

Columbia Slough Sediment Project Update – January 2004

This fact sheet provides an update on the Department of Environmental Quality (DEQ)/City of Portland (City) project to evaluate and cleanup, as necessary, contaminated sediments in the Columbia Slough. Details of the watershed-focused approach currently being developed by DEQ and the City were described in an earlier fact sheet (Columbia Slough Sediment Project Update - May 2003) <http://www.deq.state.or.us/nwr/cs.htm>.

Feasibility Study

As described in the May 2003 fact sheet, there are three primary components of the Slough sediment project:

1. Pollutant source reduction
2. Specific site cleanup
3. Long-term monitoring.

DEQ and the City have begun preparing a Feasibility Study (FS) that will provide the basis for a proposed long-term cleanup plan for the Slough incorporating these three components. The proposed approach will undergo public review and comment.

DEQ and the City are currently reviewing draft versions of the first five sections of the study. These sections describe the project background and investigation history, identify general sources of contamination and the status of efforts to address them, discuss the process used to develop “baseline concentrations” for the Slough sediment (see below), and define remedial action objectives.

Baseline evaluation

The Columbia Slough is located in an urban area and has been, for many years, the receiving water body for surface water runoff from a wide variety of land use practices throughout its 31 miles of interconnected waterways. In a comprehensive sampling effort completed in 1994 (Columbia Slough Screening Level Risk Assessment) virtually every sediment sample analyzed contained one or more contaminants that exceeded conservative screening levels based on impacts to fish and fish consumers. This type of area-wide contamination makes it difficult to establish remedial action goals for sediment at a specific site.

To address this issue, DEQ analyzed the existing database of sediment sampling results to determine “baseline” concentrations of frequently detected contaminants of concern.

The baseline concentration for a particular contaminant reflects the upper end of the range of concentrations of the contaminant that could be expected to be pervasive throughout the Slough sediment. This concentration range should not include concentrations indicative of an isolated source of contamination but should reflect levels of contamination resulting from non-point, or widespread sources. The process for determining baseline concentrations in the Slough and a table of baseline values is provided on the DEQ web page.

DEQ is using the baseline values to determine practical cleanup levels for individual contaminated sites. DEQ also developed a preliminary set of risk-based sediment concentration goals which are the ultimate objective for the long-term, watershed-based remedial approach. These risk-based concentrations will likely be refined as additional studies are completed.

Pollutant source reduction

The City continues to maintain existing and plan additional pollution reduction facilities to reduce stormwater inputs to the Slough. To date, 16 pollution reduction facilities have been constructed in the Columbia Slough watershed. In addition, the City maintains numerous swales within the watershed.

The DEQ Site Assessment program continues to identify potential contaminated sites along the Slough and evaluate them to determine their priority for cleanup. The focused discovery work has identified nearly 31 new sites of interest, and investigations have been initiated at several of these. A map showing the locations of sites identified to date is now available on the DEQ web page. DEQ Site Assessment will be basing discovery of new sites in the Columbia Slough on evaluation of sediment data relative to the developed baseline concentrations.



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The DEQ Hazardous Waste program has developed a plan to provide technical assistance to businesses in the Slough watershed to ensure that industrial hazardous wastes are being managed compliantly. DEQ will mail information about this to an initial list of businesses in the lower Slough when DEQ resources for this project have been restored (anticipated spring 2004). DEQ also coordinated with the City's wellhead protection program which is providing similar information to businesses in the upper Slough via inspections conducted by the Fire Bureau. The City's Industrial Stormwater program continues to inspect industries in the vicinity of contaminated sediments with the goal of identifying and eliminating current sources of pollution.

The total maximum daily load (TMDL) for temperature for the Slough is being developed and will go to EPA for approval as part of the Lower Willamette River TMDL package in early 2004. The TMDLs already established for the Slough (DDE, DDT, PCBs, dioxin, lead, chlorophyll a, pH, and phosphorous) continue to be used as a basis for monitoring and controlling stormwater and industrial discharges to the Slough.

