State of Oregon
Department of Environmental Quality Memorandum

Date: July 3, 2018

To: Environmental Quality Commission

From: Richard Whitman, Director

Subject: Item B, Informational item: Portland Harbor tour introduction
July 11-13, 2018, EQC meeting

Purpose of item

DEQ will present information about the Portland Harbor Superfund cleanup site. Staff will give an overview of DEQ/EPA roles and responsibilities, provide an overview of DEQ's work on upland source control, discuss recent work in the downtown reach (immediately above the superfund site) and recent sampling upriver of downtown Portland. Staff also will provide information about anticipated next steps at a number of sediment management areas (SMAs). This presentation will orient the commission prior to a boat tour where they will visit a number of SMAs and other sites.

Attachments and supporting materials

A. Fact sheet: DEQ's Role in Portland Harbor
B. Fact sheet: Willamette Upriver Reach Sediment Studies
C. DEQ's Portland Harbor webpage:
https://www.oregon.gov/deq/Hazards-and-Cleanup/CleanupSites/Pages/Portland-Harbor.aspx

EQC involvement

No commission action is requested at this time. The commissioners will tour locations in Portland Harbor following this informational presentation.

Report compiled by Stephanie Caldera
Commission assistant

Fact Sheet

DEQ's Role in Portland Harbor Superfund Cleanup

The U.S. Environmental Protection Agency listed the Portland Harbor reach of the Willamette River as a Superfund Cleanup Site in December 2000. Portland Harbor extends from Sauvie Island at river mile 1.9 to just downstream of the Broadway Bridge at river mile 11.8

Sediment in this section of the Willamette is contaminated with various toxic pollutants from decades of industrial activities along the river. Contaminants include metals, polycyclic aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), chlorinated pesticides and dioxins/furans.

EPA is the lead agency for investigating and cleaning up contaminated sediment in the river. DEQ supports and collaborates with EPA to ensure this work corresponds with Oregon's cleanup requirements.

DEQ is the lead agency for overseeing the cleanup of properties located on the banks of the river, called upland sites. These sites may be sources of pollution to the river, so cleaning them up is crucial for preventing ongoing and future contamination.

DEQ is also responsible for identifying, cleaning up or controlling upstream sources of contamination that could enter the Portland Harbor.

DEQ began investigating and cleaning up contamination in the area in the 1980s. DEQ's efforts are now focused on evaluating three main ways contaminants enter Portland Harbor: erodible soil and riverbanks, groundwater and stormwater, and upstream sediment contaminated by upland activities.

The upland cleanup and control of pollution must occur before EPA's in-water sediment cleanup and is vital to its success.

In December 2005, DEQ and EPA developed a Joint Source Control Strategy, which identifies a framework for conducting the upland and pollution control work.

EPA issued the Portland Harbor Record of Decision, or formal cleanup plan, in January 2017. DEQ coordinates closely with EPA to ensure that source control work meets the objectives of the in-water cleanup and, where necessary, is integrated into EPA's in-water cleanup.

Visit DEQ's webpage to view the source control strategy, an interactive map of upland cleanup sites, summary reports, and a video on source control: http://bit.ly/DEQPortlandHarbor

Alternative formats

Documents can be provided upon request in an alternate format for individuals with disabilities or in a language other than English for people with limited English skills. To request a document in another format or language, call DEQ in Portland at 503-229-5696, or toll-free in Oregon at 1-800-452-4011, ext. 5696; or email deqinfo@deq.state.or.us.

