

US Highway 12: Frenchtown Vicinity to Walla Walla (Reser Creek) Mitigation Site

USACE NWP (14) NWS-2007-1612-SOD

South Central Region

2015 MONITORING REPORT

Wetlands Program

Issued March 2016



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US 12 Frenchtown Vicinity to Walla Walla (Reser Creek) Mitigation Site

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General Site Information	
USACE NWP 14 Number	NWS-2007-1612-SOD
Mitigation Location	Southeast of Walla Walla in Walla Walla County
LLID Number	1182673460312
Construction Date	2012
Monitoring Period	2013 to 2017
Year of Monitoring	3 of 5
Type of Project Impact¹	Permanent Wetland Impact
Area of Project Impact	0.51 acre
Type of Mitigation²	Wetland Establishment
Planned Area of Mitigation	0.93 acre

¹Type and area of project impact was sourced from Table 1, page 4 in the Final Wetland Mitigation Report (WSDOT 2014).

²Type and area of project mitigation was sourced from Table 2, page 8 in the Final Wetland Mitigation Report (WSDOT 2014).

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Summary of Monitoring Results and Management Activities (2015)

Performance Standards	2015 Results ³	Management Activities
Wetland Hydrology	Present	
25% cover native facultative or wetter herbaceous species in the created wetland	82% cover (CI _{80%} = 68-96%)	
Native woody species will maintain an average density of at least three plants/100ft ² in the planted woody buffer zones	Not measured	Test plantings scheduled for 2016.
30% cover grass species in the planted buffer with at least four native species	51% cover (CI _{80%} = 35-66%); 5 native grass species present	Continued weed control.
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	poison hemlock (<i>Conium maculatum</i>) observed	Continued weed control.
Reed canarygrass (<i>Phalaris arundinacea</i>), prickly Russian thistle (<i>Salsola tragus</i>), kochia (<i>Bassia scoparia</i>), thistles (<i>Cirsium arvense</i> , <i>C. vulgare</i> , <i>Carduus acanthoides</i> , <i>C. nutans</i> , and <i>Onopordum acanthium</i>), common reed (<i>Phragmites australis</i>), and Russian olive (<i>Elaeagnus angustifolia</i>), and any other species that competes with desirable vegetation will be controlled across the mitigation site until Year 5 performance standards have been achieved.	bull thistle (<i>Cirsium vulgare</i>), Canada thistle (<i>Cirsium arvense</i>), reed canarygrass, common St. Johnswort (<i>Hypericum perforatum</i>), narrowleaf cattail (<i>Typha angustifolia</i>), and Fuller's teasel (<i>Dipsacus fullonum</i>) observed	Continued weed control.

Report Introduction

This report summarizes third-year (Year-3) monitoring activities at the United States (US) 12 Reser Creek Mitigation Site. Included are a site description, the performance standards, an explanation of monitoring methods, and an evaluation of site development. Monitoring activities included vegetation surveys and photo-documentation on July 20-22, and assessments of wetland hydrology on May 8 and 27, in 2015.

¹ Estimated values are presented with their corresponding statistical confidence interval. For example, 82% cover (CI_{90%} = 68-96%) means we are 90% confident that the true cover value is between 68% and 96%.

What is the US 12 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 ft. 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.

