

# SR 270 Pullman to Idaho State Line (Jorstad) Mitigation Site

**USACE IP 200500225**

**Eastern Region**

**2015 MONITORING REPORT**

**Wetlands Program**

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# SR 270 Pullman to Idaho State Line (Jorstad) Mitigation Site

## USACE IP 200500225



General Site Information		
<b>USACE IP Number</b>	200500225	
<b>Mitigation Location</b>	South of SR 270 between mileposts 5.55 and 5.80, Whitman County	
<b>LLID Number</b>	1171186467270	
<b>Construction Date</b>	2007-2009	
<b>Monitoring Period</b>	2009-2018	
<b>Year of Monitoring</b>	7 of 10	
<b>Area of Project Impact<sup>1</sup></b>	5.18 acres (USACE) 5.91 acres (Ecology)	
<b>Type of Mitigation</b>	Wetland Enhancement	Riparian Enhancement
<b>Area of Mitigation<sup>2</sup> (Jorstad Site Only)</b>	0.64 acre	2.09 acres

<sup>1</sup> The impact acreages were referenced from the USACE permit 200500225 (USACE 2006) and the Water Quality Certification Order #2847 (Ecology 2005)

<sup>2</sup>The mitigation acreages are referenced from the *Final Mitigation Report for Pullman to Idaho State Line* (WSDOT 2005). Additional mitigation for this project is provided by the SR 270 Patterson and SR 270 Sunshine Road Mitigation Sites which are reported on separately. See Appendix 1 for a summary of the mitigation areas on all three of the sites associated with this project.

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## Summary of Monitoring Results and Management Activities (2015)

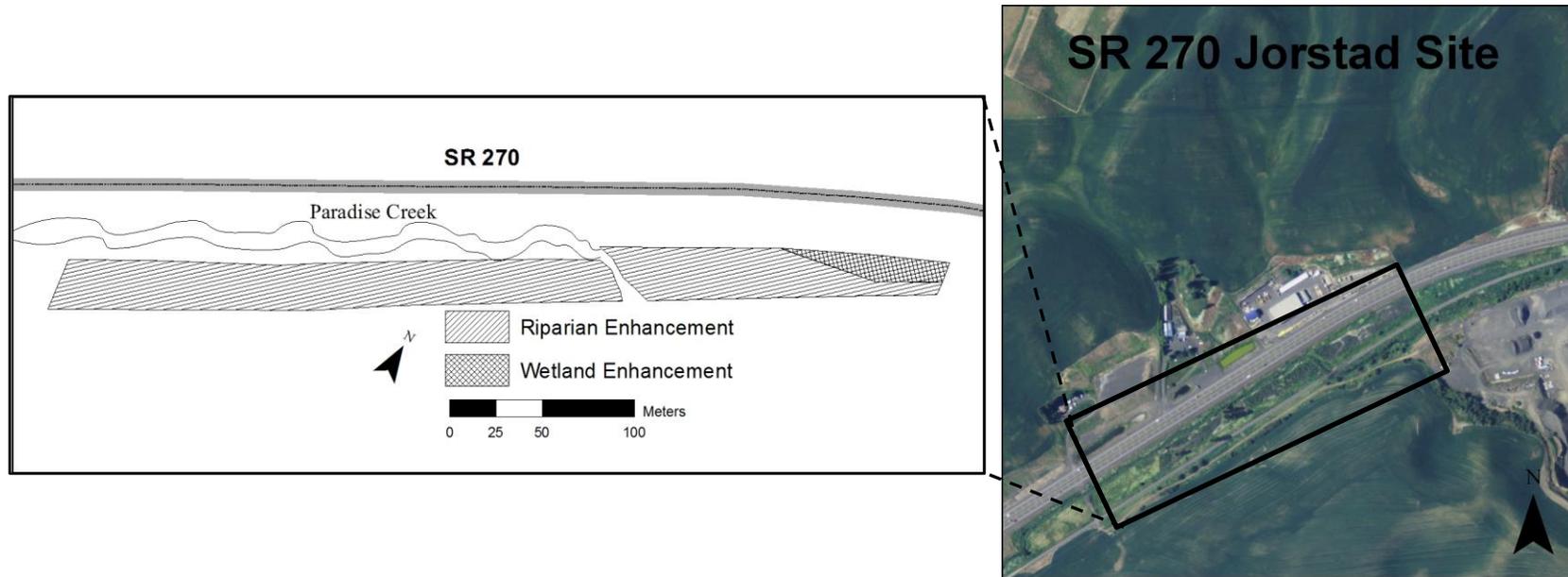
Performance Standards	2015 Results	Management Activities
No more than 30% cover of reed canarygrass, blackberries, and Scotch broom	5-10% cover (qualitative)	Mowing and brush cutting reed canarygrass around the site edges occurred twice during the growing season.
50% cover of native woody species in scrub-shrub and forested wetland areas	95% cover (qualitative) across the site	
Two native woody plant species will achieve 5% or greater aerial cover in forested and scrub-shrub creation areas.	Three species provide greater than 5% relative cover across the site (qualitative)	
40% cover of native woody species in buffer areas	95% cover (qualitative) across the site	
Two native woody species will achieve 5% relative cover in buffer areas	Three species provide greater than 5% relative cover across the site (qualitative)	

