



Technical Advisory Group

# Record of Decision: Final Cleanup Plan Community Fact Sheet

Prepared by the Duwamish River Cleanup Coalition/Technical Advisory Group

January 2015

## Background

In 2001, Seattle's lower Duwamish River was declared a federal Superfund Site, placing it on EPA's list of the nation's most toxic hazardous waste sites. Since then, EPA has studied pollution in the river, the risks to people's health and the environment, and several possible alternatives for cleanup. In 2013, EPA released a "proposed plan." Over 2,300 people submitted public comments in ten different languages, with a significant percentage supporting more cleanup over less.

In December 2014, EPA released its final Cleanup Plan (called a "Record of Decision" or ROD). The ROD dictates the timeline and level of cleanup required, including where and how much toxic sediment needs to be removed, capped, or treated with other alternatives.

The ROD focuses on acreage outside of the Early Action Areas (EAAs). The five EAAs contain approximately 50% of the estimated PCB load in the river; cleanup at all EAAs is set to be complete by the end of 2015.

The Duwamish River Cleanup Coalition/Technical Advisory Group (DRCC/TAG) is EPA's Community Advisory Group for the Duwamish River Superfund Site, and represents community, environmental, tribal, and small business organizations in the Duwamish Valley and greater Seattle area.

This Fact Sheet provides: the affected communities' and DRCC/TAG's brief assessment of the final plan based on an independent technical review; describes ongoing efforts to control pollution; and highlights next steps for protecting the health of the river and its communities.

## What is the Final Cleanup Plan about?

EPA's final Cleanup Plan for the Duwamish River includes a mix of technologies to reduce toxic pollution levels in the mud (sediments) of the river, where fish and people are exposed. The greatest human health risks are to people who eat seafood from the river, with some risk related to people who have frequent contact with its mud. The goal of the Final Cleanup Plan is to protect the river environment, its fish and wildlife, and human health by reducing these toxic levels.



In order to issue the ROD, EPA considered public comments, the level of toxicity in the mud, and ensuring current uses of the river. The ROD states that the remediation will include:

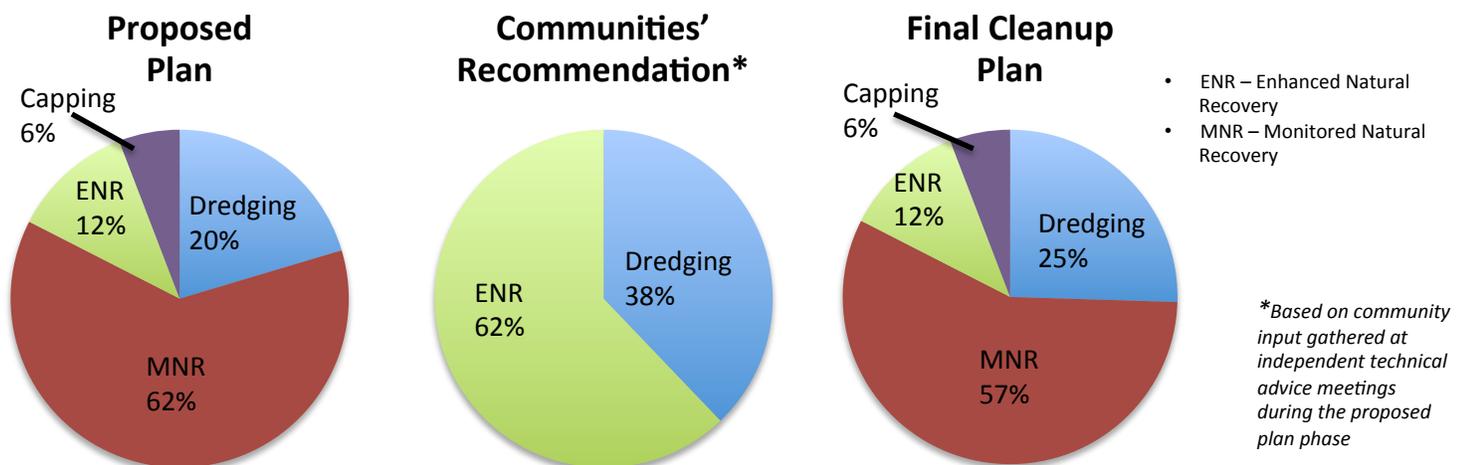
- **105 acres of Dredging:** Dredging permanently removes bottom river mud using machines. The EPA recommends this remedy for the areas with the highest levels of toxic chemicals or where bottom river mud cannot be covered with a cap or natural river deposits (known as sedimentation).
- **24 acres to be Capped:** Caps are engineered layers of sand designed to trap toxic mud beneath.
- **48 acres of Enhanced Natural Recovery:** Areas with moderate levels of toxic pollution will be "kick-started" into natural recovery by treating with a 6 to 9-inch layer of sand.
- **235 acres of Monitored Natural Recovery:** The rest of the area will receive no treatment and will be monitored to see if sedimentation covers the remaining pollution over time.