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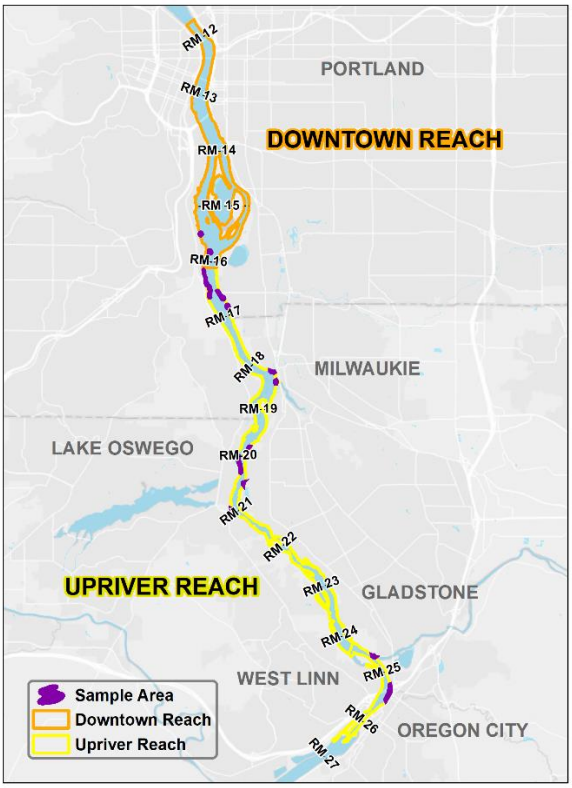
Item B 000002

Last Updated 06/11/2018
Sarah Greenfield

Fact Sheet

Willamette Upriver Reach Sediment Studies

The Oregon Department of Environmental Quality is working with the U.S. Environmental Protection Agency, City of Portland, Oregon Department of Transportation and others to evaluate potential sources of contamination upriver of the Portland Harbor Superfund Site. This fact sheet provides information about three recent studies conducted between Ross Island and Willamette Falls. This work was funded by the City of Portland, DEQ's Orphan Program and a grant from the EPA.



The Willamette Upriver Reach and Downtown Reach are upstream of the Portland Harbor Superfund Site.

Background

The Lower Willamette River is divided into three reaches with respect to contaminant investigation and cleanup: Upriver Reach, Downtown Reach, and the Portland Harbor Superfund Site. The Portland Harbor is an EPA-designated Superfund Site and extends from Sauvie Island at river mile (RM) 1.9 to just downstream of the Broadway Bridge at RM 11.8. Find more information at http://bit.ly/EPA-PH

The Downtown Reach extends from the Steel Bridge at RM 12 to the Sellwood Bridge at RM 16.5. Five major cleanup actions have been conducted in this reach under DEQ oversight, with several studies currently underway. Find more information at http://bit.ly/WRsediment

Fewer studies have been conducted in the Upriver Reach, which extends from the Sellwood Bridge to Willamette Falls at RM 26, prompting the three new investigations described here.

In the first study, DEQ identified sediment sampling locations based on historical data and proximity to potential sources and conveyances of contamination: stormwater outfalls; areas adjacent to past or present riverfront industrial activities; land use that has the potential to impact the river, such as application of pesticides; and tributaries that may have upstream sources of contamination. This study focused on finding potentially harmful contaminants associated with the identified sources, including the contaminants of concern that EPA determined to pose unacceptable risk in the Portland Harbor Superfund Site.

In addition, DEQ and the City of Portland conducted two separate studies between Ross Island to the Sellwood Bridge, where polychlorinated biphenyls (PCBs) were previously detected in fish tissue.

The Oregon Health Authority has issued a fish consumption advisory for the Lower Willamette River from the Sellwood Bridge to its confluence with the Columbia River. For the most up-to-date information on fish advisories in the Willamette River, visit: www.healthoregon.org/fishadv

Results

Reports summarizing the data collection and analytical results in the Upriver Reach are available at http://bit.ly/WRsediment

Result highlights are on the following page.

