

Mitigation Monitoring Report Cover Sheet
Oregon Department of State Lands

Block 1: Report Information

DSL Permit Number: 36703 COE Permit Number: *Nationwide Permit 27 -#200500701*
 Permittee: *Gilmour*
 County: *Benton* Report Date: July 15, 2009 Monitoring Year 3
 Date Removal-Fill Activity Completed:
 Date mitigation was completed Grading: *10/06* Planting: *5/07, 10/07*
 Report submitted by: Oregon Wetlands LLC

Block 2: Monitoring Report Purpose

This monitoring report is for monitoring a project that includes: (check all that apply):

- X Compensatory **freshwater** wetland mitigation for permanent wetland impacts.
- NA Compensatory **estuarine** wetland mitigation for permanent wetland impacts.
Only non-wetland compensatory mitigation.
Only mitigation for temporary impacts that has a monitoring requirement.
 Voluntary wetland enhancement, creation or restoration (General authorization or individual permit) not funded with money from our wetland mitigation revolving fund.
 Voluntary wetland enhancement, creation or restoration (General authorization or individual permit) funded with money from **our wetland mitigation revolving fund.**
- X **Mitigation Bank** Report
 Other: _____

Block 3: Results

	Success Criteria	Met? (Y/N)	Comments/Reasons for Failure*
1.	Emergent Herbaceous	3 of 3 requirements	
2.	Wetgrass Prairie	5 of 6 requirements	Moisture index is 1.93, slightly wetter than the 2-3 goal.
3.	Shrub and Forest Restoration	6 of 6 requirements	
4.	Forest - Enhanced	2 of 2 On-track	Year 5 performance standard
5.	Hydrology - Water Monitoring Tubes	1 of 1 requirements	
6.	Hydrology - Delineation	1 of 1 requirements	
7.			

Remedial work recommended	Yes	No X
Deed Restriction or other protection instrument attached (noted: if a filed deed restriction was a required as a permit condition, please attach a copy):		
<i>previously submitted</i>	Yes	No
Final Monitoring Report?	Yes	No X
Requesting release or partial release of bond/credits	Yes X	No

*see section 8.0 Credit Sales Summary

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1.0 REGULATORY BACKGROUND

The purpose of this report is to summarize the progress of the Evergreen Creek Wetland Mitigation Bank (Bank). The Bank is located on the west side of Bellfountain Road, at the intersection of Bellfountain and 53rd Street in T12S, R5W, Sec. 19, Tax Lot 700. The letter of approval for the Bank was signed on February 27, 2007 and is permitted as ACOE permit #200500701.

The Bank is 174.52 acres, which includes a combination of enhancement of cropped wetland (161.5 acres), enhancement of remnant ash and shrub/scrub riparian area (13.4 acres). The total potential credits produced include:

<u>Type of Credit</u>	<u>Acres</u>	<u>Ratio</u>	<u>Credits</u>
Cropped Wetland Enhancement	161.12	2:1	80.31
Enhancement	13.4	3:1	4.46
Total	174.52 acres		84.77
Credits Used for Graveled Parking Area			<u>(0.25)</u>
Total Credits Produced			84.52 credits

2.0 WORK SUMMARY

Work in the summer (July) 2008 following monitoring began with mowing of all levees, 2/3 of prairie, and bailing and removing straw from SW prairie for forbs planting. In late August, all tree and shrub rows were mowed to aid in weed control efforts the following spring. In September, all borders and existing forested areas were spot herbicide treated for non-natives. All remaining unplanted tree and shrub rows were no-till planted in October just prior to fall rains. A diverse mix of native forbs species were planted during November in ~25 acres of the SW prairie. Prior to winter rains, work trails were mowed in the existing forested area to aid in spot treatment on non-natives.

Beginning in early March, efforts concentrated on covering all older prairie areas to spot treat unwanted species before native grasses got tall and inhibited detection. All prairie areas were walked at least two times targeting velvet grass, annual ryegrass, rough-stalk bluegrass, annual blue grass, and any other non-natives encountered. The existing forested area was periodically spot treated throughout the season, with St. John's wart and curly dock being the main targets. All tree and shrub plantings were walked weekly to spot treat any invading species, Canadian thistles, prickly lettuce, and sow thistles were the primary targets.

As spring moved on focus shifted towards patrolling the emergent draw down zones for optimistic species such as spatula-leaf loosestrife and penny royal. The prairie areas on the North side of the site, and a 60ft band along the South and West boundary were broadleaf herbicide treated when conditions were favorable. All borders were spot treated for non-natives to prevent these species from entering the site. Through June, areas where forbs and grasses were planted together and tree/shrub rows were walked weekly for newly emerging non-natives, with prickly lettuce, sow thistles, and dandelions being the main targets.

Table 1 - Summary of Restoration Activities at Evergreen Mitigation Bank from July 2008 through June 2009

Activity	Location
Site Preparation	Ongoing on borders
Existing forested vegetation treatment	All non-native vegetation treated (on-going)
Prairie seeding	A diverse mix of forbs were planted in ~25 acres of the SW prairie
Tree/shrub herbaceous planting	Remaining rows were plant with a grass/forbs mix
Spot weed control	100% of mitigation bank area (on going)
Broadleaf weed control	North wet prairie areas, and 60ft band along south and west borders
Mowing	Forested trail, all levees (fall 2008), 2/3 of prairie areas, and following bailing of SW prairie prior to forbs planting

3.0 AS-BUILT PLANS

The as-built plans were submitted within 60 days of grading as specified in the final instrument.