The cleanup of the EAAs, controlling ongoing sources of pollution, completion of the remedies identified in the ROD, and 10 additional years of monitored natural recovery is expected to result in reducing the chemicals that pose the most risk (PCBs, arsenic, cPAHs, and dioxins/furans) in the river mud by 90% or more. For a comparison of proposed cleanup alternatives & the Final Cleanup Plan, see Figure 1.

## The Record of Decision is a step in the right direction...

For the past 13 years, DRCC/TAG has worked with the affected communities to ensure that EPA’s final decision reflects their values, needs, and wants. Your feedback at meetings and through public comments was essential to the making this final plan a success! **Some of the highlights are:**

- The final Record of Decision includes a **25% increase** in dredging over the proposed plan (105 vs. 84 acres). Combined with the cleanup of the EAAs, dredging now comprises 30% of the total river area to be remediated.
- Under a Memorandum of Agreement (MOA) with EPA, the Department of Ecology is continuing to take positive action on pollution source control (More information can be found below).
- Requirements for meeting water quality standards, in addition to sediment cleanup, have been added to the ROD. This addresses both exposure pathways for fish and shellfish, increasing the chance that the cleanup will result in making the river’s fish healthier to eat. Coupling sediment and water cleanup also helps to ensure that sediment cleanup and controls on ongoing pollution will be conducted together, preventing recontamination, and protecting our investment in the cleanup.
- The cleanup outlined in the ROD is estimated to cost **\$342 million** – which means at least \$37 million more invested in the cleanup efforts than in the proposed plan.
- EPA has commissioned a “Carbon Amendment” pilot study to analyze the possibility of using activated carbon to sequester toxic chemicals in the areas that have been proposed to undergo Enhanced Natural Recovery; the use of activated carbon in these areas could protect people’s health more quickly.



**Figure 1:** Comparison of cleanup alternatives between EPA’s proposed plan, the communities’ recommendation, and the Record of Decision

### The Importance of Pollution Source Control

The goal of source control is to find and sufficiently control sources of pollution before moving forward with the cleanup of the river to prevent its recontamination. In 2014, EPA and Ecology signed a Memorandum of Agreement (MOA) that re-establishes the coordination between pollution source control and the river cleanup.

In 2015, Ecology will release a final Source Control Strategy describing how Ecology plans to contain these sources of pollution as well as the process for determining when source control is sufficient to begin the cleanup of the river. Both EPA and Ecology need to agree that source control is sufficient before construction can begin.

Ecology, in partnership with EPA, is also working on a Pollutant Loading Assessment (PLA). This study will look at contributions of pollution from various sources, providing the information to prioritize source control activities in the entire Green-Duwamish Watershed, including upriver sources of pollution. While the cleanup is significantly reducing pollutants in the river, long-term success relies reducing pollution sources both adjacent to & upriver from the cleanup.

## ...but we still need to do more!

*We need to ensure a cleanup that will work and last.* The Final Cleanup Plan still relies heavily on "natural recovery" to reach its environmental and public health goals. EPA acknowledges that more removal of toxic waste would provide greater certainty that the cleanup will work. However, concerns about cost and disruptions that may be caused by cleanup activities influenced EPA's decision to limit the amount of removal initially required.

Even if the remedies outlined in the ROD do meet required cleanup levels, **the final cleanup plan does not guarantee that cleanup actions will be permanent.** Toxic material left behind might be re-exposed in the future if the caps or recovery areas are disturbed, such as by major floods, earthquakes, or shipping accidents. The only cleanup remedy EPA considers to be permanent is removal (dredging). If natural recovery fails to meet the required cleanup level or if toxic waste left behind is disturbed or exposed in the future, additional cleanup, a separate order, or a technical infeasibility waiver may be required.

*We need to maximize the economic benefits of the cleanup.* A study commissioned by King County in 2010 concluded that "Efforts to clean-up the Superfund site that businesses perceive as timely and as having a high probability of success will likely be rewarded with increased investment in the affected area, **resulting in increased economic development and jobs.**" The health of the Duwamish River, its industries, and Seattle's economy is inextricably intertwined and we need to make sure a poor river cleanup doesn't negatively affect any of these.

