyantherum</i>	<i>Agrostis exarata</i>	<i>Achillea millifolium</i>	<i>Camus quamash</i>	<i>Epilobium brachycarpum</i>	<i>Epilobium densiflorum</i>	<i>Epilobium ciliatum</i>	<i>Geum macrophyllum</i>	<i>Sidalcea nelsoniana</i>	<i>Sidalcea campestris</i>	<i>Ranunculus occidentalis</i>	<i>Potentilla gracilis</i>	<i>Plectritis congesta</i>	Carex species	Juncus species
Average Percent Cover across all Plots	22.0	4.4	6.9	0.8	0.1	1.5	0.2	5.8	1.2	2.0	2.6	0.6	0.7	0.3	2.6	2.8	0.3
Percent occurring within all Plots	90	62	80	23	4	10	13	75	44	28	33	18	28	11	43	38	16

2014

	<i>Deschampsia caespitosa</i>	<i>Deschampsia elongata</i>	<i>Hordeum brachyantherum</i>	<i>Agrostis exarata</i>	<i>Achillea millifolium</i>	<i>Camus quamash</i>	<i>Epilobium brachycarpum</i>	<i>Epilobium densiflorum</i>	<i>Epilobium ciliatum</i>	<i>Geum macrophyllum</i>	<i>Sidalcea nelsoniana</i>	<i>Sidalcea campestris</i>	<i>Ranunculus occidentalis</i>	<i>Symphotrichum subspicatum</i>	<i>Potentilla gracilis</i>	<i>Plectritis congesta</i>	<i>Penstemon rydbergii</i>	Carex species	Juncus species
Average Percent Cover across all Plots	11.6	1.4	10.8	1.1	0.3	0.8	0.3	4.5	3.5	2.1	7.7	1.3	0.2	0.2	1.1	1.9	0.2	5.0	1.5
Trend	↓	↓	↑	↑	↑	↓	↑	↓	↑	↑	↑	↑	↓		↑	↓		↑	↑
Percent occurring within all Plots	68	14	78	23	14	24	11	72	73	28	57	22	14	8	34	41	9	38	24

2015

	<i>Deschampsia caespitosa</i>	<i>Deschampsia elongata</i>	<i>Hordeum brachyantherum</i>	<i>Agrostis exarata</i>	<i>Achillea millifolium</i>	<i>Camus quamash</i>	<i>Epilobium brachycarpum</i>	<i>Epilobium densiflorum</i>	<i>Epilobium ciliatum</i>	<i>Geum macrophyllum</i>	<i>Madia elegans</i>	<i>Sidalcea nelsoniana</i>	<i>Sidalcea campestris</i>	<i>Ranunculus occidentalis</i>	<i>Symphotrichum subspicatum</i>	<i>Sisyrinchium bellum</i>	<i>Potentilla gracilis</i>	<i>Plectritis congesta</i>	<i>Penstemon rydbergii</i>	Carex species	Juncus species	<i>Acmispon americanus</i>
Average Percent Cover across all Plots	8.3	0.2	8.4	0.3	0.6	1.1	0.4	3.0	1.1	1.5	3.1	14.3	1.1	0.6	0.9	0.5	1.6	5.1	0.4	5.8	1.1	0.3
Trend	↓	↓	↓	↓	↑	↑	↑	↓	↓	↓		↑	↓	↑	↑		↑	↑	↑	↑	↓	
Percent occurring within all Plots	43	8	73	6	14	29	17	66	44	24	43	76	11	22	27	24	42	58	8	41	30	5