4.0 HYDROLOGY PERFORMANCE STANDARDS, METHODOLOGY, AND RESULTS

4.1 PERFORMANCE STANDARDS

Wetland hydrology sufficient to meet the criteria defined in the 1987 Corps of Engineers Wetland Delineation Manual (1987 Wetland Delineation Manual), will be present in at least three out of five years if the weather records are close to normal and no irrigation is supplied. Water depth and depth of saturation will be evaluated throughout the site using a combination of monitoring wells and a one time hydrology and vegetation delineation designed to meet the requirements of the 1987 Wetland Delineation Manual. The soil parameter is expected to be disturbed by the proposed grading, therefore lock of hydric soils indicators will not be interpreted as disqualifying a plot as wetland.

4.2 METHODOLOGY:

Water Monitoring Tubes: Ten (number of tubes will be driven by the site conditions, following bank grading) groundwater monitoring tubes will be constructed and monitored to show the duration of saturation. Tube monitoring data shall be collected three times between approximately March 1 and May 30 to demonstrate sufficient duration of wetness to meet the 1987 Wetland Delineation Manual. The monitoring report will also include precipitation date for the monitoring period from the nearest recording station. The locations of the monitoring tubes will be representative of the hydrological variation on site to prove duration of saturation needed to meet the 87 Manual criteria. These will be included on the as-built drawings.

Delineation: Paired plots concentrating along the wetland boundary, for any plots dominated by upland vegetation, and in any high areas will be utilized to indicate the exact location of the wetland boundary. The paired plots will be evaluated using soil probes or pits. This will be done to document that wetland hydrology has been achieved throughout the site. In addition to plot data, these areas will be visually documented with photographs to show a dominance of wetland species. The wetland boundary will then be displayed on a site map to confirm acreage achieving the performance standard.

4.3 RESULTS

Water Monitoring Tubes: Ten monitoring tubes were installed and monitored in March, April and May 2009. The results (table 2) of the monitoring indicate that 100% of the planned Bank area is meeting wetland hydrology criteria with the entire Bank area having saturated soils. Saturation levels were determined by digging 18” pits adjacent to each monitoring tube. Each pit was then evaluated for depth to free water and saturation level in it.

Table 2 - 2009 Hydrology Monitoring Tube Results

Well #	3/16/2009		4/13/2009		5/8/2009	
	Depth to Free Water*	Depth to Saturation	Depth to Free Water*	Depth to Saturation	Depth to Free Water*	Depth to Saturation
1	Surface	Surface	Surface	Surface	Surface	Surface
2	[+16"]	Inundated	[+16"]	Inundated	[+16"]	Inundated
3	[+1.5"]	Inundated	[-3"]	Surface	Surface	Surface
4	[-3"]	Surface	[-10"]	[-7"]	[-13"]	[-10"]
5	[-1"]	Surface	[-2"]	Surface	[-2"]	Surface
6	[+6"]	Inundated	[+6"]	Inundated	[+6"]	Inundated
7	[-3"]	Surface	[-4"]	[-1.5"]	[-4"]	[-2"]
8	[-2"]	Surface	[-2.5"]	Surface	[-2"]	Surface
9	Surface	Surface	Surface	Surface	Surface	Surface
10	[-2"]	Surface	[-1"]	Surface	[-4"]	[-1.5"]

*measured from ground surface

Required: Three monitoring dates to be used to demonstrate sufficient duration of wetness to meet the 1987 Wetland Delineation Manual. ***Met – wetland hydrology was met in three consecutive readings of the monitoring tubes.***

Delineation: A hydrology delineation was conducted on March 20, 2009 by Ray Fiori and Marvin Gilmour, with assistance from Patrick S. Thompson Consulting. The delineation involved digging holes in the higher areas of the Bank including the top of each berm, to ascertain that wetland hydrology was present throughout the entire site. Four additional pits were added from last year adjacent to the driest monitoring tubes (#4, #7) per DSL request. The data holes were visually documented with photographs and vegetation data was collected in a one meter quadrant starting at the northwest corner of the hole. The hydrology results are summarized in table 3, delineation data hole photos are included as Attachment 1, delineation data is included as Attachment 2, and the hydrology monitoring point location map is included as Attachment 3.

Table 3 - 2009 Delineation Pit Results

Pit #	Free Water (in)*	Depth of Saturation (in.)
1	[-7"]	[-4"]
2	[-8"]	[-5"]
3	[-6"]	[-3.5"]
4	[-5.5"]	[-3"]
5	[-10"]	[-7"]
6	[-2"]	Surface
7	[-7.5"]	[-5"]
8	[-11"]	[-8"]
9	[-7"]	[-4"]
10	[-7"]	[-4"]
11	[-11"]	[-8"]
12	[-6"]	[-3"]
13	[-4"]	[-1"]
14	[-2"]	Surface

*measured from ground surface

Required: One time hydrology and vegetation delineation will be completed, documented with plot data, photos, and climate information and displayed on a map. *Met – hydrology delineation indicted all high areas met wetland hydrology criteria. Plot data, photos, climate data and map locations are all included.*

Climate Data: Precipitation data for this location was obtained through the AgriMet agricultural weather network, run by the Bureau of Reclamation in Corvallis, Oregon. Records indicate it was a below average precipitation year, with normal water year precipitation being 34.12” for this location through March, but only 21.19” was recorded.

Although overall rainfall was below average, isolated high intensity precipitation events were frequent throughout the spring, and early hydrology monitoring was close to normal. Heavy late spring precipitation events resulted in near steady free water/saturation levels throughout the monitoring period, which typically starts to taper off by mid-April.

Below is a table depicting the monthly average precipitation data from the WETS data with the actual precipitation received, and the precipitation for the day of and the 2 weeks immediately preceding the delineation.

	Corvallis- AgriMet Corvallis Station	WETS Tables
January	3.00 inches	6.46 inches
February	3.24 inches	5.71 inches
March	3.42 inches	4.49 inches
March 20th	Trace	
March 6th-19th	1.57 inches	

5.0 VEGETATION PERFORMANCE STANDARDS, METHODOLOGY AND RESULTS

5.1. Performance Standards

Emergent Herbaceous

1. A minimum of 55% of the relative plant cover (including bare soil) is comprised of native species.
2. No more than 15% of the relative plant cover is comprised of non-native invasive species as define below.
3. The wetland's moisture index is less than 3.0.