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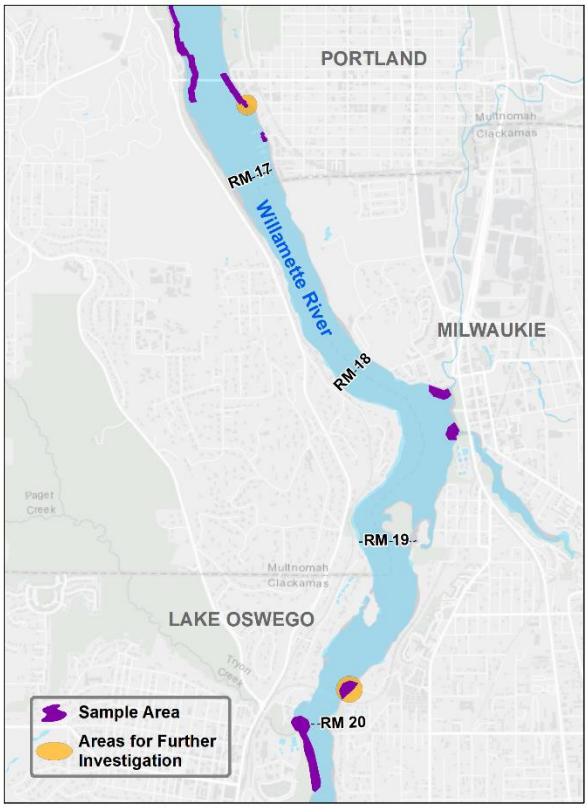
Results indicate the following:

- The Upriver Reach is much less contaminated than the Portland Harbor Superfund Site.
- Most contaminants were either not detected or present below Portland Harbor cleanup levels, and significantly below remedial action levels, which trigger the need for active cleanup.
- In the few locations where concentrations exceeded Portland Harbor remediation action levels, contamination appears to be localized.
- Contamination detected in the Upriver Reach is not expected to impact the Portland Harbor Superfund Site.

Further investigation

DEQ identified two areas, one at RM 16.7 and one at RM 20, where additional investigation and potential cleanup is warranted. Elevated concentrations of PCBs were detected at RM 16.7 on the east side of the river upstream of the Sellwood Bridge. The contamination does not pose a human health concern for people touching the sediment, but PCBs can accumulate in fish tissue and cause adverse effects to people who eat the contaminated fish. DEQ and the City of Portland are currently working together to better understand the extent of contamination at RM 16.7.

At RM 20, the sediment had slightly elevated concentrations of several contaminants, including polycyclic aromatic hydrocarbons (PAHs), polybrominated diphenylethers (flame retardants), and dieldrin (a pesticide). The concentrations of PAHs would only cause human health concern if children spent a significant amount of time on the beach (about 90 days per year for six years) directly contacting and accidentally ingesting the sediment—for example, by playing on the beach and then eating without rinsing their hands. However, because the levels of PAHs moderately exceed the Portland Harbor cleanup levels, and other contaminants are also present, DEQ will be conducting additional assessments of the area and attempt to identify the source of contamination.



Two areas in the Upriver Reach that will need further investigation, one near RM 20 and one at RM 16.7.

Additional information

Key document are available at:
http://bit.ly/WRsediment

For more information contact:

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Alternative formats

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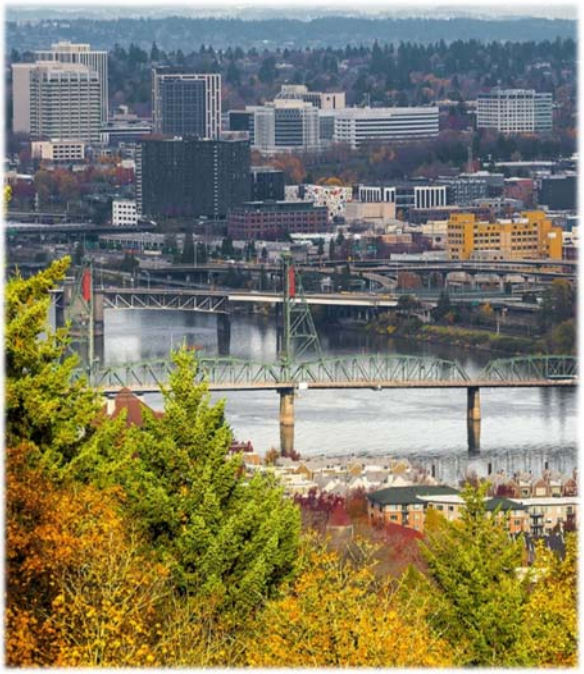
Fact Sheet

Willamette River Downtown Reach Sediment Studies

The Downtown Reach of the Willamette River extends from the Steel Bridge at River Mile (RM) 12 to the Sellwood Bridge at RM 16.5. This reach is just upriver from the Portland Harbor Superfund Site.

