

Waste in the Water: Non-Federal Government Action in the Designation Phase of Two Hazardous Waste Sites in the Pacific Northwest

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Abstract

Hazardous waste is one of the most severe environmental issues confronting the world in recent decades. In the United States, the federal government's involvement in hazardous waste remediation is outlined in the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). However, the involvement and support of state and local governments in the designation phase of the CERCLA process vary based on time and place. This paper uses Commencement Bay Near Shore/Tideflats and Portland Harbor as case studies of government involvement. The paper examines a variety of scholarly literature and news articles from the time periods of designation. Both sites are significant aquatic superfund sites in the Pacific Northwest, yet in the early 1980s, the State of Washington strongly supported federal involvement during the designation phase in Commencement Bay, to the point of nominating the site for inclusion. In the late 1990s, the State of Oregon opposed designation and attempted to find an alternative solution in Portland Harbor, fearing stigma. These two case studies illustrate the evolution of perceptions of CERCLA and the existing process for addressing hazardous waste, as well as the evolution of views on the appropriate role of non-federal government actors.

1. Introduction

Hazardous waste is a constant challenge facing our modern, industrialized society. From the pollution of rivers and lakes to the contamination of soil and groundwater, humanity has imposed a great burden on the earth, one that harms people and the environment alike. In the United States, an imperfect but generally effective system has emerged in an attempt to fix the harms that our society has caused, with the implementation of more than 1,500 current and former federally recognized hazardous waste sites ("National Priorities List"). While the federal government plays the primary role in remediation after the contamination of a site by hazardous waste, local

communities and state agencies also play a key role in the mitigation and remediation of the site. Local entities play a critical role in the designation process during the early phases of the detection and classification of the site. This is not a cursory or unimportant phase. Advocacy and effort by state and local governments and communities influence whether the federal government becomes involved. A community's success or failure at their chosen course of action can have immense consequences for both human and environmental health in the short and long-term, as federal government attention is generally the best hope for remediation.

In the Pacific Northwest, two sites of great importance and many similarities are the Portland

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Harbor site in Portland, OR, and the Commencement Bay/Near Shore/Tideflats site in Tacoma, WA.¹ Both sites impact multiple cities and towns and are sites of major shipping and industrial activity. Both are Superfund sites—sites that are on an official list established by the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and overseen by the federal Environmental Protection Agency (EPA)—and are aquatic in nature. However, they are in different states and were designated as Superfund sites 17 years apart. Local and state governments responded differently to these sites during detection and the battle over their classification as Superfund sites. The sites have startling similarities and diverse differences despite their geographic proximity. During the Superfund designation phase of the sites, local and state governments played major roles in ensuring or preventing the site designation, and the manner in which they did so varies. In the case of the Portland Harbor site, the state government strongly opposed the designation of the site until no other option for clean-up seemed feasible; although, the state government also contributed valuable information that allowed for the site to be recognized as extremely hazardous. In Commencement Bay, the state government was an advocate for its designation. Both sites illustrate the essential, but not conclusive, role that state and local governments play in the designation phase of a Superfund site, and provide evidence for the evolution of local government views over time. To fully appreciate and understand how state and local responses differ between these two sites, we must first understand both the federal

government's role and the characteristics of these sites.

2. Methodology

This paper uses comparative case study methods to evaluate the similarities and differences in local and state government involvement in these two sites. The analysis in this paper was conducted through an examination of a variety of sources. Relevant government documents from the EPA, NOAA, and other agencies were consulted for scientific and process information. Academic reports and articles from peer-reviewed, relevant journals were used. For both sites, there was a lack of academic sources available about the designation process. Portland Harbor also lacked sources about local government involvement. Instead, newspapers, in particular *The Oregonian* and *The Bremerton Sun*, now known as *The Kitsap Sun*, were the primary source for details relating to the designation process. While this overview cannot claim to be all-encompassing, it is an insight into the essential actions of state and local governments, along with their similarities and differences. A comparison of the actions of state and local governments where these two sites are located results from this analysis. This comparison can be used to shape future government actions and strategies.