*Non-native invasive species to be included: reed canary grass (*Phalaris arundinacea*), purple loosestrife (*Lythrum salicaria*), Himalayan blackberry (*Rubus discolor*), and Japanese knotweed (*Polygonum cuspidatum*), Eurasian water milfoil (*Myriophyllum spicatum*), climbing nightshade (*solanium dulcamara*) (and yellow-flag iris (*Iris pseudacorus*), Anne's lace (*Daucus carota*), Canadian thistle (*Cirsium arvense*), bull thistle (*Cirsium vulgare*), orchard grass (*Dactylis glomerata*) and annual ryegrass (*Lolium multiflorum*) or others as determined by the MBRT.

Wetland Prairie

The above performance standard along with the following:

1. At least 10 wetgrass prairie species are present as listed in "Species Composition for Willamette Valley Vegetation Types" by Kathy Pendergrass, August 2003, *supplied by John Marshall (USFWS) author of Draft Guidance on Vegetation Performance Standard and Monitoring Protocols for Reference Sites and Mitigation Sites*" to enhance Appendix II of this document.
 - 2. Tufted hairgrass (*Deschampsia cespitosa*) is represented by 25% or greater relative plant cover.
 - 3. At least 50% of the relative plant cover (including bare soil) is comprised of native species.
4. No more than 15% of the relative plant cover is comprised of non-native invasive species as define above.
5. The prairie's moisture index is between 2.0 and 3.0.
6. No more than 5% relative plant cover by shrubs or trees.

Shrub and Forest - Restoration

By the end of the second growing season, the newly planted shrub and forest component of the wetland will meet or exceed 75% of the species richness of the reference site (excluding non-native invasive species). The plant density in forested and shrub/scrub wetlands will be at least 80% of the reference site, of species that are rated FAC or wetter, excluding FAC- species. This must be achieved by the end of the second growing season following planting and maintained through the end of the monitoring period until trees and shrubs are established and free to grow. There will be no more than 15% aerial coverage of non-native invasive species*. These densities will be a combination of planted individuals and natural recruitment.

In addition, the herbaceous layer in the forest and shrub areas, will meet or exceed the performance standards for emergent herbaceous wetlands as stated above.

Forest and scrub/shrub - Enhanced

Year five performance standard for the enhanced forested wetland will be to maintain the existing wetland forest and scrub/shrub layers while managing for no more than 15% of non-native invasive species*.

5.2 Methodology

A stratified, systematic plot method was used to conduct vegetation sampling in all areas except the enhanced forest. Vegetation data was collected at each of 103 sample points that had been pre-determined and plotted along 6 transects. The monitoring point location map is included as Attachment 4. Each transect crosses the entire wetland (north to south) and they are located approximately 400 feet apart (north-south). Sampling plots were then located at 200 foot intervals along each transect. Herbaceous data was collected using 1-meter quadrants of the NW corner of each plot, and tree and shrub data was collected in 30' diameter around plots. In the enhanced forest areas, four 50 ft square plots were marked, with the percent cover of non-native invasive species determined. The four plots were picked at random, two on each side of the Evergreen Creek. Extensive knowledge of the forested areas by the monitoring crew confirms that these four plots were representative of the entire area.

5.3 VEGETATION MONITORING RESULTS

Vegetation monitoring was conducted on June 24, 2009 by Ray Fiori and Marvin Gilmour. Attachment 5 includes spread sheets with the results of the sampling. The spread sheets include a complete listing of all plant species identified in the monitoring plots. 103 monitoring plots were examined. The data spread sheets include the botanical names, common names, indicator status, origin (native or non-native), moisture index, and percent cover for each species. During the May 2007 monitoring, 48 plant species were identified in the Bank, with 43 natives. During the May 2008 monitoring, 55 plant species were identified within the plots and of these 50 were native. In June of 2009 55 plant species were identified within the plots and of these 52 were native. The low occurrence and cover of invasive and non-native species on site is a reflection of the continued effectiveness of site preparation, monitoring, establishment, care and spot treatment that the Bank sponsors continue. During the analysis of the data and the request of DSL, plots #35, #75 and #81 were listed with emergent plots this year rather than prairie. In addition, during discussions at the 2008 site visit, USFWS recommended to map the area encompassed by plot 13 as scrub/shrub, since it was slightly larger than a ¼ acres, and recruitment of a willow thicket was well under way, which is reflected in the mapping and data. In 2008, 5% of the requested credit release was held back due to several areas that were just planted the previous fall. These areas have since caught up with the rest of the vegetation and are represented in plots 16, 35, 40, 44 and 45. Plots 100, 101, 102, and 103 represent the forest enhanced area. These plots were surveyed during monitoring and no non-native, invasives were present, so there was no need to add them to the spreadsheet.

5.3.1 Emergent Vegetation

The native herbaceous cover (including bare ground/open water) averaged 83% in 2008 and increased to 97.92% in 2009. There were no non-native, invasive species and only 2.08% non-native cover. The amount of open water decreased since last year when it averaged 43.3% and this year decreased to 3.8% and bare ground increased from 0.45% in 2008 to 3.33% in 2009. The open water/bareground percentages will vary widely depending on the timing of the monitoring and spring precipitation timing and intensity.

All three of the performance criteria for **emergent herbaceous** vegetation were met.