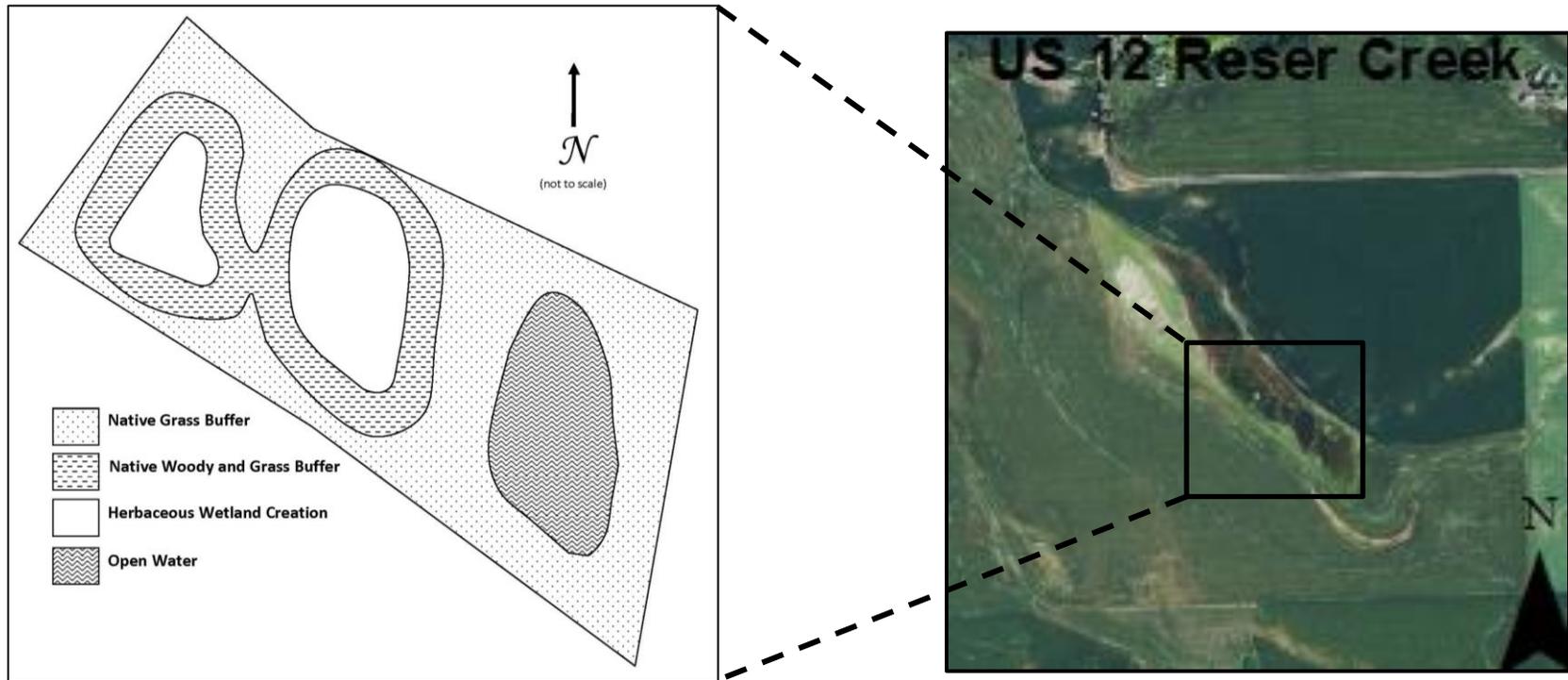


Figure 1 Site Sketch

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 3

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 25 percent in the created wetland area.

Performance Standard 3

Native woody species (planted and volunteer) will maintain an average density of at least three plants per 100 square feet in the planted woody buffer.

Performance Standard 4

Cover of grass species in the planted buffer will be at least 30 percent and include four native species.

Performance Standard 5

Washington State-listed or county-listed Class A weeds and Class B weeds designated for control by 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?

WSDOT staff collected hydrology data using methods described in the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987), *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (Version 2.0) (USACE 2008) (Performance Standard 1).

The tables below document 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).

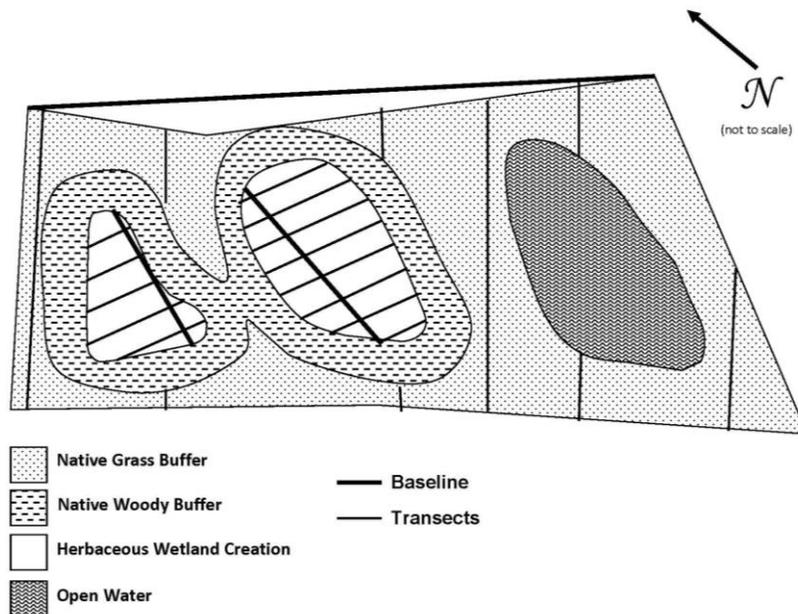


Figure 2 Site Sampling Design (2015)

Placement of Grass Buffer Baseline: The baseline was placed along the northeast edge of the site. Length 298m
Transects 1-6

Placement of Wetland Baseline: Segment 1 was placed along the eastern edge of the western pond. Segment 2 was placed along the western edge of the central pond.