3. CERCLA and Superfund

The infamous Love Canal incident in New York was one of the primary catalysts for CERCLA. In 1978, a neighborhood in Niagara Falls, NY, was evacuated following the recognition of the health impacts of the 21,000 pounds of hazardous waste

¹ Commencement Bay/Near Shore/Tideflats will henceforth be referred to as Commencement Bay. An additional hazardous waste site in Tacoma, Commencement Bay, South Tacoma

Channel, has a similar name, but it is a distinct and separate site.

dumped in a nearby canal, known as Love Canal (Engelhaupt). The large number of high-profile hazardous waste sites around the country, most notably Love Canal, increased public awareness of the harms of hazardous waste. With no legal method to manage restoration and remediation, Congress passed CERCLA in 1980 (Judy & Probst 193). A unique and unprecedented law, CERCLA outlined the process for establishing liability and the steps for remediation of a site under the auspices of the EPA. CERCLA established who is legally liable for contamination, the methods for site clean-up, and the methods for ensuring the site would be remediated even if the party responsible was unknown or no longer existed. The most relevant aspect of CERCLA is the establishment of the concept of a Superfund site and the response from the government that entails. After a comprehensive study of the hazardous waste present at the site and its containment, a site is designated as a Superfund site and is subject to the provisions of CERCLA. The responsible party must either pay for the clean-up or reimburse the government for the costs of the clean-up. If the responsible party is bankrupt or no longer existent, the EPA has the authority to remediate the site itself using Superfund funds, which is a pool of funds from past legal cases (“What is Superfund”).

A site must first be designated as a Superfund site before any parts of CERCLA come into effect. Superfund sites are expensive to clean up, and the EPA has limited resources (O’Neil 1088). The process by which the designation of a site occurs is multifaceted and can have as much to do with the involvement of the community and their resources as the hazardousness of the site (O’Neil 1087). In fact, at times, a site will be discovered but not designated due to a variety of factors, including environmental justice and the involvement of local government (O’Neil 1088). In

light of this process, the involvement of local and state governments can be essential in the designation of a site, and it is important to understand how governments successfully advocate for the designation of a site and engage in the early mitigation of a site before the full involvement of the EPA when a site is officially designated as a Superfund site.

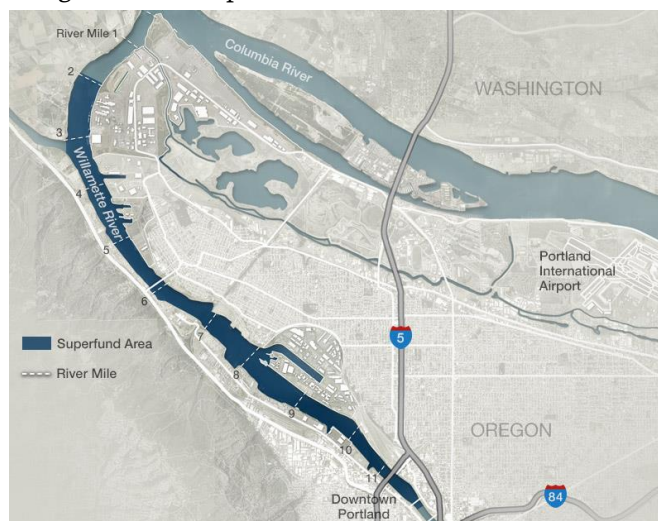


Figure 1. Portland Harbor Superfund Site. Courtesy of Port of Portland

The Lower Willamette River runs through the middle of Portland and many surrounding cities. Historically forested, development has caused it to become heavily urbanized (Gregory et al. 2019). Due to this urbanization and industrialization, a 10-mile stretch of the river has become heavily contaminated, as seen in Figure 1. A variety of historic industrial activities, including shipping, contaminated a stretch of the Willamette River’s riverbed over several decades, with about 150 parties considered to be responsible for contamination (“Portland Harbor Superfund”). Sixty-four contaminants of concern exist within the site in hazardous concentrations (“Proposed ESD” 12). The numerous contaminants include dioxins, heavy metals, pesticides, polychlorinated biphenyls (PCBs), and more (“Portland Harbor Site Profile”). This has immense

environmental and human health risks, such as increased likelihood of cancer, considering the population density surrounding the site, as well as the ecological importance of the Willamette River and the economic importance of nearby agriculture.