Required: At least 55% of the relative plant cover (including bare soil) is comprised of native species -- *Met, with 97.92% of the relative plant cover including bare soil/open water being native species.*

Required: No more than 15% of the relative plant cover is comprised of non-native invasive species --*Met with no non-native invasive species.*

Required: The wetland's moisture index is less than 3 --*Met with an average moisture index of 1.09.*

5.3.2 Wetland Prairie

Native herbaceous cover averaged 88% (including bareland) throughout the wet prairie area and of the vegetation itself, 99% were native species in 2008. In 2009 native herbaceous cover averaged 99.2% (including bareland) throughout the wet prairie area and of the vegetation itself, 99.15% were native species. Bareland represented 4.8% cover in 2009, reduced from the 11.39% cover in 2008. Non-native, invasives (Annual ryegrass) only represented 0.10% cover, while other non-natives represented 0.70%. Annual ryegrass was problematic in the first year of establishment, but through hard work and preventing this species from reproducing, it was only found in one plot this year where it represented 5.0% cover.

The sponsors have continued to conduct almost daily site visits hoeing and spot spraying for undesirable species. Beginning in early March, efforts concentrated on covering all older prairie areas to spot treat unwanted species before native grasses got tall and inhibited detection. All prairie areas were walked at least two times targeting velvet grass, annual ryegrass, rough-stalk bluegrass, annual blue grass, and any other non-natives encountered.

In the fall of 2008 a diverse assemblage of native wetland forbs species were planted in 25 acres of the SW prairie area. This area starts at the parking areas and creates an "L" shape following the south and west borders. The vast majority of these species were perennials, and are expected to establish through the summer and fall, and begin reproducing in 2010, with full establishment by 2011.

The performance criteria for **wetland prairie** was met for 5 of the 6 requirements. The only requirement not met was the moisture index which was slightly below the target at 1.92. The moisture index issue is partially related to the mapping of habitat types by John Marshall and

Ray Fiori. Due to the size and topographical diversity of the site, and only mapping areas with visible water as emergent marsh, mapping didn't take into account all the micro habitats that support obligate wetland species, thus lowering the moisture index. In addition, many of the species on the prairie cohort list are either obligate or facultative wetland species, so it seems that a more appropriate target moisture index would be 1.5-2.5 as if your approaching 3, your species composition would contain many facultative upland species.

Required: At least 10 wetgrass prairie species are present as listed in "Species Composition for Willamette Valley Vegetation Types" by Kathy Pendergrass. In conversations with John Marshall (USF&W) (Date, 2008) it was agreed upon to include the vernal pool species from this same source in the 10 required species, and this is reflected in the wetland prairie cohort species list as well. **Met.** *Sixteen wet grass prairie and vernal pool species were identified within the prairie plots.*

Required: Tufted hairgrass (*Deschampsia cespitosa*) is represented by 25% or greater relative plant cover. **Met.** *Tufted hairgrass represented an average cover of 35.80%.*

Required: At least 50% of the relative plant cover (including bare soil) is comprised of native species. **Met.** *Non-natives and non-native invasives combined for 0.80%, leaving the native percentage to 99.2%. If bare ground (6.0%) is removed from the native cover, its reduced to 93.2%*

Required: No more that 15% of the relative plant cover is comprised of non-native invasive species. **Met,** *with only 0.10% cover of non-native invasive species (annual ryegrass). Non-natives and non-native invasives combined for 0.80%.*

Required: The wetland prairie moisture index is between 2.0 and 3.0. **Not Met.** *The average moisture index of the prairie plots ranged from 1.33 to 2.71, the average moisture index is slightly low at 1.93. This can partially be explained by the way habitat types are displayed, the numerous microhabitats within the prairie, the lack of facultative upland species (only 1), .and the presence of obligate prairie cohort species.*

Required: No more than 5% relative plant cover is comprised of shrubs or trees. **Met.** *Plots # 51 and #82 both contained planted and volunteer tree and shrub species. Both of these plots are at the edge of the wet prairie and forested portions so the forested area fell within the 30ft diameter tree/shrub sampling.*

5.3.3 Forest Enhanced

Required: Year five performance standard. The existing stem density of the native wetland forest and shrub species will be maintained. **On-track** *no native wetland trees or shrubs have been removed.*

Required: Year five performance standard. There will be no more than 15% aerial coverage of non-native invasive species. **On-track** *with no non-native invasive species.*

5.3.4 Shrub and Forest Restoration

Species richness for woody plants exceeded the reference site. Four species were found in the reference site and 13 were found in the restoration area. Ponderosa pine (*Pinus ponderosa*) exists on site, however, it does not show up in a monitoring plots.

The reference site stem density is 535 trees and shrubs per acre. The planted plots showed an average stem density of 4.7 trees per plot and 12.72 shrubs per plot (Fac or wetter). This equates to a stocking density of 1073 stems per acre. Plot 13 was added to the scrub/shrub sampling this year, as the small area (.25 acres) around this plot is being managed for that habitat (mapped out this year) to increase the habitat complexity on the site. This plot is 95% aerial coverage of Pacific willow, which equates to a stem count of 150 which skews the overall stem count. If this plot is left out of the equation, average shrubs per plot drops to 7 which equates to an overall stocking density of 721 stems per acre (Fac or wetter).

This is a significant overall increase from the 2008 monitoring. It should be noted, that many plots contained seedling trees and shrubs in 2008. During the 2008 site visit it was discussed that these seedlings should not be counted until they are at least 18" tall (2-3 years old), which some reached that point this year and were counted.

Required: The shrub and forest component will meet or exceed 75% of the species richness of the reference site (excluding non native invasive species). **Met** with 13 overstory and shrub species identified in the bank compared to 4 in the reference site.

Required: Plant density will be at least 80% of the reference site with FAC or wetter. **Met**, fac or wetter woody stem density is 721 stems per acre, (excluding #13) which exceeds 80% of the reference site which has 535 stems per acre ($535 \times 80\% = 428$).

Required: There will be no more than 15% aerial coverage of non-native invasive species. **Met**, with 0% of non-native invasive species.

