

FY 2017 Measure Definitions Columbia River



Measure Code: CR-SP53

Measure Language: Clean up acres of known contaminated sediments (cumulative starting in FY 2005).

Type of Measure: Target measure; cumulative measure

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Measure Definition

Methodology for computation of results: Cleanup acres are based on activity reports received from EPA and state or other federal agencies. The number of acres is tracked manually by a combination of EPA work efforts and state of OR and WA reporting.

Units: Acres

Universe: Total acres of known highly contaminated sediment in the Columbia River Basin as assessed in FY 2006.

Baseline: Cleanup acres at a point in time (0 from FY 2005).



Measure Code: CR-SP54

Measure Language: Demonstrate a reduction in mean concentration of certain contaminants of concern found in water and fish tissue. (cumulative starting in FY 2006).

Type of Measure: Indicator measure

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Measure Definition

Terms and phrases: "Certain contaminants of concern" are Chlorpyrifos and Azinphos methyl in Oregon West Prong, Little Walla Walla River, South of Stateline Road; Chlorpyrifos in Oregon North Fork Deep Creek (Clackamas Sub-basin); DDT in Washington Walla Walla River, RM 14.3 and Yakima River, RM 18-30.

- Washington will be contributing to the target reduction through the implementation of two Water Quality Improvement Projects/Total Maximum Daily Loads (TMDLs), specifically the Yakima River TMDL and Walla Walla River TMDL. More information on the WA Ecology TMDL program can be found at: http://www.ecy.wa.gov/programs/wq/links/wq_assessments.html

- Oregon will be contributing to the target reduction by the implementation of Pesticide Stewardship Partnership (PSP) in the Walla Walla River basin.

The baseline for this strategic target is Table 1 that includes the selected contaminants for monitoring, the location for where baseline data was collected and where subsequent monitoring will occur, the baseline concentration and source of the baseline data as well as the type of sampling (fish tissue, water column, semi permeable membrane devices (SPMDs)) and the responsible party (see link to baseline listed below).

Choosing a contaminant location meant there must be historical data and the expectation of similar sampling data from the same location in the future. Hence, if it is unlikely that a contaminant will be monitored at a given site, that contaminant/location should not be chosen as part of the baseline. The Columbia River Basin includes land that has a variety of uses. Many different pesticides may be used throughout the year. Spraying is more frequent during certain seasons and this may require intense monitoring and poses a challenge to consistently monitoring reduction of contaminant concentrations. Finally, quantitative concentrations for each baseline were chosen. Success in meeting the 10% reduction target will be measured in the average reduction for each contaminant at each location.

Units: Units vary due to the focus of the contaminants of concern.

Universe: n/a

Baseline: please see http://www.epa.gov/region10/pdf/columbia/baseline_document_2009-2014.pdf

Columbia River: Baseline for Pesticide/Toxics Strategic Target

Contaminant Name	Location	Sampling Matrix	Mean Baseline Concentration	Year & Source(s) of Baseline Data	Responsible Party*
Chlorpyrifos	Oregon: West Prong, Little Walla Walla River, South of Stateline Road	Water column	0.21 µg/l ¹ Detection frequency: 0.43	Pesticide Stewardship Partnership documentation	OR DEQ
Azinphos methyl	Oregon: West Prong, Little Walla Walla River, South of Stateline Road	Water column	0.0199 µg/l (2006 average) Detection frequency: 0.29	Pesticide Stewardship Partnership documentation	OR DEQ
Chlorpyrifos	Oregon: North Fork Deep Creek	Water column	0.087 µg/l (3-year average [2005– 2007])	Pesticide Stewardship	OR DEQ

	(Clackamas Subbasin)			Partnership documentation	
DDT	Washington: Walla Walla River, RM 14.3	Water Column (measured with SPMD)	1.3 ppt ²	2002–2003 Walla Walla TMDL Evaluation, Dept. of Ecology publication 04–03–032	WA Ecology
DDT	Washington: Yakima River, RM 18–30	Fish Tissue	92 µg/Kg, wet ³	2006 Yakima River Fish Tissue Study (preliminary data for TMDL report)	WA Ecology

* All Work is dependent on continued availability of funds

1 Baseline data is from 2006 monitoring results associated with DEQ's Walla Walla Basin Pesticide Stewardship Partnership. The baseline concentrations are median concentrations found from Spring 2006 monitoring in the Basin. The detection frequency baseline is the fraction of sampling events where detections were observed.

2 Baseline data is from the Walla Walla TMDL Evaluation (Technical Report) 04–03–032 (page 47). The sampling location is the lower Walla Walla River Site (RM 14.3) above Columbia River influences. Sampling was done with Semipermeable Membrane Devices (SPMDs). Measurements are in ng/L (ppt) dissolved. The concentration is an annual average (data is from May and June 2002, August and September 2002, November and December 2002, and February and March 2003). DDT is measured as total DDT, the sum of 4,4'-DDT, 4,4'-DDE, and 4,4'-DDD.

3 This preliminary data is from the Dept. of Ecology's Yakima River Fish Tissue study (as of 1/03/07). This study will be part of the Yakima River TMDL report. Samples were collected on 10/11/06 between Benton City (about RM 30) and Horn Rapids Dam (RM 18) in the Lower Yakima River. Each sample is a composite of skin-on fillets from five individual Largescale Suckers. Three samples were averaged to determine the baseline concentration. DDT is measured as total DDT, the sum of 4,4'-DDT, 4,4'-DDE, and 4,4'-DDD.