

**Walla Walla County Conservation  
District**

**Byerley Screen  
Cottonwood  
Creek**



**CONTACT INFORMATION:**

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## **Mission of the Walla Walla County Conservation District**

WWCCD is dedicated to the conservation and restoration of the natural resources of Walla Walla County, facilitated by working on a voluntary basis with landowners to identify opportunities and create solutions, while consistently providing education, information, and assistance whenever possible.

### **WWCCD Vision:**

WWCCD believes that many complex environmental problems can be solved through voluntary cooperation rather than by regulatory mandates. We will do this by creating and then implementing proactive programs that respect both the needs of the landowners and the natural resources of the County.

# Byerley Screen Cottonwood Creek

Funded by  
Washington State Conservation  
Commission,  
WDFW Yakima Screen Shop  
&  
Byerley Farms

Walla Walla County Conservation District  
2017

## The Resource Concern:

The Byerley Screen Project was a complex and challenging undertaking that required a considerable amount of planning. The project site is located along Cottonwood Creek, which is an intermittent waterway. The irrigation intake led to an irrigation pipe and canal and emptied flow into a pond off the creek. The pond helped with sediment settling and was used for irrigation.



Before: Intake only screened out debris from river.

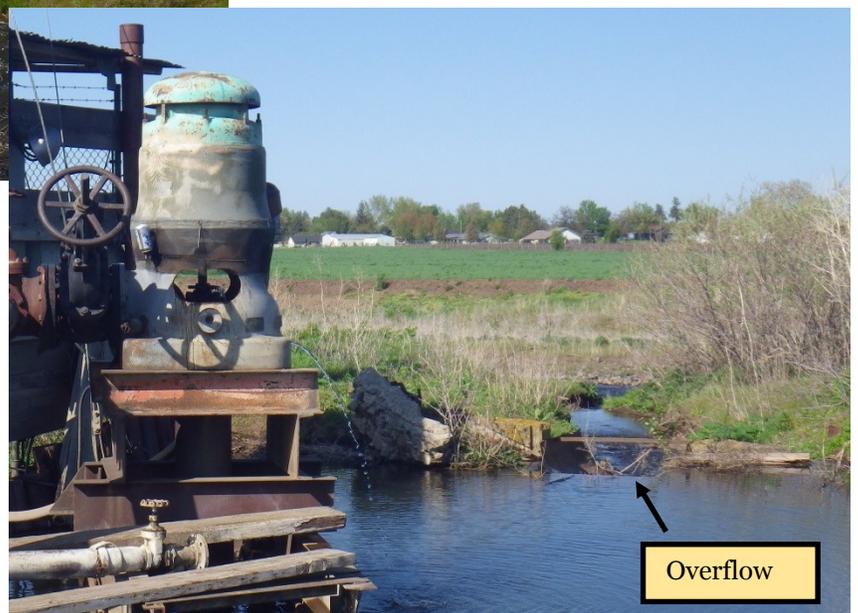
District staff, along with WDFW and the concerned landowner, had pondered how to resolve the site challenges for several years.

Adult salmonids were somewhat blocked from the system by a grate, but the grate was not a barrier to juvenile fish. When the creek ran dry in the summer months, there was a risk of juvenile fish being stranded.



During high spring flows, fish traveled up this short canal and ended up in the pond. When the pond was full, an overflow structure sent water back to the creek.

The overflow only functioned during high flows when the pond was full. When water levels began to drop, there was no exit for fish.



Overflow

## Project Overview

A design was drafted and the district applied for a Conservation Commission grant on behalf of the landowner. Then high flows altered the gravel bars in the stream and the original design became obsolete. In January of 2017 district staff, WDFW, and the landowner met to plan a new course. The options were to screen the pump at the pond and install a fish bypass back to the creek, or use a revolving drum screen to keep fish out of the pond completely along with a fish bypass. With the WDFW Yakima Screen shop's offer of a refurbished drum screen, the team decided on the latter approach.

There were concerns about the possibility of high flows that could affect the screen site and the lack of habitat in the area. Even though Cottonwood Creek is a seasonal stream that always goes dry in the early summer, it was clear that salmonids were utilizing the creek. The project was expanded to include large woody debris placement to protect the screen and improve habitat.



Before: Riparian plantings provide some shade but the site lacked large woody debris for shelter.

## Project Results:

As soon as Cottonwood Creek entered its seasonal dry phase, the project began. Just prior to construction, 191 salmonids and over 300 fresh water fish were removed from the pond and canal and



Fish rescue (salvage)

safely transferred to Yellowhawk Creek.

WDFW's Yakima Screen Shop supplied and installed a modular single rotary drum screen. The screen meets National Marine Fisheries Service requirements and allows for the 6.6 cfs flow authorized by the Byerley Farm spring water right.



After: The newly installed screen passes water while fish are directed back to the main creek.

Then several large woody debris structures were installed in the south bank of Cottonwood Creek between the diversion gates and the mouth of pond. The structures effectively slow down stream flow during times of high water and provide additional shade and shelter in the channel.

The new rotating drum screen is much more efficient than the old grate system and completely screens the intake. Thanks to the new screen, fish are kept out of the pond completely so there is no concern that fish will be stranded there.

The channel is still accessible to fish for a short distance but the flow by the screen directs them back to the main creek. A day after project completion, a significant rain event gave staff a chance to observe that the screen was functioning perfectly.



Large woody debris installed upstream of the system intake.



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Additional large woody debris, installed in early summer when creek is dry.



The project is a good example of collaborative efforts of the landowner, the Walla Walla County Conservation District, and Washington Department of Fish & Wildlife. It shows that protecting wildlife and maintaining agricultural use can be achieved with voluntary landowner participation, innovative thinking, and support from partner agencies.

### Project costs:

Material and Installation: 45,000.00

Engineering, Permitting, and Technical Assistance: ≈10,000.00