In the long term, **removing more toxic sediments is likely cheaper.** Some of the responsible parties already doing in-water cleanup work in the EAAs have decided to remove more toxic sediments for this reason: they won't need to maintain caps or have restrictions in their properties in perpetuity. It is also important to note that three of the responsible parties – the City of Seattle, King County, and Port of Seattle – are **local governments that need to look after the public investment in the cleanup while protecting people's health.**

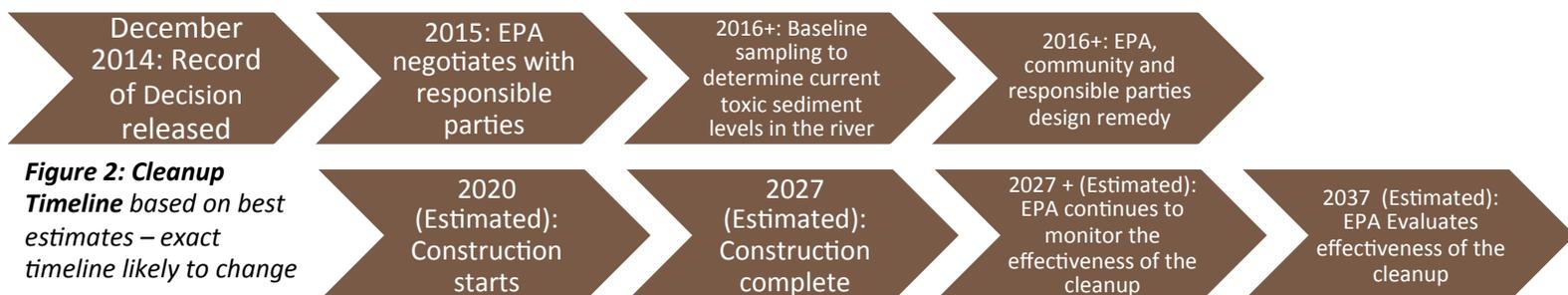
*The cleanup needs to achieve environmental justice and health equity.* At the very end, the cleanup should achieve a level that ensures that the underserved, vulnerable populations that depend on the river for sustenance (i.e. immigrant and low-income subsistence and Tribal fishers) **can use the river in the same manner people can use other waterways in the Puget Sound area.** Over the course of the cleanup, some key concerns will be the restrictions on certain uses of the river and the creation of health advisories to discourage people from eating resident seafood with high levels of contamination. It is important that these "institutional controls" are temporary (to the extent possible), culturally appropriate, and that their development is guided by the affected communities.

### What Needs to Happen Before Construction?

Now that the Record of Decision has been released, EPA and responsible parties will move forward on negotiating agreements focused on the design and construction of the cleanup. EPA estimates that this negotiation will be complete by the end of 2015. Following the negotiation, EPA will conduct remedial design sampling and analysis to establish a baseline for cleanup. This baseline will:

- Refine the cleanup footprints, establishing the specific areas for each remedy
- Assist in determining the effectiveness of pollution source control
- Help in evaluating the effectiveness of EAAs and natural recovery to date

Using this information, responsible parties will work with EPA and the affected communities to design the specifics of the cleanup. Once this design is approved, construction can begin! EPA estimates that negotiations, remedial design sampling, and the design will take five (5) years, with construction starting in 2020. For a complete estimated timeline, see Figure 2.



**Figure 2: Cleanup Timeline** based on best estimates – exact timeline likely to change



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*This product was funded in part by the WA State Department of Ecology; this does not necessarily constitute endorsement by the Department.*

### Next Steps

Now that EPA has released the standards for the cleanup, DRCC/TAG will be working with you to improve the cleanup and ensure you have an active voice in its design. Here are some actions coming up:

1. In 2007 to 2009, we worked with the Port of Seattle to craft a cleanup plan for South Park's Terminal 117 (the former Malarkey Asphalt plan) that was stronger than the EPA originally required, transforming the former industrial wasteland into public river access and healthy salmon habitat. In the coming months and years, **we will be helping you talk to your local elected officials** about taking action to support additional cleanup to ensure that our river is clean and healthy for future generations.
2. DRCC/TAG will work with EPA, Ecology, local governments, and the community to ensure continued meaningful **community representation in the design of the cleanup and ongoing pollution source control activities** (e.g. EPA's Final Cleanup Plan design and implementation, Ecology's Source Control Strategy, the City of Seattle's and King County's Green/Duwamish Strategy, etc.).
3. Over this year, we will advise EPA, responsible parties, and community groups while they conduct a "Fishers Study" to collect information from people who harvest and consume fish from the river. We will work to ensure the **findings are used to develop culturally appropriate advisories and restrictions**.
4. Every five years after construction starts, statutory reviews will be conducted to ensure that the selected remedy continues to be protective of human health and the environment. We will work with you and EPA to make sure necessary **adjustments are being implemented (if necessary) and that new cleanup techniques and technologies are being used**.

- Este boletín informativo está disponible en español. Visite [www.duwamishcleanup.org](http://www.duwamishcleanup.org) or llame al (206) 453-9803 si necesita una copia.  
- Bản thông tin này đã được dịch qua tiếng Việt. Vui lòng truy cập vào [www.duwamishcleanup.org](http://www.duwamishcleanup.org) hoặc gọi (206) 697-5404 Nếu bạn muốn có bản tin này

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