



DEPARTMENT OF
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State of Washington

Addendum 2 to Quality Assurance Project Plan

Palouse River Dissolved Oxygen and pH Total Maximum Daily Load Water Quality Study Design

September 2013

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Addendum

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This addendum is an addition to an original Quality Assurance Project Plan. It is not a correction (errata) to the original plan.

Activity Tracker code

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Addendum to Quality Assurance Project Plan

Palouse River DO and pH TMDL Study

September 2013

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EAP: Environmental Assessment Program
EIM: Environmental Information Management database

Development of Load and Wasteload Allocations in the Palouse River watershed will require estimating a natural condition for DO, pH, and nutrients. This task is difficult due to a lack of unimpacted reference sites in the Palouse watershed and other similar watersheds nearby.

Monitoring is proposed at one new site on Rock Creek at Escure Ranch, upstream of Towell Falls (T17N R39E s.6). This site does have some human impacts and is in a drier climate than parts of the Palouse River. However, it would still be a good site for useful characterization of eutrophication in a Columbia basin stream with some intact riparian vegetation, without effects from nearby point sources, relatively less tillage in the watershed, and no livestock at present. (Cattle were not observed on Escure Ranch on August 7, 2013.) Data will be used in conjunction with existing data from other quasi-natural Columbia basin streams and sites in the upper Palouse watershed.

One additional site may be added 1 to 2 miles upstream to verify that nutrient, dissolved oxygen, and pH conditions are approximately at equilibrium.

The following data will be collected:

- A hydrolab will be deployed to collect continuous dissolved oxygen, pH, temperature, and conductivity data for 1 to 2 weeks in late August 2013.
- Total persulfate nitrogen, nitrate-nitrite, ammonium, total phosphorus, and orthophosphate samples will be taken twice, once when the hydrolab is deployed and once at retrieval.

The following SOPs will be used:

EAP015 – Manually Obtaining Surface Water Samples
EAP023 – Collection and Analysis of Dissolved Oxygen (Winkler Method)
EAP033 – Hydrolab® DataSonde® and MiniSonde® Multiprobes
EAP070 – Minimizing the Spread of Aquatic Invasive Species

The laboratory budget for this addendum is \$412. This assumes the addition of the one upstream site, and one set of QA samples, for a total of 5 sets of nutrient samples.