The herbaceous layer in the shrub and forest restoration area will meet or exceed the following year 2 emergent habitat performance standards.

Required: At least 55% of the relative plant cover (including bare soil) is comprised of native species. **Met** with an average of 100% native herbaceous plant cover. Bare ground represented 4.8% this year

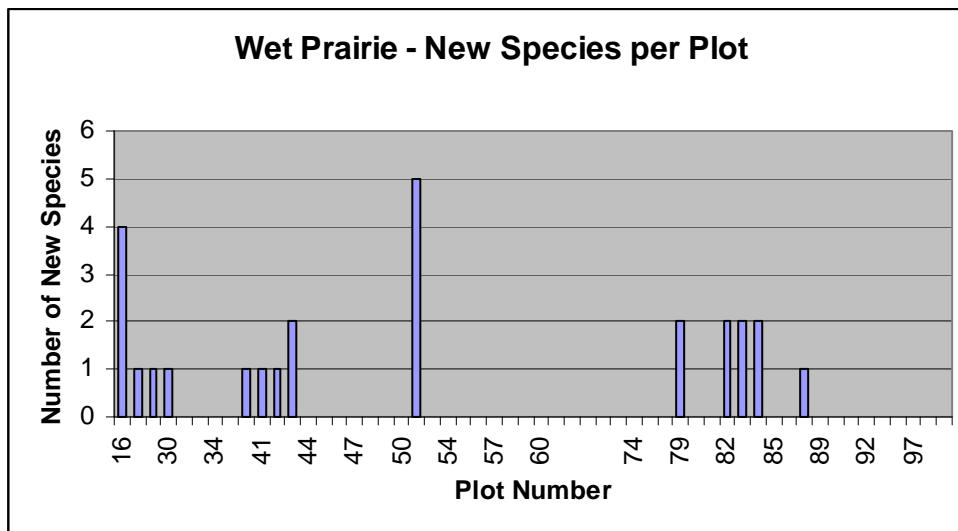
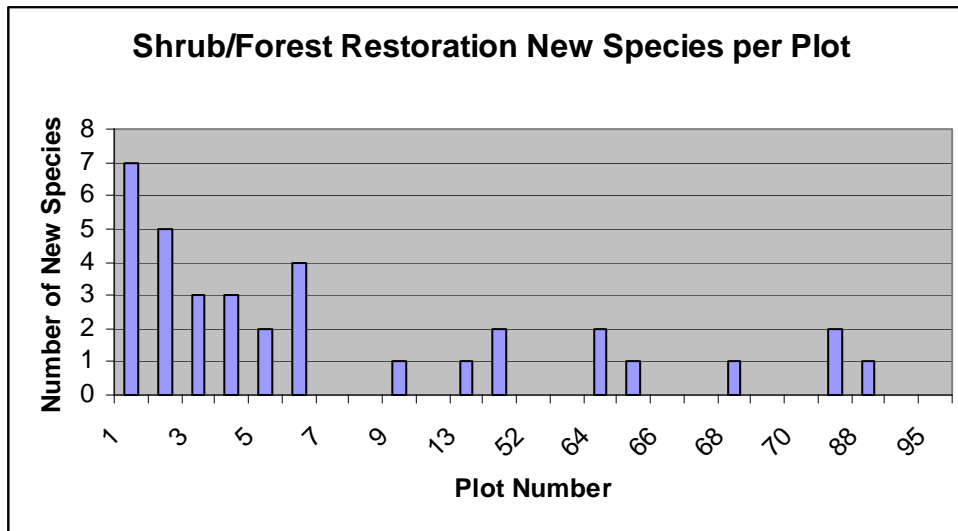
Required: No more that 15% of the relative plant cover is comprised of non-native invasive species. **Met** with 0% of non-native invasive species.

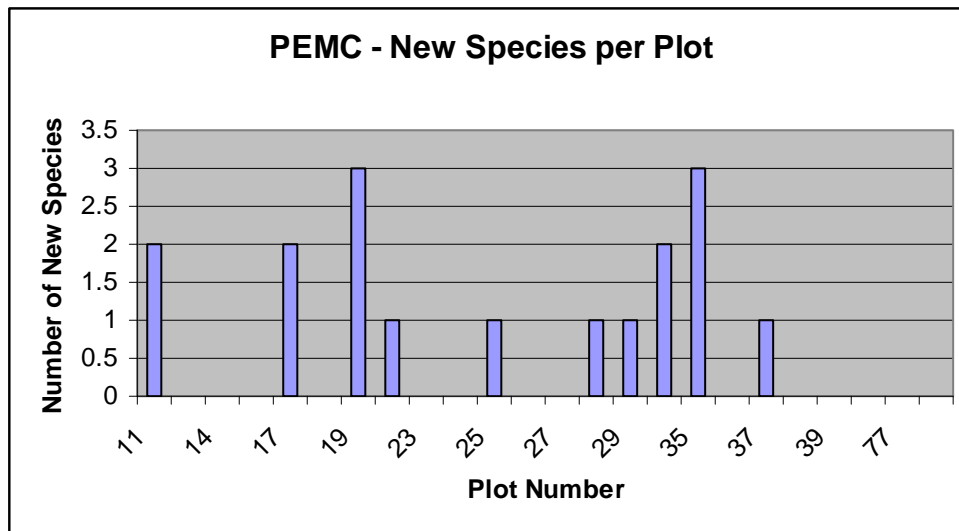
Required: The wetland's moisture index is less than 3. **Met** with an average moisture index of 1.92.

6.0 SPECIES AREA CURVE

The species area curves for each of the major wetland types are included. It was the original plan to develop the species area curve for each of the habitat types and then analyze the data. The evaluating criteria was that after the curve flattens out it would be deemed a sufficient number of plots when there are three plots in a row, with one or fewer new species. A minimum of 50 plots were established.