This contamination and its risks led to this 10-mile stretch of the Lower Willamette River being declared a Superfund site in December 2000 (“Portland Harbor Site Profile”). This site includes both the river itself and the upland areas it extends from near the Port of Portland’s Terminal 5 all the way to near the Broadway Bridge in downtown Portland (“Proposed ESD” 9). The remediation efforts and planning have involved a wide variety of stakeholders, including six Native American tribes and several local government agencies (“Proposed ESD” 9). Since this declaration, the site has been undergoing remediation, a process that is expected to take up to 30 years and cost over \$1 billion (“Portland Harbor Superfund”). This process has been ongoing, with a significant revision in the remediation process having occurred in 2017 due to recent research lowering the potential non-cancer harms of some contaminants present at the site (“Proposed ESD” 21). Throughout this process, especially during the designation phase, the City of Portland has been very involved in advocating for the interests of its citizens and the environment.

4. Commencement Bay

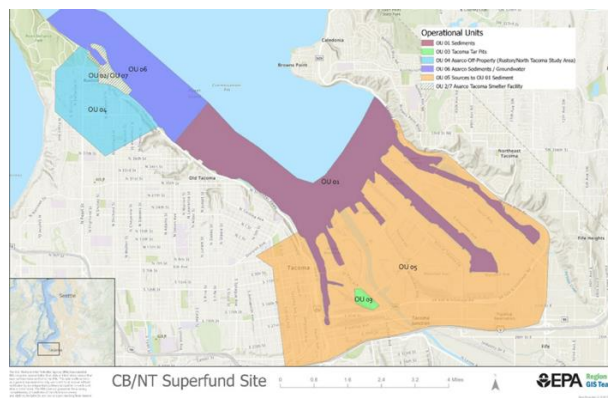


Figure 2. Commencement Bay Nearshore/Tideflats. Courtesy of EPA

Commencement Bay is the portion of the Puget Sound where the Port of Tacoma is located. The specific superfund site, Commencement Bay/Near Shore/Tideflats, is within the cities of Tacoma and Ruston, as seen in Figure 2. A mixture of seaport, shoreline, and shallow land, the site is highly industrialized (“Commencement Bay,” EPA). It was originally a network of tideflats and streams that were industrialized in the early 1900s. Its contamination with hazardous substances began in the 1920s (“Commencement Bay,” NOAA). The contamination went on for decades, with numerous responsible parties. The contaminants at this site, similar to those at Portland Harbor, include PCBs, heavy metals, and dioxins (“Commencement Bay,” NOAA). Also similar to Portland Harbor, the urban nature of

this site makes these contaminants a great risk to human health both through the consumption of fish and physical contact with contaminated soil and water (“Commencement Bay,” EPA). These contaminants have harmed fish and other aquatic life near the site (“Commencement Bay,” NOAA).

While this site has been a Superfund site since 1983, remediation has been time consuming and expensive, and was estimated to conclude in 2024 (“Commencement Bay,” EPA). Whether this remediation was finished was unable to be determined for this paper due to a lack of available documents. Overall, 19 parties have been found responsible for this contamination since the designation of the site (“Commencement Bay,” NOAA). This site includes numerous operating units, ranging from waterways and the bay itself to nearby industrial sites (“Commencement Bay,” EPA).

5. Comparisons

Both Portland Harbor and Commencement Bay are aquatic sites where shipping and related industrial activities played major roles in contamination (“Commencement Bay,” NOAA; “Portland Harbor Superfund”). Both have similar contaminants, including PCBs and dioxins (“Commencement Bay,” NOAA; “Portland Harbor Site Profile,” EPA). In addition, both sites have long histories of contamination with many sources of hazardous waste, which can complicate the process. Finally, both are largely aquatic and are in the Pacific Northwest. This allows for an effective comparison of non-federal government action during the Superfund designation process due to many site similarities.

However, there are differences between the sites that could add complications to the effectiveness of the comparison. Portland Harbor was designated a Superfund site in 2000, while

Commencement Bay was designated a Superfund site in 1987. Politics and views of the role of government, especially regarding environmental politics, have changed over time, with Commencement Bay being designated in an area where political awareness of hazardous waste was just forming, making this a significant cause for consideration. The abundance of similarities between the two sites still allows for effective comparison, regardless of this difference in designation dates.