Specific site cleanup

At least 3 new site investigations (Pacific Carbide, Dynea Overlays, and Pacific Meat) have been initiated in the Slough since the last fact sheet update. These investigations will evaluate potential contaminant impacts on the Slough as well as evaluate the sites' risk to human health and the environment in general. The status of site investigations can be obtained from the DEQ web site.

Long-term monitoring

The City has prepared drafts for several sections of the long-term monitoring plan for the Slough. Currently under agency review and revision, these sections address monitoring of stormwater quality, sediment quality, fish tissue, and the effectiveness of stormwater controls. Additional draft sections addressing in-stream water quality, receptors, monitoring schedule, data analysis, data quality, and data management will be submitted to DEQ for review in early 2004.

Database

The City is developing a geographically oriented database that will contain all existing and future Slough sediment and fish tissue data. The City has decided to use SedQual for this purpose. SedQual is the same database used by the State of Washington to organize their statewide sediment data. Once this database is established

it will be possible to plot existing data on contaminant concentrations in particular sections of the Slough and evaluate trends in data as long-term monitoring generates data over time.

Feature: St. Johns Landfill

Consultants for the Metropolitan Service District (Metro) are in the process of developing a work plan for a remedial investigation (RI) of the St. Johns Landfill under a Consent Order with DEQ that was signed at the end of October 2003. The objectives of the RI are to characterize hazardous substance releases from the facility and provide the information necessary to develop cleanup options. The evaluation may also indicate the need to implement additional controls and monitoring to the program currently required under Metro's Landfill Closure Permit (renewed in conjunction with the RI Consent Order). Elevated concentrations of lead and other metals have been detected in shallow groundwater adjacent to the site and a variety of other hazardous substances, including semivolatile compounds and pesticides may be migrating to the Slough sediments via groundwater.

The St. Johns Landfill is located at 9363 N Columbia Boulevard and is part of the Smith and Bybee Lakes Management Area. Bybee and Smith Lake lie just north and east of the 236 acre site. The Columbia Slough borders the landfill on the south and west and a branch of the Slough, the North Slough, forms the northern border.



St. Johns
Landfill

August 3, 2000 aerial photo of St. John's Landfill and surrounding area

The landfill began operation in 1932 and was closed to disposal in 1991. The landfill accepted municipal and industrial waste and ash from an adjacent incinerator which operated until 1982. From 1958 to 1962 approximately 5,000 drums of pesticide manufacturing waste from a nearby Rhone-Poulenc facility was disposed at the site.

As environmental concern surrounding the landfill increased and waste management technology advanced, the operation of the site was modified to reduce environmental impacts.

The natural levees that surround the landfill were enhanced to provide flood protection and reduce infiltration of landfill leachate to surface water. To control leachate seepage from the landfill a cover of compacted clay/silt, a plastic membrane, drain sand, and topsoil, was placed over the entire landfill in the 1990s. A landfill gas collection system collects methane generated by the landfill and routes it to Ash Grove Cement as an energy source. A network of 30 groundwater monitoring wells are sampled semiannually to assess migration of landfill contaminants.

The RI work plan is expected to be completed in late summer 2004 and will be made available to the public through DEQ's file review process. All site files are available for public review at the DEQ Northwest Region Office, 2020 SW 4th Ave., 4th floor. Please contact DEQ's file review coordinator at (503) 229-6729 to set up an appointment.

Opportunities for public participation

Questions and comments on the Columbia Slough project are welcome and can be directed to DEQ Project Manager, Jennifer Sutter, (503) 229-6148, sutter.jennifer@deq.state.or.us.

A public review and comment period will be initiated on the overall approach to reducing contaminant levels in the Slough once the feasibility study has been approved. Notice of this comment period will be provided to interested parties and in local publications, including The Oregonian. Cleanup action proposals for individual sites will also be subject to public review and comment.

Additional information on this project can be found on DEQ's web site:

<http://www.deq.state.or.us/nwr/cs.htm>.

Information on City watershed protection efforts can be found on the City's web site:

http://www.cleanrivers-pdx.org/clean_rivers/ws_columbia_slough.htm.

Information on the Columbia Slough Watershed Council efforts can be found at

<http://www.columbiaslough.org/>.