Segment 1: Length 56m Transects 1-4

Segment 2: Length 45m Transects 5-6

	PS 2	PS 3	PS 4	PS 5	PS 6
Attribute	Cover	Density	Cover	Presence	Presence
Target pop.	Herbaceous	Native Woody	Grass	Invasive Species	Invasive Species
Zone	Created Wetland	Woody Buffer	Grass Buffer	Entire Site	Entire Site
Sample method	Point-intercept	Not measured	Point-intercept	Qualitative	Qualitative
SU length	10m	NA	30m	NA	NA
SU width	NA	NA	NA	NA	NA
Points per SU	20	NA	30	NA	NA
Total # of SU	6	NA	6	NA	NA

How is the site developing?

This site is developing fairly well. An herbaceous plant community is well established in the created wetland. Diversity of native herbaceous vegetation in these areas remains high. Woody vegetation has not developed as intended. Two possibilities for addressing this issue include: developing a management strategy to establish intended woody vegetation, or acquiring a permit modification indicating the site will contain only emergent wetland areas and native herbaceous dominated upland areas.

The site is very diverse compared to the surrounding wheat fields. There is also a year-round water source, making it attractive to wildlife. During our visits to the site this year, there were many species of birds observed using the wetland and we encountered a deer and bullfrog. Fish and bird remains and animal scat were also observed.

Results for Performance Standard 1
(Wetland Hydrology):

Inundation was present in the ponds on May 8 and 27 in 2015, indicating that hydrology is most likely present within 12 inches of the soil surface for at least two consecutive weeks during the growing season (Photo 1). (See Appendix 2 for photos of pond inundation on both dates.)

Results for Performance Standard 2
(25% cover native facultative or wetter herbaceous species in the created wetland):

Cover of native facultative or wetter herbaceous species in the created wetland is estimated at 82% (CI_{90%}= 68-96%). This value exceeds the performance standard target. Dominant species include soft-stem bulrush (*Schoenoplectus tabernaemontani*), broadleaf cattail (*Typha latifolia*), common spikerush (*Eleocharis palustris*), and northern water-plantain (*Alisma triviale*). (Photo 2)



Photo 1
Inundation in the ponds (May 2015)



Photo 2
Herbaceous cover in the Wetland (July 2015)

Results for Performance Standard 3

(Native woody species will achieve an average density of at least three plants/100ft² in the 50 ft. buffer):

This standard was not addressed due to the survival of only a few individuals of sandbar willow (*Salix exigua*) on the edges of the created wetland areas. Replanting efforts so far have not been successful. (Photo 3)

Results for Performance Standard 4

(30% cover grass species in the planted buffer with four native species):

Cover of native grasses in the grass buffer is estimated at 51% (CI_{90%}= 35-66%). This value exceeds the performance standard target. The five species present include basin wildrye (*Leymus cinereus*), foxtail barley (*Hordeum jubatum*), blue wildrye (*Elymus glaucus*), meadow barley (*Hordeum brachyantherum*), and fescues (*Festuca* species). (Photo 4)

Results for Performance Standard 5

(Washington-State listed or county-listed Class A weeds and Class B weeds designated for control must be eradicated):

Poison hemlock, a Walla Walla County B-designate, was observed on the edge of the site along the northwestern edge where the site meets the off-site wetland to the west. The site manager has been notified.



Photo 3
Failed planted woody buffer (July 2015)



Photo 4
Cover of native grasses in the buffer (July 2015)

Results for 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):

The following Class C invasive species were observed on site: bull thistle, Canada thistle, reed canarygrass, common St. Johnswort, narrowleaf cattail, and Fuller’s teasel. Aside from the reed canarygrass and narrowleaf cattail, the weeds are generally limited to scattered individuals. The combined weeds provide less than 10 percent cover across the site. Blue vervain (*Verbena hastata*) was establishing in areas around the ponds. This species is not on a noxious weed list, but is acting invasive on the site. The management crew has been notified to target this species for removal.

