For additional information about this report or the WSDOT Wetlands Program, please contact:

Doug Littauer, Wetlands Program
WSDOT, Environmental Services Office
P. O. Box 47332, Olympia, WA 98504
Phone: 360-570-2579 E-mail: littaud@wsdot.wa.gov

Monitoring reports are published on the web at: http://www.wsdot.wa.gov/Environment/Wetlands/Monitoring/reports.htm
# US 12 Frenchtown Vicinity to Walla Walla – Add Lanes (Reser Creek) Mitigation Site

**USACE NWS-2007-1612-1**

<table>
<thead>
<tr>
<th>General Site Information</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>USACE NWP 14</strong></td>
</tr>
<tr>
<td><strong>Mitigation Location</strong></td>
</tr>
<tr>
<td><strong>LLID Number</strong></td>
</tr>
<tr>
<td><strong>Construction Date</strong></td>
</tr>
<tr>
<td><strong>Monitoring Period</strong></td>
</tr>
<tr>
<td><strong>Year of Monitoring</strong></td>
</tr>
<tr>
<td><strong>Type of Impact</strong></td>
</tr>
<tr>
<td><strong>Area of Project Impact</strong></td>
</tr>
<tr>
<td><strong>Type of Mitigation</strong></td>
</tr>
<tr>
<td><strong>Planned Area of Mitigation</strong></td>
</tr>
</tbody>
</table>

1 Impact numbers sourced from Table 1, page 4 in the Final Wetland Mitigation Report (WSDOT 2014).
2 Mitigation numbers sourced from Table 2, page 8 in the Final Wetland Mitigation Report (WSDOT 2014).
# Summary of Monitoring Results and Management Activities (2017)

<table>
<thead>
<tr>
<th>Performance Standards</th>
<th>2017 Results&lt;sup&gt;3&lt;/sup&gt;</th>
<th>Management Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wetland hydrology present</td>
<td>Present</td>
<td></td>
</tr>
<tr>
<td>40% cover native facultative or wetter herbaceous species in the created wetland</td>
<td>80% cover (visual estimate)</td>
<td></td>
</tr>
<tr>
<td>20% cover native woody species in the buffer</td>
<td>5% cover (visual estimate)</td>
<td></td>
</tr>
<tr>
<td>50% cover grass species in the buffer and at least three native species</td>
<td>95% cover (CI&lt;sub&gt;80%&lt;/sub&gt; = 89-100%) More than three native species present</td>
<td></td>
</tr>
<tr>
<td>No Class A noxious weeds</td>
<td>None observed</td>
<td></td>
</tr>
<tr>
<td>Reed canarygrass (<em>Phalaris arundinacea</em>), prickly Russian thistle (<em>Salsola tragus</em>), kochia (<em>Bassia scoparia</em>), thistles (<em>Cirsium arvense, C. vulgare, Carduus acanthoides, C. nutans, and Onopordum acanthium</em>), common reed (<em>Phragmites australis</em>), and Russian olive (<em>Elaeagnus angustifolia</em>), and any other species that compete with desirable vegetation controlled</td>
<td>10% cover (visual estimate)</td>
<td>Weed control activity occurred from April to September</td>
</tr>
</tbody>
</table>

---

## Report Introduction

This report summarizes final-year (Year-5) monitoring activities at the 012 Reser Creek 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 on August 1, and assessments of wetland hydrology on April 19, in 2017.

---

<sup>3</sup> Estimated values are presented with their corresponding statistical confidence interval. For example, 95% cover (CI<sub>80%</sub> = 89-100% cover) means we are 80% confident that the true cover value is between 89% and 100%.
What is the 012 Reser Creek Mitigation Site?

This 7.29-acre mitigation site (Figure 1) is made up of 0.93 acres of wetland creation protected by a 50-foot buffer planted with native grasses and native woody shrubs. The remainder of the site acreage is planted with native upland grasses. Up to 1.13 additional acres remain as open water. This site was established to compensate for the loss of 0.51 acre of wetlands due to road construction along US 12. The ponded depressions and surrounding woody and grass buffer areas are designed to provide mitigation for lost wetland functions including wildlife habitat, water quality, and erosion control.

Figure 1  Site Sketch

The US 12 Reser Creek Mitigation Site consists of three ponded areas in the middle of dryland wheat fields. Emergent herbaceous vegetation grows around and across the ponds in most areas and is surrounded by a grass buffer. Appendix 2 includes site directions.
What are the performance standards for this site?

**Year 5**

**Performance Standard 1**
In the created wetland area, standing water will be present or the soils will be saturated to within 12 inches of the surface for at least two consecutive weeks during the growing season in years when rainfall meets or exceeds the 30-year average.

**Performance Standard 2**
Cover of native facultative or wetter herbaceous species will be at least 40 percent in the created wetland area.

**Performance Standard 3**
Cover of native woody species will be at least 20 percent in the planted woody buffer zones.

**Performance Standard 4**
Cover of grass species in the planted buffer will be at least 50 percent and include at least three native species.

**Performance Standard 5**
Washington State-listed or county-listed Class A weeds and Class B weeds designated for control by the Walla Walla County Weed Board must be eradicated. All occurrences shall be immediately reported to the site manager and an eradication program will be initiated within 30 days of the report.

