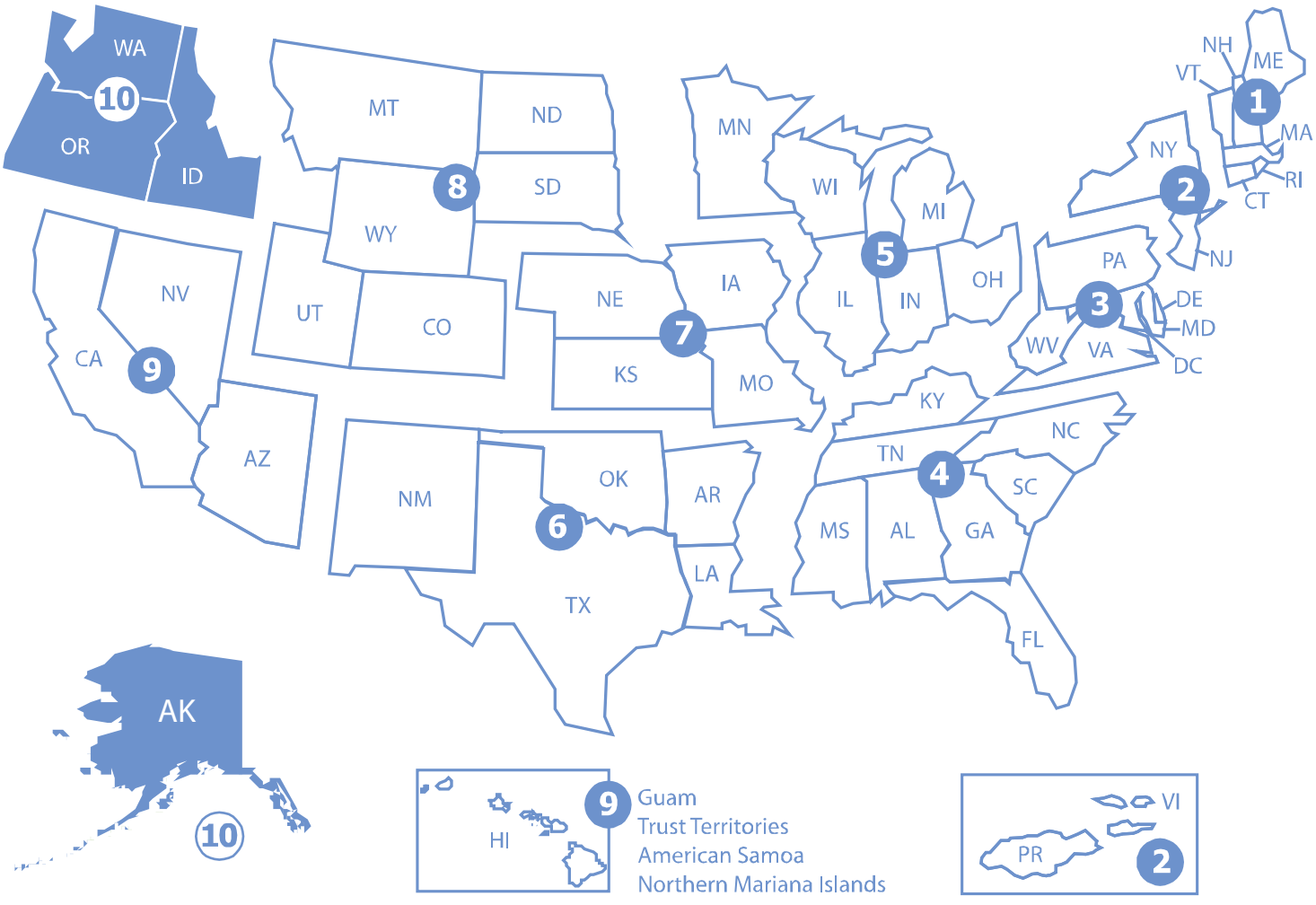
United States
Environmental Protection
Agency

1200 Pennsylvania Avenue, N.W.
Washington, DC 20460

December 2024

Office of Land and Emergency Management

Support Document for the Revised National Priorities List Final Rule – Upper Columbia River



Support Document for the Revised National Priorities List Final Rule

Upper Columbia River

December 2024

Site Assessment and Remedy Decisions Branch
Office of Superfund Remediation and Technology Innovation
Office of Land and Emergency Management
U.S. Environmental Protection Agency
Washington, DC 20460

Table of Contents

Executive Summary

Section 105(a)(8)(B) of CERCLA, as amended by SARA, requires that the EPA prepare a list of national priorities among the known releases or threatened releases of hazardous substances, pollutants, or contaminants throughout the United States. An original National Priorities List (NPL) was promulgated on September 8, 1983 (48 FR 40658). CERCLA requires that EPA update the list at least annually.

This document provides responses to public comments received on the Upper Columbia River site, proposed on March 7, 2024 (89 FR 16498). This site is being added to the NPL based on an evaluation under EPA's Hazard Ranking System (HRS) in a final rule published in the *Federal Register* in December 2024.