The data on the 103 monitoring plots indicates that there is extensive plant diversity on the site. The curves for all habitat types is flattening out towards the end, which means there is a sufficient number of plots.





7.0 PHOTO POINT MONITORING

Photos from the photo points are included as Attachment 6, map of photo point locations is located in Attachment 4. Photos were taken on 5/14/2009.

8.0 CREDIT SALES SUMMARY

An initial 25.467 credits (30%) were released in February 2007, due to meeting all the requirements for Release #1.

Release 1 (Fall/Winter 2006): Up to 30 percent upon submission of the grading as-built, submission of a copy of the financial assurance, Restrictive Covenant, submission of financial assurance and the MBRT conducts a field inspection.

An additional 29.62 credits (35%) were released in September 2008, due to meeting all the requirements for a total release of 55.02 credits (65%). 5% of release 3 was held back to verify that a small part of the bank that was re-planted was going to be successful, which is represented in plot #'s 16, 35, 40, 44 and 45.

Release 2 (Spring/Summer 2007): Up to 20 percent upon demonstration of all performance measures being achieved and delineation of acreage meeting the 1987 Wetland Delineation Manual hydrology (if weather conditions are close to normal).

Release 3 (Spring/Summer 2008): Up to 20 percent upon demonstration of all performance measures being.

We feel with the submission of this monitoring report we have shown that all the performance measures have been met and we are requesting that an additional 25% of the total available credits be released (84.52x 25%), for an additional 21.048 credit release. This would be a combined total release of 76.068 credits to date (based on 2008 revised ledger, release 4 will be slightly less than 25%).

Release 4 (Spring/Summer 2009): Up to 20 percent upon demonstration of all performance measures being.

Table 4 is a summary of the credit sales to date.

Table 4 - Evergreen Credit Sales Summary

<i>DATE</i>	<i>NAME</i>	<i>LOCATION</i>	<i>DSL</i>	<i>CORP</i>	<i>ADDED</i>	<i>SOLD</i>	<i>BALANCE</i>
2/27/07	CORPS/DSL INITIAL RELEASE- 30% CREDITS						
			Permit Number		25.467		25.467
3/20/07	WSS, LLC	Hill Street Subdivision, Albany	37470	2006- 910		3.9	21.567
5/7/07	DR Horton	Benton Woods	37557 -RF	2006- 930		2.5	19.067
9/27/07	City of Albany	COA 53rd Ave Park	39021 -RF	2007- 751		0.14	18.927
5/10/07	Greater Albany Public School	Knox Butte Road School Site	38849 -RF	2007- 582		1.26	17.667
12/10/07	Weirich Drive Development, LLC	Weirich Drive	39237 -RF			0.1	17.567
3/20/08	ODOT	Wren Hill	730	199400 929		1	16.567
3/24/08	Greater Albany Public School	Knox Butte Road School Site	38849 -RF	2007- 0582		0.34	16.227
4/1/08	Greater Albany Public School	Knox Butte Road School Site	38849 -RF	2007- 0582		0.04	16.187
9/8/08	CORPS/DSL 2nd & 3rd RELEASE- 35% CREDITS				29.62		45.807
4/29/09	Hyland Business Park LLC	Intersection of 31 st St and Commercial St, Springfield	31129 -FP & FP- 7343	1997- 00294		1.9	43.907
Total Sold						11.18	

Attachment 1 – Delineation Photos

Evergreen 2008 Wetland Delineation photos

Pit # 1



Pit # 2



Pit # 3



Pit # 4



Pit # 5



Pit # 6



Pit # 7



Pit # 8



Pit # 9



Pit # 10



Pit # 11



Pit # 12



Pit # 13



Pit # 14



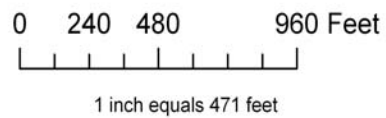
Attachment 2 – Wetland Delineation Data 03/20/2009

Pit #	Free Water (in)	Depth of Saturation (in.)	Species 1	% cover	Species 2	% cover	Species 3	% cover	Species 4	% cover	Species 5	% cover	Species 6	% cover
1	[-7"]	[-4"]	Tufted hair grass	70	Meadow Barley	10	Bare Ground	20		0		0		0
2	[-8"]	[-5"]	Tufted hair grass	90	Bare Ground	10		0		0		0		0
3	[-6"]	[-3.5"]	Tufted hair grass	70	Meadow Barley	20	Bare Ground	10		0		0		0
4	[-5.5"]	[-3"]	Tufted hair grass	60	Spike bent grass	10	Meadow Barley	15	Bare Ground	15		0		0
5	[-10"]	[-7"]	Tufted hair grass	50	Meadow Barley	10	Spike bent grass	10	Bare Ground	30		0		0
6	[-2"]	Surface	Tufted hair grass	60	Spike bent grass	20	Bare Ground	20		0		0		0
7	[-7.5"]	[-5"]	Tufted hair grass	70	Meadow Barley	15	Bare Ground	15		0		0		0
8	[-11"]	[-8"]	Tufted hair grass	10	Meadow Barley	30	Bi-color Lupine	15	Toad rush	15	Watson's willow herb	5	Bare Ground	25

9	[-7"]	[-4"]	Tufted hair grass	50	Meadow Barley	10	Bare Ground	30		0	dense spike primrose	10		0
10	[-7"]	[-4"]	Meadow Barley	50	Watson's willow herb	5	Bare Ground	40		0	dense spike primrose	5		0
11	[-11"]	[-8"]	Tufted hair grass	35	Meadow Barley	35	Spike bent grass	10	Bare Ground	20		0		0
12	[-6"]	[-3"]	Tufted hair grass	20	Meadow Barley	50	Spike bent grass	10	Bare Ground	20		0		0
13	[-4"]	[-1"]	Tufted hair grass	25	Meadow Barley	55	Bare Ground	20		0		0		0
14	[-2"]	Surface	Tufted hair grass	15	Spike bent grass	10	Meadow Barley	50	Bare Ground	25		0		0

