SR 142 Glenwood Culvert Replacement Mitigation Site

USACE NWP (3) NWS-2012-1333

Southwest Region

2017 MONITORING REPORT

Wetlands Program

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<table>
<thead>
<tr>
<th>General Site Information</th>
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<tbody>
<tr>
<td>USACE NWP 3 Number</td>
</tr>
<tr>
<td>Mitigation Location</td>
</tr>
<tr>
<td>LLID Number</td>
</tr>
<tr>
<td>Construction Date</td>
</tr>
<tr>
<td>Monitoring Period</td>
</tr>
<tr>
<td>Year of Monitoring</td>
</tr>
<tr>
<td>Type of Impact</td>
</tr>
<tr>
<td>Area of Project Impact¹</td>
</tr>
<tr>
<td>Type of Mitigation</td>
</tr>
<tr>
<td>Planned Area of Mitigation¹</td>
</tr>
</tbody>
</table>

¹ Impact and mitigation numbers sourced from *SR-142 Glenwood Culvert Replacement, Critical Areas Mitigation Memo* (WSDOT 2013).
Summary of Monitoring Results and Management Activities (2017)

<table>
<thead>
<tr>
<th>Performance Standards</th>
<th>2017 Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum 100 native woody shrubs in the wetland enhancement areas</td>
<td>100 native woody shrubs</td>
</tr>
<tr>
<td>Document and remove all Class A noxious weeds, purple loosestrife (<em>Lythrum salicaria</em>), and pale yellow iris (<em>Iris pseudacorus</em>)</td>
<td>None observed</td>
</tr>
<tr>
<td>Reed canarygrass (<em>Phalaris arundinacea</em>) not outcompeting planted woody species</td>
<td>Reed canarygrass not outcompeting planted woody species</td>
</tr>
</tbody>
</table>

Report Introduction

This report summarizes final-year (Year-3) monitoring activities at the 142 Glenwood Culvert 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 July 18 and August 23 in 2017.
What is the 142 Glenwood Culvert Mitigation Site?

This mitigation site (Figure 1) consists of enhanced wetland situated on both the inlet and outlet sides of a new culvert. This wetland was enhanced to compensate for permanent impacts to 30 square feet of wetlands and temporary impacts to 60 square feet of wetlands due to the replacement of a failing three sided box culvert. The new four sided box culvert connects the existing wetland located on both sides of State Route (SR) 142. The culvert carries seasonal flow from the upstream existing wetland and eventually flows to the Klickitat River.

Figure 1  Site Sketch

The 142 Glenwood Culvert Mitigation Site includes a permanent open water channel that provides habitat for wetland dependent species in an arid environment. Appendix 2 includes site directions.
What are the performance standards for this site?

Year 3

Performance Standard 1
At monitoring Year 3, there will be a minimum of 100 native woody shrubs (planted and volunteer trees and shrubs) in wetland enhancement areas.

Performance Standard 2
In all monitoring years, all Class A noxious weeds, purple loosestrife, and paleyellow iris will be documented and completely removed from the site.

Performance Standard 3
Reed canarygrass will be managed so as to not outcompete planted woody species throughout the monitoring period.

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

The table documents the sampling method used for all of the 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>PS 1</th>
<th>PS 2</th>
<th>PS 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Plants</td>
<td>Presence/Absence</td>
<td>Presence/Absence</td>
<td></td>
</tr>
<tr>
<td>Native Woody</td>
<td>Noxious Weeds</td>
<td>Invasive Species</td>
<td></td>
</tr>
<tr>
<td>Wetland</td>
<td>Wetland</td>
<td>Wetland</td>
<td></td>
</tr>
<tr>
<td>Total count</td>
<td>Qualitative</td>
<td>Qualitative</td>
<td></td>
</tr>
</tbody>
</table>

Is this site a success?

This site is successful. All Year 3, final-year performance standard are being met. Many of the planted woody shrubs are well established and growing above the height of the reed canarygrass. None of the noxious weeds of concern were observed during this year’s monitoring visits.
Results for Performance Standard 1
(100 native woody shrubs in the wetland enhancement areas):

One-hundred living native trees and shrubs are in the wetland enhancement areas based on a total count (Photo 1). Geyers willow (*Salix geyeriana*) and cluster rose (*Rosa pisocarpa*) are the dominant species. Other species observed include hardhack (*Spiraea douglasii*), black hawthorn (*Crataegus douglasii*), and snowberry (*Symphoricarpos albus*).

Results for Performance Standard 2
(Remove Class A noxious weeds, purple loosestrife, and paleyellow iris):

None observed during the monitoring visits.

Results for Performance Standard 3
(Reed canarygrass not outcompeting the planted woody species):

Reed canarygrass does not appear to be outcompeting the planted woody species.

What is planned for this site?
Routine weed control will continue in 2018.
Appendix 1 – Impact Plan Sheet
(from WSDOT 2012)

Proposed Project Impacts and Wetland Enhancement Areas
Appendix 2 – Photo Points
The photographs below were taken from permanent photo-points on July 18, 2017 and document current site development.

Photo Point 1

Photo Point 2

Driving Directions:
From I-5, head south to Vancouver, WA. Take Exit 1A for SR 14 East toward Camas. Travel east on SR 14 until you are close to the town, Lyle. Take a left onto SR 142 East. There will be signs for Klickitat/Wahkiacus. Travel northeast on SR 142 until you reach the intersection with Glenwood Road. The culvert and planting area is just past this turnoff.
Literature Cited