## Report Introduction

This report summarizes seventh-year (Year-7) monitoring activities at the State Route (SR) 270 Jorstad Mitigation Site. Included are a site description, the performance standards, an explanation of monitoring methods, and an evaluation of site success. Monitoring activities included vegetation surveys and photo-documentation. All monitoring activities took place on July 13-15, 2015.

## What is the SR 270 Jorstad Mitigation Site?

This 2.73-acre mitigation site (Figure 1) was created as partial compensation for the loss of 5.91 acres of wetlands due to the widening of SR 270 from the City of Pullman to the Idaho state line. This project was designed to improve capacity and safety through the widening of the highway from a two-lane roadway to a four-lane facility. The Jorstad Mitigation Site consists of enhanced wetland and riparian areas that were previously severely degraded. The site had been pastured with livestock for many years and was dominated by reed canarygrass. The mitigation was designed to improve wetland and riparian functions such as habitat suitability, plant richness, stream shading, and production of woody debris. This mitigation site is one of three mitigation sites created as compensation for this project. See Appendix 1 for a summary of the mitigation acreages on all three sites.



**Figure 1 Site Sketch**

The SR 270 Jorstad Mitigation Site consists of 0.64 acres of enhanced wetland and 2.09 acres of enhanced riparian area adjacent to Paradise Creek. Appendix 2 contains driving directions to the site.

## **What are the performance standards for this site?**

### **Year 7**

#### Performance Standard 1

No more than 30 percent coverage by the following non-native invasive species on the entire site: reed canarygrass, non-native blackberries, and Scotch broom. Other invasive, non-native species will also be controlled if a problem becomes apparent on the mitigation sites.

#### Performance Standard 2

Native woody species will achieve 35 percent coverage in scrub-shrub (PSS) and forested (PFO) creation areas.

#### Performance Standard 3

Two native woody plant species will achieve five percent or greater relative cover in the forested and scrub-shrub wetland creation areas.

#### Performance Standard 4

Native woody species will achieve 30 percent coverage in buffer areas.

#### Performance Standard 5

Two native woody plant species will achieve five percent or greater relative cover in buffer areas.

### **Year 10**

#### Performance Standard 1

No more than 30 percent coverage by the following non-native invasive species on the entire site: reed canarygrass, non-native blackberries, and Scotch broom. Other invasive, non-native species will also be controlled if a problem becomes apparent on the mitigation sites.

#### Performance Standard 2

Native woody species will achieve 60 percent coverage in scrub-shrub (PSS) and forested (PFO) creation areas.

Performance Standard 3

Two native woody plant species will achieve five percent or greater relative cover in the forested and scrub-shrub wetland creation areas.

Performance Standard 4

Native woody species will achieve 50 percent coverage in buffer areas.

Performance Standard 5

Two native woody plant species will achieve five percent or greater relative cover in buffer areas.

Appendix 2 shows the planting plan (WSDOT 2008).

## **How were the performance standards evaluated?**

All performance standards were evaluated qualitatively. Cover of native woody species in the riparian enhancement (buffer) and wetland enhancement (PFO and PSS) areas was combined as in previous years. Woody cover was initially quantitatively sampled; however unplanted areas where a few volunteer plants were found were included in the measurement. This brought the cover estimate down and was not an accurate estimate for the planted riparian enhancement and scrub-shrub/forested creation areas that should have been sampled on their own. Qualitative estimates are reported below.

## **Is this site a success?**

This site has met all final year performance criteria four years in a row and has developed the desired vegetation communities (Appendix 1, Table 3). The diverse assemblage of native vegetation likely provides habitat suitable to a variety of birds and small mammals. Eight species of birds as well as a bull snake, mouse, deer scat, and a bird's nest were observed on site in 2015. Trees and shrubs planted in riparian buffer areas have increased shading of Paradise Creek, much of which will become woody debris in the stream as the trees and shrubs mature.

## **Final Year Performance Standards**

### **Results for Performance Standard 1**

(No more than 30% coverage by non-native invasive species on the entire site):

Cover of target non-native invasive species is qualitatively estimated at five to ten percent. This estimate is well below the performance standard threshold. The only target invasive species observed on site is reed canarygrass which is scattered across the entire site in low densities, and concentrated near the south end of the site along the fence line.