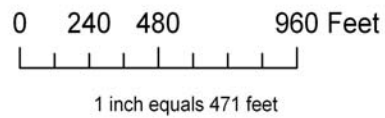
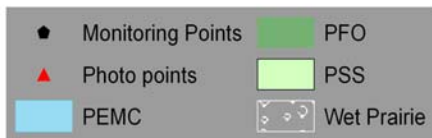
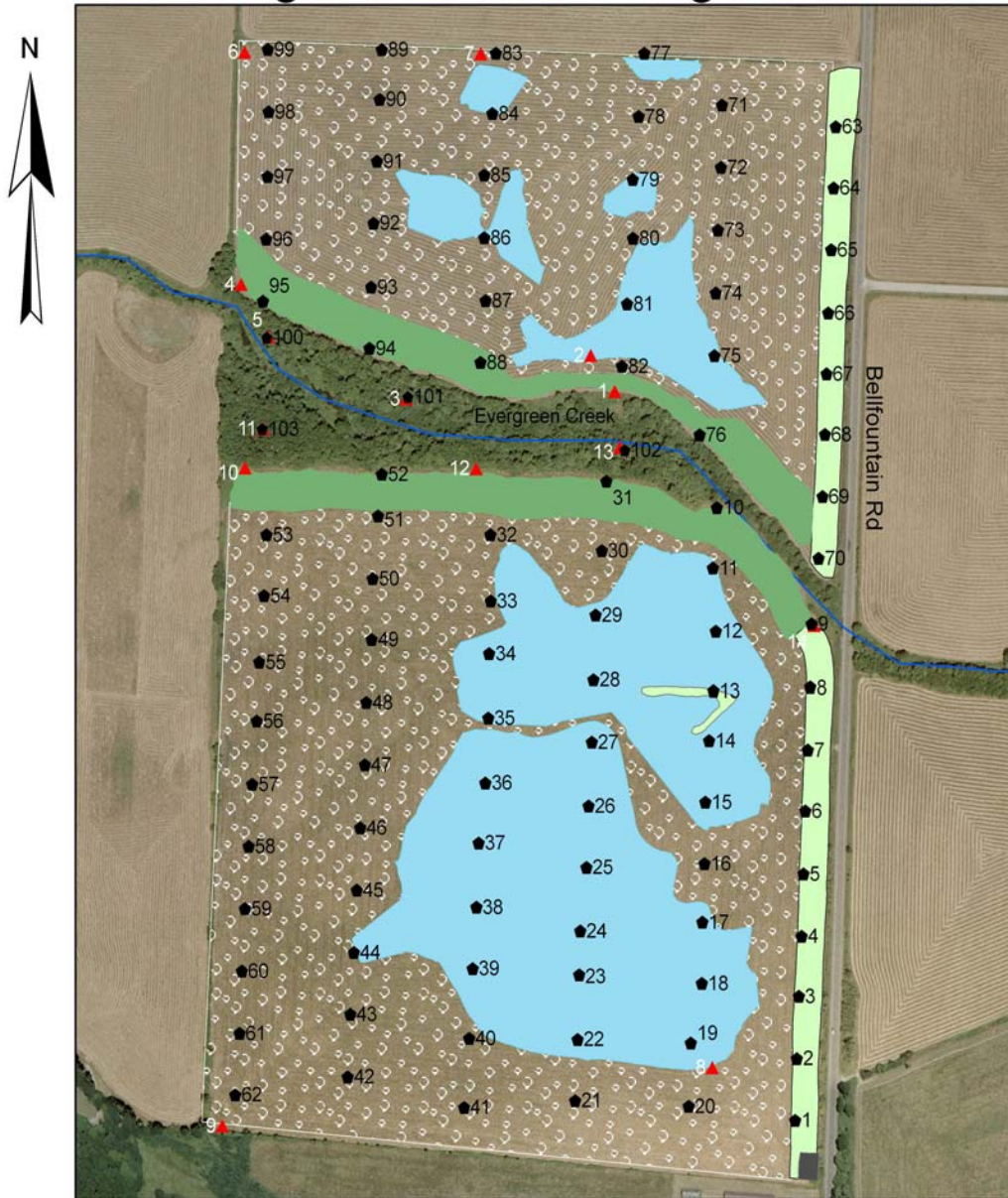
Attachment 3 – Hydrological Monitoring Point Map

Evergreen Mitigation Bank Hydrological Monitoring Points



Attachment 4 – Photo and Vegetation Monitoring Point Map

Evergreen Mitigation Bank Photo and Vegetation Monitoring Points



Evergreen Wetland Mitigation Bank

Plant Species List

June 24, 2009

Includes all species identified in and immediately adjacent to monitoring plots, except does not include herbaceous species in the enhanced forest