6. State and Local Government Involvement in Portland Harbor Designation

While presumably the City of Portland played a role in the designation of Portland Harbor as a superfund site, as it is a matter that directly impacted many Portlanders and thus could have been a matter of local politics, there is a lack of publicly available online documents from this era covering this topic, beyond general overviews of the site. Given the time and resource limitations, rather than focus on scant evidence of local involvement, the focus of this section will be on the more available information on state government involvement in the designation process, including the actions of state agencies and politicians.

In the case of Portland Harbor, it was a lack of action or failure by the state government that led to the site's designation as a Superfund site. What is notable about this site and the state involvement is the fact that the state opposed the designation of the site until it seemed that no other option could be pursued. The Department of Environmental Quality believed that there was stigma associated with a Superfund designation and that the resulting process would be too slow and litigious (Huntsberger “River Heads to

Superfund”). The DEQ believed that having a superfund site in the center of the state’s largest city would damage the state’s reputation. Instead, they desired to pursue a cooperative solution with voluntary involvement from landowners (Walth). However, the state failed to create a cooperative solution that all parties could agree on, leading to the subsequent litigation and site designation by the EPA (Huntsberger “Portland Harbor Joins Superfund”). During this process, led by Governor John Kitzhaber, the state attempted to secure a state-run clean-up overseen by the Department of Environmental Quality (Huntsberger “Willamette Closer to Superfund”). This deal to arrange a state-run clean-up failed, following a group of landowners in the Portland Harbor area refusing to sign an agreement promising cost-recovery for pollution-caused environmental damages (Huntsberger “Port’s Willamette Cleanup Bid”). The state agreed to drop objections to site designation in exchange for close state involvement in the clean-up effort (Huntsberger “Port’s Willamette Cleanup Bid”).

However, the state did play a role in gathering the data that made the designation and clean-up possible. Early investigations conducted by the Oregon Department of State Lands and Oregon Department of Fish and Wildlife were major components in allowing the EPA to fully understand the site while developing their conceptual model during the designation phase (“Record of Decision” 4). During the designation period, the state worked with the EPA to divide responsibilities for different portions, with the state taking responsibility for pollution control (Huntsberger “Portland Harbor Joins Superfund”). This illustrates the distinctly mixed role of non-federal government involvement in the designation of this particular site. The state played an essential role in providing a basis for designation, but opposed the designation itself,

showing that state and local governments cannot always stop the process of designation once it has started.

7. State and Local Government Involvement in Commencement Bay Designation

Similar to Portland Harbor, evidence for the involvement of local government is challenging to find, and this section will focus more on the role of state government. The state played a large role in the designation of the Commencement Bay site, and information on this site is more abundantly available. This site involves multiple cities, most significantly Tacoma, but also surrounding cities, which may make local politics around this site more complicated. The Pierce County Department of Health was instrumental in determining and testing the safety of consuming fish from the site during the early stages of the process (Minteer). This is key in determining the actual danger of the site.

The designation of Commencement Bay occurred in the early days of Superfund, only three years after CERCLA was passed. Thus, the environment in which state and local governments were operating was not as clearly defined or long-lasting as in the case of Portland Harbor, though the state government still played an essential role in the selection and designation of the site.

The Washington Department of Ecology played a key role in ensuring that the Commencement Bay site was designated as a Superfund site by conducting research and gathering data prior to site designation and throughout the designation and planning process (Minteer). The state was important in getting this site noticed by the EPA; the initial list of Superfund sites, on which Commencement Bay was listed,

was compiled based largely on recommendations from states following the passing of CERCLA (Associated Press). Superfund status is essential in securing funds for remediation and in the remediation process itself, making this designation critical in addressing the hazards of Commencement Bay.

8. Discussion

Hazardous waste presents immense environmental and human health challenges, including cancer, respiratory issues, and more. Because these issues only grow more severe and prevalent the longer the time of exposure, the speed with which the government acts to address a hazardous waste site is of great relevance. However, even with the threat that hazardous waste poses, local and state governments respond in dramatically different ways.

One of the most notable similarities between the state governments' responses in Tacoma and Portland is that, in both cases, they played a key role in the research and data collection that led to the designation of the sites as Superfund sites. This shows that the role that states play is essential for bringing a site to the attention of the EPA and the importance of an active state government.