Introduction

This document explains the rationale for adding the Upper Columbia River site in Upper Columbia River, Washington to the National Priorities List (NPL) of uncontrolled hazardous waste sites and provides responses to public comments received on this site listing proposal. The EPA proposed this site to the NPL on March 7, 2024 (89 FR 16498). This site is being added to the NPL based on an evaluation under the Hazard Ranking System (HRS) in a final rule published in the *Federal Register* in December 2024.

Background of the NPL

In 1980, Congress enacted the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), 42 U.S.C. Sections 9601 *et seq*. in response to the dangers of uncontrolled hazardous waste sites. CERCLA was amended on October 17, 1986, by the Superfund Amendments and Reauthorization Act (SARA), Public Law No. 99-499, stat., 1613 *et seq.* To implement CERCLA, EPA promulgated the revised National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 CFR Part 300, on July 16, 1982 (47 FR 31180), pursuant to CERCLA Section 105 and Executive Order 12316 (46 FR 42237, August 20, 1981). The NCP, further revised by EPA on September 16, 1985 (50 FR 37624) and November 20, 1985 (50 FR 47912), sets forth guidelines and procedures needed to respond under CERCLA to releases and threatened releases of hazardous substances, pollutants, or contaminants. On March 8, 1990 (55 FR 8666), EPA further revised the NCP in response to SARA.

Section 105(a)(8)(A) of CERCLA, as amended by SARA, requires that the NCP include:

> criteria for determining priorities among releases or threatened releases throughout the United States for the purpose of taking remedial action and, to the extent practicable, taking into account the potential urgency of such action, for the purpose of taking removal action.

Removal action involves cleanup or other actions that are taken in response to emergency conditions or on a short-term or temporary basis (CERCLA Section 101). Remedial action is generally long-term in nature and involves response actions that are consistent with a permanent remedy for a release (CERCLA Section 101). Criteria for placing sites on the NPL, which makes them eligible for remedial actions financed by the Trust Fund established under CERCLA, were included in the HRS. EPA promulgated the HRS as Appendix A of the NCP (47 FR 31219, July 16, 1982). On December 14, 1990 (56 FR 51532), EPA promulgated revisions to the HRS in response to SARA, and established the effective date for the HRS revisions as March 15, 1991. On January 9, 2017, EPA promulgated a further revision to the HRS that added a component for evaluating the threats posed by the intrusion of subsurface contamination into regularly occupied structures. These changes are consistent with, and comply with, the statutory requirements of SARA.

Section 105(a)(8)(B) of CERCLA, as amended, requires that the statutory criteria provided by the HRS be used to prepare a list of national priorities among the known releases or threatened releases of hazardous substances, pollutants, or contaminants throughout the United States. The list, which is Appendix B of the NCP, is the NPL.

An original NPL of 406 sites was promulgated on September 8, 1983 (48 FR 40658). At that time, an HRS score of 28.5 was established as the cutoff for listing because it yielded an initial NPL of at least 400 sites, as suggested by CERCLA. The NPL has been expanded several times since then, most recently on September 5, 2024 (89 FR 72331). The Agency also has published a number of proposed rulemakings to add sites to the NPL. The most recent proposal was on September 5, 2024 (89 FR 72356).

Development of the NPL

The primary purpose of the NPL is stated in the legislative history of CERCLA (Report of the Committee on Environment and Public Works, Senate Report No. 96-848, 96th Cong., 2d Sess. 60 [1980]).

> The priority list serves primarily informational purposes, identifying for the States and the public those facilities and sites or other releases which appear to warrant remedial actions. Inclusion of a facility or site on the list does not in itself reflect a judgment of the activities of its owner or operator, it does not require those persons to undertake any action, nor does it assign liability to any person. Subsequent government actions will be necessary in order to do so, and these actions will be attended by all appropriate procedural safeguards.

The NPL, therefore, is primarily an informational and management tool. The identification of a site for the NPL is intended primarily to guide EPA in determining which sites warrant further investigation to assess the nature and extent of the human health and environmental risks associated with the site and to determine what CERCLA-financed remedial action(s), if any, may be appropriate. The NPL also serves to notify the public of sites EPA believes warrant further investigation. Finally, listing a site may, to the extent potentially responsible parties are identifiable at the time of listing, serve as notice to such parties that the Agency may initiate CERCLA-financed remedial action.

CERCLA Section 105(a)(8)(B) directs EPA to list priority sites among the known releases or threatened release of hazardous substances, pollutants, or contaminants, and Section 105(a)(8)(A) directs EPA to consider certain enumerated and other appropriate factors in doing so. Thus, as a matter of policy, EPA has the discretion not to use CERCLA to respond to certain types of releases. Where other authorities exist, placing sites on the NPL for possible remedial action under CERCLA may not be appropriate. Therefore, EPA has chosen not to place certain types of sites on the NPL even though CERCLA does not exclude such action. If, however, the Agency later determines that sites not listed as a matter of policy are not being properly responded to, the Agency may consider placing them on the NPL.