2016

	<i>Deschampsia caespitosa</i>	<i>Deschampsia elongata</i>	<i>Hordeum brachyantherum</i>	<i>Agrostis exarata</i>	<i>Achillea millifolium</i>	<i>Camus quamash</i>	<i>Epilobium brachycarpum</i>	<i>Epilobium densiflorum</i>	<i>Epilobium ciliatum</i>	<i>Geum macrophyllum</i>	<i>Madia elegans</i>	<i>Sidalcea nelsoniana</i>	<i>Sidalcea campestris</i>	<i>Ranunculus occidentalis</i>	<i>Symphotrichum subspicatum</i>	<i>Sisyrinchium bellum</i>	<i>Potentilla gracilis</i>	<i>Plectritis congesta</i>	<i>Penstemon rydbergii</i>	Carex species	Juncus species	<i>Acmispon americanus</i>
Average Percent Cover across all Plots	7.1	0.2	9.0	0.0	1.3	1.8	0.8	3.1	0.3	3.3	6.1	16.3	1.5	0.4	2.4	0.9	2.7	2.8	0.9	9.0	1.0	0.9
Trend	↓	no change	↑	↓	↑	↑	↑	↑	↓	↑	↑	↑	↑	↓	↑	↑	↑	↓	↑	↑	↓	↑
Percent occurring within all Plots	48	9	75	0	22	31	8	42	16	30	45	83	16	21	23	17	34	47	10	43	16	11

2017

	<i>Deschampsia caespitosa</i>	<i>Deschampsia elongata</i>	<i>Hordeum brachyantherum</i>	<i>Agrostis exarata</i>	<i>Achillea millifolium</i>	<i>Camus quamash</i>	<i>Epilobium brachycarpum</i>	<i>Epilobium densiflorum</i>	<i>Epilobium ciliatum</i>	<i>Geum macrophyllum</i>	<i>Madia elegans</i>	<i>Sidalcea nelsoniana</i>	<i>Sidalcea campestris</i>	<i>Ranunculus occidentalis</i>	<i>Symphotrichum subspicatum</i>	<i>Sisyrinchium bellum</i>	<i>Potentilla gracilis</i>	<i>Plectritis congesta</i>	<i>Penstemon rydbergii</i>	Carex species	Juncus species	<i>Acmispon americanus</i>
Average Percent Cover across all Plots	10.5	0.1	4.7	0.2	0.5	1.6	0.1	3.5	1.5	3.3	2.5	13.1	1.9	0.3	4.0	0.6	2.7	1.8	1.0	9.4	1.8	2.3
Trend	↑	↓	↓	↑	↓	↓	↓	↑	↑	no change	↓	↓	↑	↓	↑	↓	no change	↓	↑	↑	↑	↑
Percent occurring within all Plots	57	3	46	0	13	26	5	57	33	29	37	84	16	16	32	18	43	46	11	53	28	20

2018

	<i>Deschampsia caespitosa</i>	<i>Deschampsia elongata</i>	<i>Hordeum brachyantherum</i>	<i>Agrostis exarata</i>	<i>Achillea millifolium</i>	<i>Camus quamash</i>	<i>Epilobium brachycarpum</i>	<i>Epilobium densiflorum</i>	<i>Epilobium ciliatum</i>	<i>Geum macrophyllum</i>	<i>Madia elegans</i>	<i>Sidalcea nelsoniana</i>	<i>Sidalcea campestris</i>	<i>Ranunculus occidentalis</i>	<i>Symphotrichum subspicatum</i>	<i>Sisyrinchium bellum</i>	<i>Potentilla gracilis</i>	<i>Plectritis congesta</i>	<i>Penstemon rydbergii</i>	Carex species	Juncus species	<i>Acmispon americanus</i>
Average Percent Cover across all Plots	9.6	0.5	3.8	0.1	0.3	2.2	0.1	2.0	0.3	2.2	6.0	10.2	0.9	0.3	3.3	0.4	3.1	2.3	1.7	8.4	2.9	4.0
Trend	↓	↓	↓	↓	↓	↑	no change	↓	↓	↓	↑	↓	↓	no change	↓	↓	↑	↑	↑	↓	↑	↑
Percent occurring within all Plots	57	4	52	5	10	29	6	41	18	25	46	80	15	15	30	19	38	42	15	82	30	39

Note: “↑ ↓” indicates percent cover trend increasing (↑) or decreasing (↓) from previous year