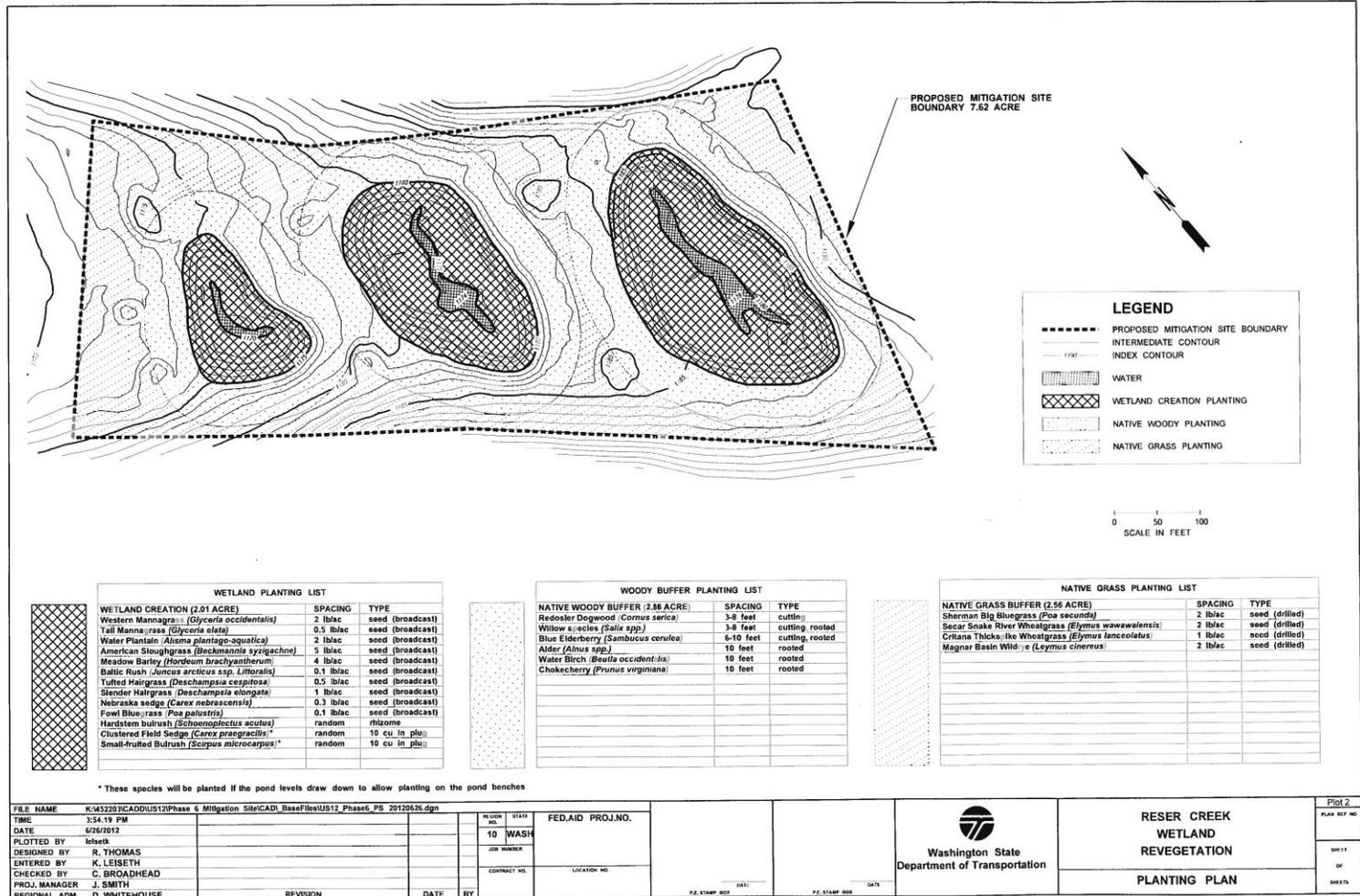
What is planned for this site?

Weed control will continue targeting reed canarygrass and other scattered individuals of noxious and invasive weeds.

Potted woody test plantings, protected by browse cages, will be installed in 2016 to determine if success is possible. If not, a permit modification will be pursued.

Appendix 1 – Planting Plan

(from WSDOT 2012)



Appendix 2 – Photo Points and Photo Points

The photographs below were taken from permanent photo-points on July 21, 2015 to document current site development.