**Performance Standard 6**
Reed canarygrass, prickly Russian thistle, burningbush, thistles, common reed, and Russian olive, and any other species that competes with desirable vegetation will be controlled across the mitigation site until Year 5 performance standards have been achieved.

Appendix 1 shows the planting plan (WSDOT 2012).
How were the performance standards evaluated?


The site has developed more rapidly than anticipated and has been meeting the Year 5, final-year performance standard for herbaceous species in the created wetland for five years. On March 30, 2017, a request to discontinue quantitative sampling for herbaceous species in the created wetland was sent to USACE and the Department of Ecology; this request was accepted on April 10 and April 6, respectively, in 2017. The final-year standard (Performance Standard 2) is still currently being met.

The table below documents the sampling methodology utilized for all of the remaining performance standards (PS) as required by the mitigation plan. For additional details on the methods see the [WSDOT Wetland Mitigation Site Monitoring Methods Paper](#) (WSDOT 2008).

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Target population</th>
<th>Zone</th>
<th>Sample method</th>
<th>SU length</th>
<th>Total # of SU</th>
</tr>
</thead>
<tbody>
<tr>
<td>PS 3</td>
<td>PS 4</td>
<td>PS 5</td>
<td>PS 6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cover</td>
<td>Cover</td>
<td>Presence/ Absence</td>
<td>Presence/ Absence</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Native woody species</td>
<td>Grasses</td>
<td>Noxious weeds</td>
<td>Invasive species</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Buffer</td>
<td>Grass Buffer</td>
<td>Entire site</td>
<td>Entire site</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Visual Estimate</td>
<td>Point Line</td>
<td>Qualitative</td>
<td>Qualitative</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SU length</td>
<td>40</td>
<td>Qualitative</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total # of SU</td>
<td>40</td>
<td>Qualitative</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Is this site a success?

This site is successful despite failure to establish woody species. The fenced test plantings have done much better than any of the other woody planting efforts with about 30 percent survival. Virtually all of the unfenced woody plantings have died likely due to elk or deer browsing. Some volunteer willows (Salix spp.) have become established on the outer edges of the emergent areas in some places. The intended woody buffer areas are primarily dominated by field horsetail (Equisetum arvense) and rushes (Juncus species).

All other final-year performance standards have been achieved. Cover of native herbaceous species in the wetland continues to be high. Cover of grasses in the buffer is also high, providing suitable erosion control. Cover of invasive species is low, with no species outcompeting the native plantings. Wetland hydrology is present in the emergent areas with 80 percent of this area observed to be inundated or saturated to the surface in August 2017. The site is providing wildlife habitat. Mule deer, chorus frogs, and red-winged black birds were observed at the time of monitoring.
Results for Performance Standard 1
(Wetland hydrology present):

Inundation was observed in the wetland creation area on April 19, 2017 (Photo 1).

Results for Performance Standard 2
(40% cover native facultative or wetter herbaceous species in the created wetland):

Cover of native facultative or wetter herbaceous species was visually estimated at 80 percent (Photo 2). This exceeds the performance standard target. Dominant species include broadleaf cattail (*Typha latifolia*) and hardstem bulrush (*Schoenoplectus acutus*). Other native species observed include northern water-plantain (*Alisma triviale*), common spikerush (*Eleocharis palustris*), and Olney's threesquare (*Schoenoplectus americanus*).
Results for Performance Standard 3
(20% cover native woody species in the buffer):

Cover of native woody species in the buffer was visually estimated at less than five percent (Photo 3). This is below the performance standard target.

Results for Performance Standard 4
(50% cover grass species in the buffer with at least three native species):

Cover of grass species in the buffer (native and introduced) is estimated at 95% (CI_{80%}= 89-100%) (Photo 4). This exceeds the performance standard target. Some of the native species observed include basin wildrye (*Leymus cinereus*), Snake River wheatgrass (*Elymus wawawaiensis*), meadow barley (*Hordeum brachyantherum*), and California brome (*Bromus carinatus*).

Results for Performance Standard 5
(No Class A noxious weeds):

No Class A noxious weeds or Class B weeds designated for control were observed at the time of monitoring.
Results for Performance Standard 6
(Invasive species controlled):

Cover of invasive species was visually estimated at 10 percent. This primarily consists of reed canarygrass, narrowleaf cattail (*Typha angustifolia*), Canada thistle (*Cirsium arvense*), and bull thistle (*Cirsium vulgare*). Himalayan blackberry (*Rubus armeniacus*), Fuller's teasel (*Dipsacus fullonum*), field bindweed (*Convolvulus arvensis*), and common St. Johnswort (*Hypericum perforatum*) was also observed in small amounts. Weed management was conducted from April to September 2017.

**What is planned for this site?**

Noxious weed control will continue until all permits are closed.


Appendix 1 – Planting Plan
(from WSDOT 2012)
Appendix 2 – Photo Points
The photographs below were taken from permanent photo-points on August 1, 2017 and document current site development.

Photo Point 1a

Photo Point 2a

Photo Point 1b

Photo Point 2b
Driving Directions:
Take US 12 to the 2nd Street off-ramp in Walla Walla. Continue southeast on 2nd Street until Howard Street (turn right). Turn left in 0.3 miles onto Reser Road. Continue 3.5 miles to the site. Access to the site is across an adjacent landowner’s wheat field. Contact the region before you visit the site.
Literature Cited


