



Portland Harbor Superfund Site

Region 10 – January 2017

Record of Decision Community Summary

The United States Environmental Protection Agency has issued the Record of Decision (ROD) that selects the remedy for the cleanup of the Portland Harbor Superfund Site. EPA's Proposed Cleanup Plan for the Portland Harbor Superfund Site was released for public comment on June 8, 2016. The proposed plan was the result of many years of work to investigate the site's contamination and develop potential cleanup alternatives. This proposed plan outlined these different cleanup alternatives and presented a preferred alternative (Alternative I) to address risks to people and the environment from contamination in the lower Willamette River and its river banks.

During the 90-day comment period, the public asked for changes to the preferred alternative. Based on the public comments, EPA modified Alternative F and selected it as the final remedy. **Alternative F Modified** addresses many of the public concerns and is still cost-effective.

The following information is provided in this community summary:

- The site and its risks.
- Description of the selected remedy.
- Why the EPA chose another alternative.
- Comments about the cleanup.
- Outcomes of the selected remedy.
- EPA's commitment to flexibility and cooperation.
- Next steps in the Superfund process.



For more detail, please refer to the ROD or attend one of the community information sessions that are currently planned for March 2017 (see last page).

The Site and Its Risks

The selected remedy covers an approximate 10-mile stretch of the lower Willamette River in Portland, Oregon (see map). It is a major industrial port area that was contaminated over the twentieth century by commercial and industrial activities. EPA is working with the Oregon Department of Environmental Quality (DEQ), tribal governments, and other federal and state agencies to address unacceptable levels of contamination in the river.

The Lower Willamette Group (a subset of parties potentially responsible for the contamination) conducted a remedial investigation of the nature and extent of site contamination, evaluated the risks to people and ecological receptors from the contaminants and summarized the information in a remedial investigation report that was revised by EPA in February 2016. EPA determined the greatest health risk to people is from eating resident fish (like carp, bass and catfish) from Portland Harbor and particularly to infants that are breast-fed by mothers who eat resident fish from the river. Direct contact with in-river sediment and surface water may also pose an unacceptable risk. Of the contaminants that pose the most risk to people's health, polychlorinated biphenyls (PCBs-now banned) and dioxins/furans are the most widespread. The most widespread contaminants for ecological risk are PCBs, polycyclic aromatic hydrocarbons (PAHs), dioxins and furans, and the pesticide DDT (now banned). These ecological contaminants pose risks to mammals, birds and benthic invertebrates (such as crayfish and worms).

Description of the Selected Remedy - Alternative F Modified

The selected remedy addresses all areas where contaminant concentrations exceed cleanup levels through a combination of dredging, capping, in-situ treatment (or treatment ‘in place’), enhanced natural recovery, monitored natural recovery (MNR) and institutional controls (such as fish advisories and land use restrictions).

- Areas to be capped or dredged will be defined by remedial action levels (RALs), which are sediment cleanup concentrations for a focused group of contaminants that pose the greatest risk.
- The remedy will include a total constructed area of 394 acres of sediment and 23,305 lineal feet of river bank, and will allow 1,774 acres of sediment to naturally recover.
- The remedy includes 365.4 acres of capped and dredged contaminated sediment and 28.2 acres of enhanced natural recovery. About 247.6 acres of sediment will be dredged to varying depths. The 23,305 lineal feet of river bank excavation will be covered with a cap using beach mix or vegetation. Approximately 133 acres of sediment will be treated ‘in place’ (or in situ treatment).
- Dredged material (about 3 million cubic yards) will be removed from the site primarily by rail or barge, and less than 10 percent of the dredged sediment and river bank soil may require treatment prior to disposal.
- Work in the navigation channel generally will not begin until work in the adjacent areas managed under EPA authority has been completed. This approach addresses source areas that continue to contaminate the channel and allows for new information regarding the channel dynamics to be used to design the channel cleanup.
- The Oregon Department of Environmental Quality (DEQ) may also undertake action at some river banks that are the subject of this ROD to expedite source control of contaminated upland areas, as necessary. Most of the known contaminated groundwater plumes will be addressed by DEQ’s upland source control actions. EPA’s selected remedy will address the portion of those plumes that extend into the river or continue to discharge contaminants to the river to prevent further impacts to the river.
- Final selection of the remedial technologies will be included in the remedial design after collecting additional data in all areas and segments of the river and using the criteria in the ROD. The in-river construction is expected to take about 13 years, with no additional time required to complete dredged material processing (dewatering and sampling before disposal).