### **Results for Performance Standard 2**

(Native woody species will achieve 50% (60% year-10) coverage in scrub-shrub and forested wetland creation areas):

Cover of native woody vegetation across the entire site is qualitatively estimated at 95 percent, exceeding the Year-7 performance standard target and the Year-10 target. Vegetation communities that have developed are dense and diverse. Dominant species in the wetland creation area include golden current (*Ribes aureum*) and cluster rose (*Rosa pisocarpa*). Subdominant species include black hawthorn (*Crataegus douglasii*), and willows (*Salix* spp.). The woody community is four to six meters tall (Photo 1).



**Photo 1**  
**Taller woody cover in the forested wetland behind shorter woody cover in the buffer (July 2015)**

### **Results for Performance Standard 3**

(Two native woody plant species will achieve  $\geq 5\%$  relative cover in the forested and scrub-shrub wetland areas):

This standard was evaluated across the site due to the very small area of wetland on this site. A total of three native woody species are qualitatively estimated to provide five percent or greater relative cover cross the site. These species include golden current, cluster rose, and chokecherry (*Prunus virginiana*).

#### Results for Performance Standard 4

(Native woody species will achieve 40% (50% year-10) coverage in buffer areas):

See results for Performance Standard 2. Dominant species in the buffer include golden currant and cluster rose. Subdominant species include blue elderberry (*Sambucus nigra*), western serviceberry (*Amelanchier alnifolia*), and chokecherry. The woody community is three to four meters tall (Photo 2).

#### Results for Performance Standard 5

(Two native woody plant species will achieve  $\geq 5\%$  relative cover in the buffer areas):

See results for Performance Standard 3.



**Photo 2**  
**Woody cover in the riparian buffer (July 2015)**

### **What is planned for this site?**

Weed control will continue with mowing once or twice per year. Reed canarygrass established at the edges of the site can be controlled through mowing until woody vegetation establishes enough to prevent encroachment.

# Appendix 1 – Data Tables

**Table 1 – Project Wetland Impacts<sup>2</sup>**

Type of Wetland Impact	Area of Impact (acres)
Impacts to wetlands regulated by the U.S. Army Corps of Engineers	5.18
Impacts to isolated wetlands regulated only by the Washington State Department of Ecology	0.73
<b>Total Project Wetland Impacts</b>	<b>5.91</b>

**Table 2 – Project Mitigation by Site**

Mitigation Site	Wetland Establishment (acres)	Wetland Enhancement (acres)	Riparian Enhancement (acres)	Buffer Establishment (acres)
Jorstad	0.00	0.64	2.09	0.00
Patterson	3.48	0.12	0.00	4.73
Sunshine Road	2.90	0.00	0.00	1.12
<b>Project Mitigation Totals</b>	<b>6.38</b>	<b>0.76</b>	<b>2.09</b>	<b>5.85</b>