DEQ began investigating contamination and overseeing cleanup of contaminated sediment in the mid-1980's. Potential contaminants include polychlorinated biphenyls (PCBs), dioxins/furans, pesticides, polycyclic aromatic hydrocarbons (PAHs), metals (lead, mercury, arsenic), and tributyl tin.

As of 2018, seven areas have been cleaned up or require no further action, one is undergoing active cleanup, and three are undergoing sediment investigations.



The Hawthorne Bridge over the Willamette Downtown Reach.

Background

The Downtown Reach of the Willamette River has been heavily developed and modified during the past 150 years. Various industrial activities have occurred on the banks of the river, including ship building and breaking, heavy manufacturing, pesticide formulating, manufactured gas production, power generation and distribution, and lumber processing. Major transportation corridors have also modified this reach of the river.

As a result of these activities, contaminants may have reached the river and settled into the riverbed sediment. Pathways for contamination to reach the river include riverbank erosion, direct surface runoff, stormwater discharges, wastewater discharges, on-water activities (including spills), and groundwater.

Current sediment investigations

In 2017, DEQ oversaw sediment investigations along the Willamette Park riverbank from RM 15.5W to RM 16.1W and along the waterfront beside the Staff Jennings Boating Yard that extends from approximately RM 16.2W to RM 16.4W. The results of these studies indicated most contaminants were either not detected or significantly below remedial action levels. DEQ has recommended no further action for these areas.

Three in-water sediment investigations in the Downtown Reach are underway. An in-water sediment investigation is tentatively scheduled to be completed in fall 2018 at CD Greenway, located between RM 14W and RM 14.3W. DEQ is also working with the City of Portland and the Oregon Department of Transportation to conduct additional sediment investigations in focus areas located at RM 12.1E and RM 12.5E. A sediment sampling event was conducted in April 2018 at these two locations to characterize potential impacts near several outfalls. The results for these two areas will be available in the fall 2018.

Cleanup work

Significant sediment investigations and cleanup actions have been completed at five sites in the Downtown Reach, and a sixth is underway.

1. PGE Station L (RM 13.3E) – Cleanup completed in 1991. Remedial action consisted of removing PCB-contaminated sediment and installing a sand and gravel isolation cap.

2. Ross Island (RM 15) – Cleanup completed in 2010. Remedial action consisted of capping shallow surface soil contaminated with metals, capping settling ponds contaminated by tributyl tin, and capping the former in-

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water confined disposal area to isolate PCBs and PAHs in the sediment.

3. Zidell (RM 13.5W to 14.2W) – Cleanup completed in 2012. Remedial action consisted of installing a sediment isolation cap to address PCBs in sediment.

4. PGE RM 13.5E – Cleanup completed in 2015. Remedial action consisted of installing a sand isolation cap to address elevated concentrations of PCBs, PAHs and metals in sediment.

5. PGE RM 13.1E – Cleanup completed in 2017. Remedial action consisted of installing an isolation cap with activated carbon to address elevated concentrations of PCBs, pesticides, PAHs and metals in sediment.

6. Portland Gas Manufacturing (RM 12.1W to RM 12.3W) – A sediment cleanup action is in progress and currently scheduled to take place in summer 2019.

All cleanup actions within the Downtown Reach are subject to long-term monitoring and maintenance requirements.

Evaluation of contamination

The concentrations of contaminants in the Downtown Reach are generally lower than in the Portland Harbor Superfund Site. Based on these findings, DEQ has concluded the Downtown Reach is unlikely to be a significant, ongoing source of contamination to the Portland Harbor Superfund Site.

DEQ expects that concentrations of contaminants in surface sediments in the Downtown Reach will decline over time as the in-water sources are addressed, upland sources are controlled, and natural recovery mechanisms take effect.

Additional information

Key documents on the Downtown Reach sediment activities are available at: http://bit.ly/WRsediment

DEQ has also conducted sediment studies in the Upriver Reach, which extends from the Sellwood Bridge at RM 16.5 to Willamette Falls at RM 26. More information for the Upriver Reach can be found at the link above.

Contact

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