Common Name		Status	Origin	Wet Prairie Cohort Species	Moisture Index
Overstory Species					
<i>Alnus rhombifolia</i>	White alder	FAC	native		3
<i>Fraxinus latifolia</i>	Oregon ash	FACW	native		2
<i>Malus fusca</i>	Flowering crabapple	FACW	native		2
<i>Populus trichocarpa</i>	Black cottonwood	FAC	native		3
Scrub/Shrub Species					
<i>Amelanchier alnifolia</i>	Service berry	FACU	native		4
<i>Cornus sericea</i>	Red osier dogwood	FACW	native		2
<i>Douglas spirea</i>	Spiraea douglasii	FAC	native		3
<i>Oemlaria cerasiformis</i>	Indian plum	FACU	native		4
<i>Physocarpus capitatus</i>	Pacific ninebark	FACW	native		2
<i>Rosa nutkana</i>	Nootka rose	FAC	native	Yes	3
<i>Rosa pisocarpa</i>	Clustered rose	FAC	native		3
<i>Salix lasiandra</i>	Pacific willow	FACW	native		2
<i>Symphoricarpos albus</i>	Snowberry	FACU	native		4
Herbaceous Species					
<i>Achillea millefolium</i>	Yarrow	FACU	native		4
<i>Alisma gramineum</i>	Narrow leaf water plantain	OBL	native		1
<i>Alisma plantago aquatica</i>	Water plantain	OBL	native		1
<i>Carex feta</i>	Green-sheath sedge	FACW	native	Yes	2
<i>Carex unilateralis</i>	One-sided sedge	FACW	native	Yes	2
<i>Eleocharis ovata</i>	Ovate spike rush	OBL	native	Yes	1
<i>Eleocharis palustris</i>	Creeping spike rush	OBL	native		1
<i>Epilobium angustifolium</i>	Fireweed	FACU	native		4
<i>Epilobium ciliatum</i>	Fringed willoweed	FACW-	native	Yes	2
<i>Epilobium ciliatum ssp. watsonii</i>	Watson's willow herb	FACW	native	Yes	2
<i>Epilobium densiflorum</i>	Dense spike-primrose	FACW	native	Yes	2
<i>Eriophyllum lanatum</i>	Oregon sunshine	NOL	native	Yes	
<i>Geum macrophyllum</i>	Large leaf avens	FACW	native		2
<i>Gratiola ebracteata</i>	Bractless hedgehyssop	OBL	native	Yes	1
<i>Gnaphalium palustre</i>	Cudweed	FAC	native	Yes	2
<i>Juncus bufonius</i>	Toad rush	FACW	native	Yes	2
<i>Juncus effusus</i>	Soft rush	FACW	native		2
<i>Lupinus bicolor</i>	Two-colored lupine	NOL	native		
<i>Lupinus polyphyllus</i>	Bigleaf lupine	FAC	native	Yes	3
<i>Lythrum portula</i>	Spatulaleaf loosestrife	NOL	non		
<i>Madia sativa</i>	Coast tarweed	NOL	native		
<i>Plagiobothrys figuratus</i>	Fragrant popcorn flower	FACW	native	Yes	2
<i>Plagiobothrys scouleri</i>	Scouler's popcorn flower	FACW	native	Yes	2
<i>Polygonum amphibium</i>	Water smartweed	OBL	native		1
<i>Potentilla gracilis</i>	Northwest cinquefoil	FAC	native	Yes	3
<i>Rorippa curvisiliqua</i>	Western yellowcress	OBL	native	Yes	1
<i>Scirpus tabernaemontani</i>	Soft-stem-bulrush	OBL	native		1
<i>Sidalcea campestris</i>	Meadow checkermallow	NOL	native		
<i>Sparganium emersum</i>	Simple-stem bur-reed	OBL	native		1
<i>Tellima grandiflora</i>	Fringe cup	NOL	native		
<i>Veronica peregrina var. xalapensis</i>	Hairy purlane speedewell	OBL	native	Yes	1
Grass Species					
<i>Agrostis exarata</i>	Spike bentgrass	FACW	native	Yes	2
<i>Alopecurus aequalis</i>	Short-awned foxtail	OBL	native		1
<i>Alopecurus geniculatus</i>	Water foxtail	OBL	native		1
<i>Beckmania syzigachne</i>	Slough grass	OBL	native	Yes	1
<i>Deschampsia cespitosa</i>	Tufted hairgrass	FACW	native	Yes	2
<i>Deschampsia danthonioides</i>	Annual hairgrass	FACW-	native	Yes	2
<i>Deschampsia elongata</i>	Slender hairgrass	FACW	native	Yes	2
<i>Glyceria borealis</i>	Floating mannagrass	OBL	native		1
<i>Glyceria occidentalis</i>	Western mannagrass	OBL	native		1
<i>Hordeum brachyantherm</i>	Meadow barley	FACW	native	Yes	2
<i>Lolium multiflorum</i>	Annual rye grass	FACU	non		4
<i>Poa trivialis</i>	Rough-stalk bluegrass	FAC	non		3

Evergreen Mitigation Bank 2009 Photo Monitoring

Photo Point 1 North



Photo Point 1 East



Photo Point 1 South



Photo Point 1 West



Photo Point 2 North



Photo Point 2 East



Photo Point 2 South



Photo Point 2 West



Photo Point 3 North



Photo Point 3 East



Photo Point 3 South



Photo Point 3 West



Attachment 6 – Monitoring Photos

Photo Point 4 North



Photo Point 4 East



Photo Point 4 South



Photo Point 4 West



Photo Point 5 North



Photo Point 5 East



Photo Point 5 South



Photo Point 5 West



Photo Point 6 East



Photo Point 6 Southeast



Photo Point 6 South



Attachment 6 – Monitoring Photos

Photo Point 7 East



Photo Point 7 South



Photo Point 7 West



Photo Point 8 North



Photo Point 8 East



Photo Point 8 South



Photo Point 8 west



Photo Point 9 North



Photo Point 9 East



Photo Point 9 Northeast



Attachment 6 – Monitoring Photos

Photo Point10 North



Photo Point 10 East



Photo Point 10 South



Photo Point 10 West



Photo Point11 North



Photo Point11East



Photo Point11 South



Photo Point 11 West



Photo Point 12 North



Photo Point12 East



Photo Point12 South



Photo Point 12 West



Attachment 6 – Monitoring Photos

Photo Point 13 North



Photo Point 13 East



Photo Point 13 South



Photo Point 13 West



Photo Point 14 North



Photo Point 14 East



Photo Point 14 South



Photo Point 14 West