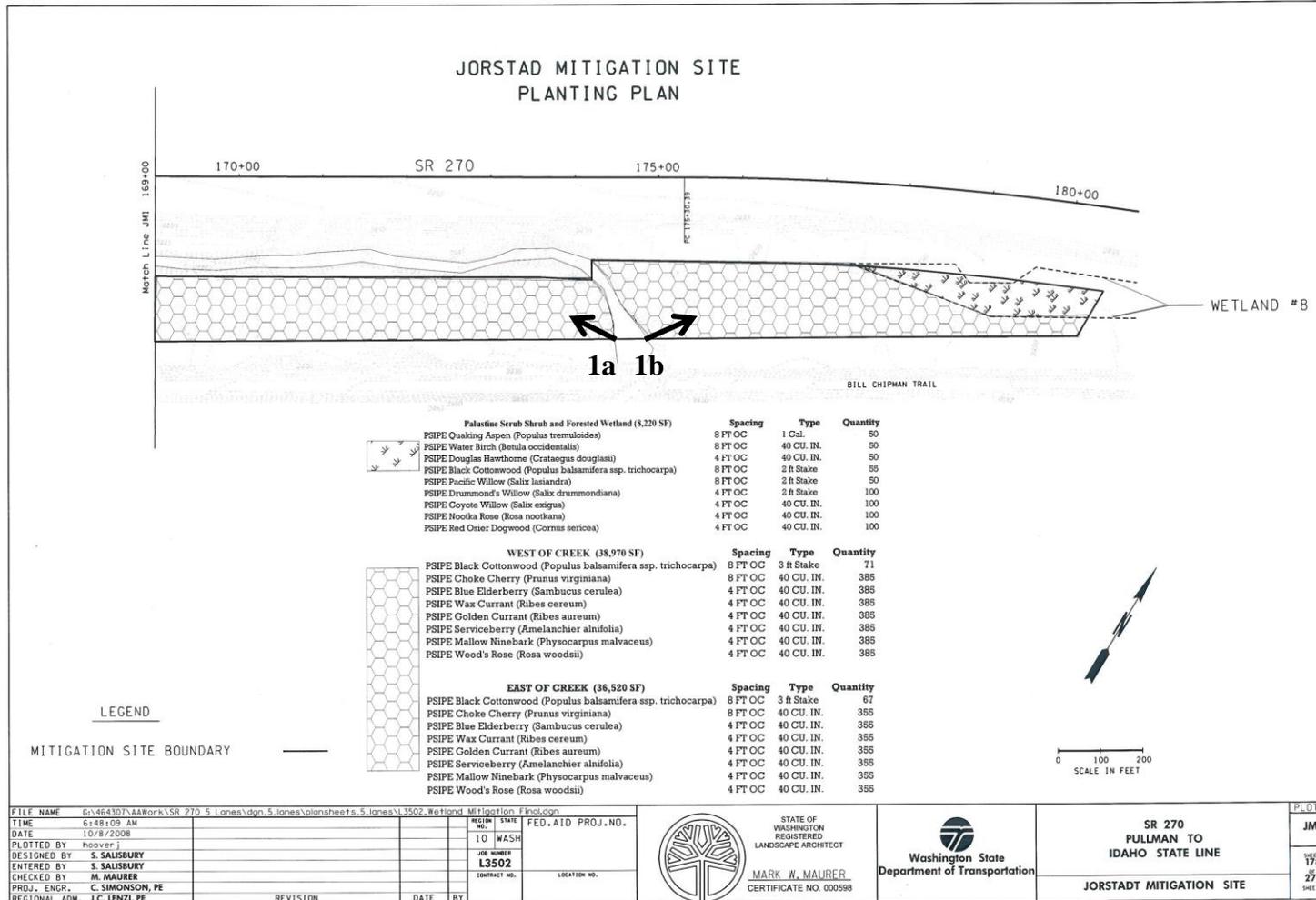
<sup>2</sup> Impact numbers come from USACE permit 200500225 and Department of Ecology Order #2847.

**Table 3. Year 10 Performance Standards Met in Years 4, 5, 6 and 7**

<b>Performance Standards (Year-10)</b>	<b>Year-4 (2012) Qualitative Results</b>	<b>Year-5 (2013) Results</b>	<b>Year-6 (2014) Qualitative Results</b>	<b>Year-7 (2015) Results</b>
No more than 30 percent coverage by the following non-native invasive species on the entire site: reed canarygrass, non-native blackberries, and Scotch broom. Other invasive, non-native species will also be controlled if a problem becomes apparent on the mitigation sites.	7% cover	5% cover	5% cover	5-10% cover
Native woody species will achieve 60 percent coverage in scrub-shrub (PSS) and forested (PFO) creation areas.	80% cover	69% across the entire site	90% cover	95% cover across the entire site
Two native woody plant species will achieve five percent or greater relative cover in the forested and scrub-shrub wetland creation areas.	Three species provide more than 5% relative cover	Six species provide more than 5% relative cover across the site	At least two species provide more than 5% relative cover	Several species provide more than 5% relative cover
Native woody species will achieve 50 percent coverage in buffer areas.	65% cover	69% across the entire site	85% cover	95% cover across the entire site
Two native woody plant species will achieve five percent or greater relative cover in buffer areas.	Several species provide more than 5% relative cover	Six species provide more than 5% relative cover across the site	At least three species provide more than 5% relative cover	Several species provide more than 5% relative cover

# Appendix 2 – Planting Plan with Photo Point Locations

(from WSDOT 2008)



## Appendix 2 – Photo Points

The photographs below were taken from permanent photo-points on July 14, 2015 and document current site development.



**Photo Point 1a**



**Photo Point 1**

### **Driving Directions:**

Head east on SR 270 out of Pullman, WA. The site is located on the south side of SR 270 between Mileposts 5.55 and 5.80, situated between the highway and the Bill Chipman Trail.

## Literature Cited

1. [Ecology] Washington State Department of Ecology. 2005. Water Quality Certification Order No. 2847.
2. [USACE] US Army Corps of Engineers. 2006. Department of the Army Individual Permit Number 200500225.
3. [WSDOT] Washington State Department of Transportation. 2005. Final Mitigation Report for Pullman to Idaho State Line. Spokane (WA): Eastern Region.
4. [WSDOT] Washington State Department of Transportation. 2008. SR 270 Pullman to Idaho State Line Patterson Mitigation Site As-built Planting Plans.