There is also a major difference between the two sites. In the case of Portland Harbor, the state government was strongly opposed to its designation and worked to create alternative solutions to Superfund designation due to concerns about the stigma associated with part of central Portland being a Superfund site. While the intent of CERCLA was to ensure sites were remediated, this concern illustrates worries about perception and reputation that were not considered by either legislators or states during the early years of CERCLA. In contrast, in

Washington, the site was designated in large part due to recommendations by the state. This could be due to a variety of factors, with one being that Commencement Bay was designated early enough in the existence of CERCLA that the stigma of designation did not exist yet. While both sites had the same eventual outcome of remediation, the speed and process of their designation, as well as what political considerations existed at the time, are essential to understanding the varying perspectives of non-federal government on hazardous waste remediation and which factors impact the designation process. These processes and results reveal the changes over time in local governments' involvement and perceptions of designation.

State governments play an essential role in shaping the designation phase of superfund sites through the attention they raise and the research they conduct. These roles have remained consistent over time, even if responses to the designation itself have changed. During times when federal resources are increasingly under strain, or even nonexistent, state and local governments considering and performing these roles of research and attention-raising is all the more important.

9. Limitations and Future Research

The lack of academic sources on the two sites examined presents a significant limitation in the resources and information, especially with regard to the scholarly characteristics of the sources. While these two sites present unique points of consideration, the number of hazardous waste sites limits the volume of scholarly research that can be conducted on any single site. It is critical to note that due to resource limitations, *The New Tribune*, the primary newspaper in Tacoma, was unavailable. Therefore, newspapers from

neighboring communities were used. Also, *The Seattle Times* was only available post-1985. However, the available newspaper coverage of these sites provides valuable insights into the processes of state and local government involvement in the designation of Superfund sites.

Future research could focus on conducting a deeper dive into the involvement of local government, perhaps through communication with city officials, as well as a deeper dive into why these local and state governments chose the processes that they did. Finally, additional research could be conducted about the effectiveness of these strategies, including by comparing these designated sites to undesignated hazardous waste sites. An additional potential area for future research is the development of the stigma around Superfund sites that seems to have occurred between 1983 and 2000, as can be seen in the views of the state governments in these two sites.

10. Conclusion

The harms that hazardous waste presents are wide ranging, from human health to the health of the environment. However, the scale of these harms does not lead to uniform state and local government responses, even though the issues grow more severe with time. The role of state and local governments in the designation of Superfund sites in the United States varies greatly and plays a notable role in shaping the designation phase of these sites, as seen in the case studies of Portland Harbor and Commencement Bay, two aquatic hazardous waste sites in the Pacific Northwest.

In both Portland Harbor and Commencement Bay, state governments played essential roles in shaping the path of the designation phase towards either a quick designation or a delayed one. While local

governments presumably played a role, sources for this were challenging to find, largely confining analysis to state government involvement.

In the case of Portland Harbor, the state government vigorously opposed the designation of the site as a Superfund site until it was clear there was no other feasible option. This was due to concerns about the stigma of a location in the state's largest city being a Superfund site, as well as a feeling that the process could be quicker with voluntary cooperation with the contaminators. In contrast, in the case of Commencement Bay, the state government was vigorously in favor of site designation, with Washington, like many other states, encouraging the listing of the site. These two case studies and their differing responses illustrate possible changes over time in the perception of Superfund sites, as well as situational differences. In both cases, the state government was essential in conducting the research and shaping the policy environment, which led to the designation of these sites as Superfund sites despite federal resource limitations. Hazardous waste is an immense threat to the health of our planet and communities, and understanding this essential role of state government helps us better understand how to ensure the harms of hazardous waste can be minimized after the contamination has occurred.

Acknowledgements

This paper was originally written in HC 301H: Hazardous Waste. I would like to thank Professor Michael Moffit for his valuable teaching, advice, and feedback throughout the drafting of this paper. Every time I encountered a barrier in my research (and there were many) Professor Moffit was ready and able to provide insight into how to overcome or work around it. I would also like to thank my fellow students in that class for their

feedback on my initial research proposal and assistance in refining the initial direction of my research.

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