Why The EPA Chose This Alternative

The EPA understands that public involvement is very beneficial throughout the Portland Harbor Superfund process and that community input was critical during the proposed plan phase to ensure a better final decision. Additionally, the Superfund statute and regulations require EPA to consider comments from the state, tribes and the public, including the potentially responsible parties, as well as any other new or significant information developed or received during the public comment period. Based on these considerations, EPA may alter or change the preferred remedy while making its final decision.

Input was received from over 5,300 commenters during the 90-day public comment period. The responsiveness summary (included in the Record of Decision) presents the comments received and provides EPA’s responses. Comments seen most frequently are shown in the box to the right. The vast majority of commenters stated that Alternative I did not go far enough to address contamination in the river.

Based on the comments received, EPA had to decide whether to select the preferred alternative (Alternative I), select another alternative presented in the proposed plan, modify Alternative I, or modify another alternative presented in the proposed plan. Ultimately, EPA evaluated modifications to Alternative F under the nine regulatory decision criteria and selected Alternative F Modified as the final remedy. Alternative F Modified addresses many of the public concerns, is protective of public health and the environment and is cost-effective. The benefits of this alternative are presented on the next page.

Comments About the Cleanup

The 10 most frequently seen comments were:

- The preferred alternative for cleanup does not remove enough contaminated sediment.
- The remedy should ensure that unlimited fish consumption was safe for all groups.
- Dredged material should not be placed in a confined disposal facility in the river.
- Consider an alternative other than Alternative I.
- Ensure that those who caused the contamination pay for cleanup.
- Ensure source areas are controlled.
- Improve insufficient environmental justice response.
- Provide timelines and metrics for success.
- Ensure instream monitoring before, during, and after remediation.
- Move quickly and don’t delay cleanup.

Please see the responsiveness summary in the final Record of Decision for a complete overview of all the comments received and the EPA’s responses. This is available at <http://go.usa.gov/3Wf2B>.

Outcomes of the Selected Remedy

The primary outcomes of selecting Alternative F Modified rather than Alternative I are:

- **Increased Use of Active Remediation:** Public concern was that Alternative I was too passive and that a larger percentage of the river needed to be dredged. Alternative F Modified increases the area of active remediation (dredging, capping and enhanced natural recovery). Additionally, to control migration of contaminants, 133 acres of sediment will be treated 'in place' (or in-situ treatment). Dredging may increase from 150 to 248 acres and capping may increase from 81 to 150 acres (not including 25 riverbank acres). Therefore, the area left for monitored natural recovery is reduced. Thus, more of the persistent contaminants are removed from the river and from the food chain. This will achieve greater risk reduction sooner.
- **Protective of Human Health:** Removal of more contaminants makes it safe for all but the most sensitive populations (such as breastfeeding infants whose mothers eat resident fish) and subsistence fishers to eat more fish from the river more often. Concentrations of mercury from sources outside the river will always require limits on fish-consumption. Additionally, the final cleanup plan reduces the potential for direct contact with contaminants in the sediment.
- **Protective of the Environment:** Removal of more contaminants is also protective of wildlife (both resident and migratory fish and birds).
- **Simplified Use of Remedial Action Levels:** RALs (sediment cleanup concentrations for a focused group of contaminants used to define where to cap or dredge) will now be consistent throughout the majority of the site (except in the navigation channel). Within the navigation channel, other RALs will be consistently used (please refer to Section 14.2.1 of the ROD for more information about RALs in the navigation channel).
- **Reduced Impacts Downstream:** Less contamination will flow into the Columbia River and Multnomah Channel from the site due to more contamination being removed.
- **More Permanent:** The cleanup will rely less on institutional controls (such as fish advisories and land use restrictions) since it removes more of the contamination from the river.
- **No In-River Disposal:** There will be no confined disposal facility for dredged sediments in Terminal 4. On-site disposal was unpopular with the community and the owner of the property also withdrew sponsorship of the location. All dredged wastes will be disposed of off-site.
- **Cost:** The costs of cleanup will increase to approximately \$1.05 billion. The cost is commensurate with the scope and scale of contamination and with similar sites across the country.
- **Economic Benefits:** This final remedy will create jobs during active cleanup and will make riverfront properties available for future re-development.