Photo Point 1a



Photo Point 1b



Photo Point 2a



Photo Point 2b



Photo Point 3



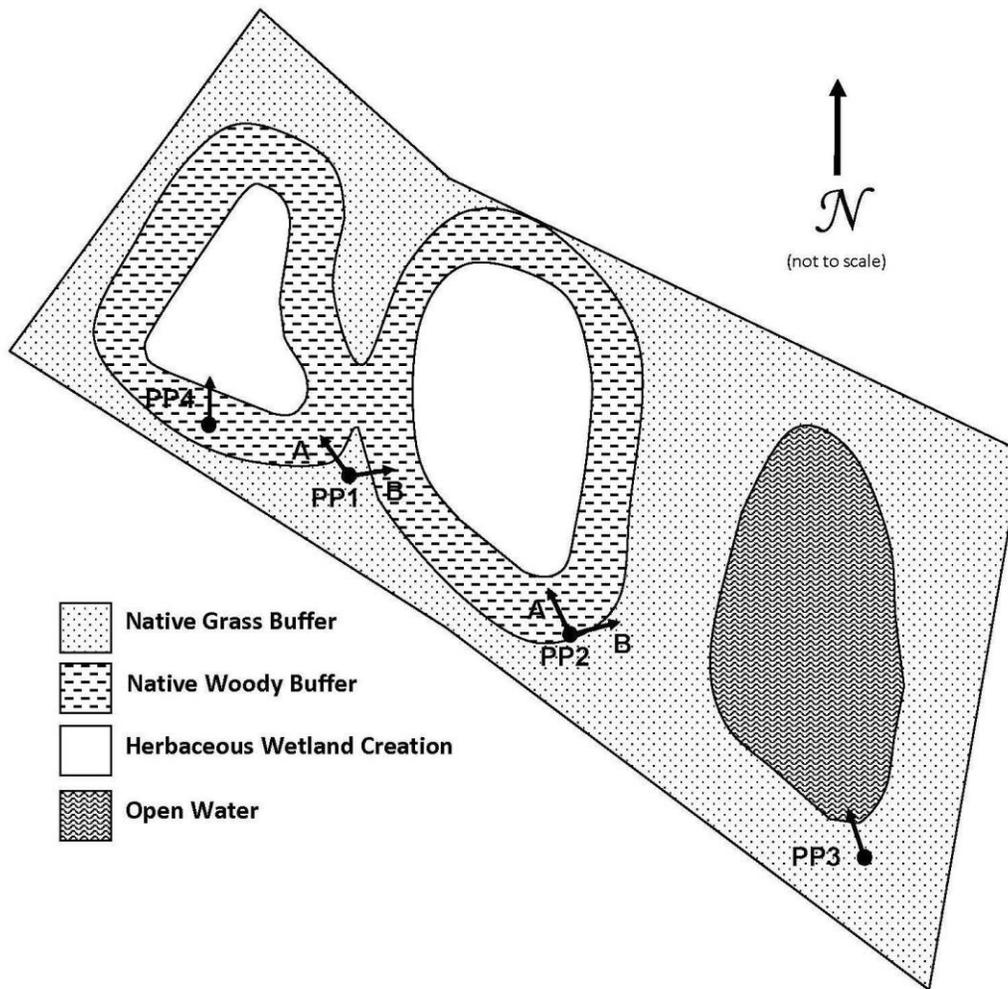
Photo Point 4



Inundation in middle pond (May 8, 2015)



Inundation in middle pond (May 27, 2015)



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

1. [Ecology] Washington State Department of Ecology. 2007. Administrative Order No 5168.
2. Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Vicksburg (MS): US Army Engineer Waterways Experiment Station. Technical Report Y-87-1. Available at: <http://el.erdc.usace.army.mil/elpubs/pdf/wlman87.pdf>
3. [USACE] US Army Corps of Engineers. 2007. Department of the Army Individual Permit Number NWS-2007-1612-SOD.
4. [USACE] US Army Corps of Engineers. 2008. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0), Wakeley JS, Lichvar RW, Noble CV, editors. Vicksburg (MS): US Army Engineer Research and Development Center. ERDC/EL TR-08-28. Available at: http://www.usace.army.mil/Portals/2/docs/civilworks/regulatory/reg_supp/trel08-28.pdf
5. [WSDOT] Washington State Department of Transportation. 2014. US Highway 12: Frenchtown Vicinity to Walla Walla, Final Wetland Mitigation Report. Yakima (WA): Washington State Department of Transportation, South Central Region.
6. [WSDOT] Washington State Department of Transportation. 2012. Reser Creek Wetland Revegetation Planting Plan.
7. [WSDOT] Washington State Department of Transportation. 2008. WSDOT Wetland Mitigation Site Monitoring Methods. <http://www.wsdot.wa.gov/NR/rdonlyres/C211AB59-D5A2-4AA2-8A76-3D9A77E01203/0/MethodsWhitePaper052004.pdf>