The EPA's Commitment to Flexibility and Cooperation

Input received during the comment period emphasized the importance of EPA remaining flexible in implementing the remedy at the site and the need for cooperation and communication among all parties. As a result, the EPA has included the following in the ROD:

- Additional data collected for remedial design (see "Next Steps" on the last page) will be used to establish baseline conditions and guide the design. The ROD provided for and specifies flexibility in the application of appropriate cleanup technologies, based on criteria. Areas that are anticipated to require remediation may be modified or adjusted based on new data and information. If contaminant levels in an area are below the remedial action levels (RALs) or other feasibility study assumptions no longer represent current conditions, then the remedy will be adjusted in accordance with the ROD and consistent with statutory requirements.
- During remedial design, if the reasonably anticipated land use designation is different from what was known in the feasibility study, EPA may potentially adjust the remedy as needed. Changes will be made in accordance with the criteria identified in the ROD. Any changes to the remedy that are not provided for in the ROD will be documented in a future decision document, consistent with statutory requirements. Remedy changes may result in lower costs to the overall remedy.
- The EPA will continue working with the state and (based on data collection results) may identify areas or sub-sites for early action where the state and EPA may jointly oversee the cleanup actions.
- The EPA is also committed to developing a larger watershed approach because contamination issues exist in the Willamette and Columbia river watersheds that are beyond the scope of this selected remedy. As a result, in this final cleanup plan EPA and the Oregon Department of Environmental Quality have committed to working on a watershed strategy that will enhance the remedy by reducing background levels of contaminants coming into the site.

The EPA will also continue its public outreach efforts throughout remedial design and remedial action. This includes continuing support and outreach to communities with environmental justice concerns that are disproportionately impacted by the site, continuing to distribute information and gathering community input. EPA welcomes public input constructive to the process, including ways to improve how fish consumption advisories and other institutional controls may be implemented.

Next Steps - Remedial Design Sampling and Evaluation

The next step in the Superfund process is remedial design, which is where the technical details of the cleanup are developed. Prior to and during design, additional sampling data will be collected to update baseline conditions and support the design process. Data collection and other evaluations will be conducted in order to do the following (among other things):

- Determine boundaries for the areas that will be dredged, capped, or have enhanced natural recovery (ENR) applied.
- Refine the delineation of contamination.
- Design remedial technologies, based on criteria in the ROD, and construction methods.
- Develop projections of natural recovery.
- Clarify treatment and disposal requirements.
- Clarify protection measures for aquatic and listed species during construction.
- Refine compensatory mitigation requirements.
- Update reasonably anticipated land and water uses, particularly related to maintenance or navigation dredging.
- Verify and consider area-specific conditions, such as the presence of active docks or other structures, caps and other remedial activities already in place and river uses.
- Verify the future maintenance dredge areas.
- Determine where groundwater plumes are discharging and impacting the biologically-active areas or surface water.
- Identify which groundwater plumes will need to be addressed in the river by EPA (versus on land by DEQ).
- Determine the effectiveness of the upland source control measures in achieving the remedial action objectives and cleanup levels in the ROD.
- Determine appropriate disposal of the dredged materials based on regulations or facility requirements. If the material could go to a municipal landfill or similar landfill that is closer to the site, disposal costs could be lower than estimated.

Join Us at a Community Information Session

At the request of community groups and stakeholders, the EPA is planning to host community information sessions to present the details of the final remedy in March 2017. Please visit the EPA's website (<http://go.usa.gov/3Wf2B>) for the most up-to-date details about these information sessions as schedules may be subject to change.

EPA Contacts, Information Repositories and Website

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Site documents (including the full Record of Decision, Remedial Investigation, Feasibility Study, Proposed Plan and various fact sheets, community summaries and other materials) are available on EPA's website at (<http://go.usa.gov/3Wf2B>) and at the three local information repositories listed below:

- **Multnomah County Central Library**, 801 SW 10th Avenue, Portland OR 97205
- **St. Johns Library**, 7510 N Charleston Avenue, Portland OR 97203
- **Kenton Library**, 8226 N Denver Avenue, Portland OR 97217