Hazard Ranking System

The HRS is the principal mechanism EPA uses to place uncontrolled waste sites on the NPL. It is a numerically based screening system that uses information from initial, limited investigations -- the preliminary assessment and site inspection -- to assess the relative potential of sites to pose a threat to human health or the environment. HRS scores, however, do not determine the sequence in which EPA funds remedial response actions, because the information collected to develop HRS scores is not sufficient in itself to determine either the extent of contamination or the appropriate response for a particular site. Moreover, the sites with the highest scores do not necessarily come to the Agency's attention first, so that addressing sites strictly on the basis of ranking would in some cases require stopping work at sites where it was already underway. Thus, EPA relies on further, more detailed studies in the remedial investigation/feasibility study that typically follows listing.

The HRS uses a structured value analysis approach to scoring sites. This approach assigns numerical values to factors that relate to or indicate risk, based on conditions at the site. The factors are grouped into three categories. Each category has a maximum value. The categories are:

- likelihood that a site has released or has the potential to release hazardous substances into the environment;

- characteristics of the waste (e.g., toxicity and waste quantity); and
- targets (e.g., people or sensitive environments) affected by the release.

Under the HRS, four pathways can be scored for one or more components and threats as identified below:

- Ground Water Migration (S_{gw})
  - population

- Surface Water Migration (S_{sw})
  The following threats are evaluated for two separate migration components, overland/flood migration and ground water to surface water.
  - drinking water
  - human food chain
  - sensitive environments

- Soil Exposure and Subsurface Intrusion (S_{sessi})
  - Soil Exposure Component:
    - resident population
    - nearby population
  - Subsurface Intrusion Component
    - population

- Air Migration (S_a)
  - population

After scores are calculated for one or more pathways according to prescribed guidelines, they are combined using the following root-mean-square equation to determine the overall site score (S), which ranges from 0 to 100**:**

$$S = \sqrt{\frac{S_{gw}^2 + S_{sw}^2 + S_{sessi}^2 + S_a^2}{4}}$$

If all pathway scores are low, the HRS score is low. However, the HRS score can be relatively high even if only one pathway score is high. This is an important requirement for HRS scoring because some extremely dangerous sites pose threats through only one pathway. For example, buried leaking drums of hazardous substances can contaminate drinking water wells, but -- if the drums are buried deep enough and the substances not very volatile -- not surface water or air.

Other Mechanisms for Listing

There are two mechanisms other than the HRS by which sites can be placed on the NPL. The first of these mechanisms, authorized by the NCP at 40 CFR 300.425(c)(2), allows each State and Territory to designate one site as its highest priority regardless of score. The last mechanism, authorized by the NCP at 40 CFR 300.425(c)(3), allows listing a site if it meets the following three requirements:

- Agency for Toxic Substances and Disease Registry (ATSDR) of the U.S. Public Health Service has issued a health advisory that recommends dissociation of individuals from the release;
- EPA determines the site poses a significant threat to public health; and

- EPA anticipates it will be more cost-effective to use its remedial authority than to use its emergency removal authority to respond to the site.

Organization of this Document

The following section contains EPA responses to site-specific public comments received on the proposal of the Upper Columbia River site on March 7, 2024 (89 FR 16498). The site discussion begins with a list of commenters, followed by a site description, a summary of comments, and Agency responses to each comment. A concluding statement indicates the effect of the comments on the HRS score for the site.

Glossary

The following acronyms and abbreviations are used throughout the text:

Agency	U.S. Environmental Protection Agency
AOC	Area of Observed Contamination
APA	Administrative Procedure Act
ATSDR	Agency for Toxic Substances and Disease Registry
BERA	Upland Baseline Ecological Risk Assessment
bgs	below ground surface
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act of 1980, 42 U.S.C. Sections 9601 *et seq*., also known as Superfund
CFR	Code of Federal Regulations
CIP	Community Involvement Plan
EPA	U.S. Environmental Protection Agency
ESI	Expanded Site Inspection
FR	Federal Register
FS	Feasibility Study
HHRA	Human Health Risk Assessment
HRS	Hazard Ranking System, Appendix A of the NCP
HRS score	Overall site score calculated using the Hazard Ranking System; ranges from 0 to 100
mg/kg	Milligram per kilogram
NCP	National Oil and Hazardous Substances Pollution Contingency Plan, 40 C.F.R. Part 300
NPL	National Priorities List
OLEM	EPA Office of Land and Emergency Management
PA	Preliminary Assessment
PCBs	Polychlorinated Biphenyls
PPE	Probable Point of Entry
PPM	Parts Per Million

PRP	Potentially responsible party
RCRA	Resource Conservation and Recovery Act
RI	Remedial investigation
RI/FS	Remedial investigation/feasibility study
RML	Removal Management Level
RSE	Removal Site Evaluation
RSL	Regional Screening Level
SARA	Superfund Amendments and Reauthorization Act
SI	Site Inspection
TCRA	Time-critical Removal Action
TDL	Target Distance Limit
WSDH	Washington State Department of Health

1. List of Commenters and Correspondence

EPA-HQ-OLEM-2024-0068-0004	Correspondence, dated December 18, 2023, submitted by Jay Inslee, Governor, State of Washington.
EPA-HQ-OLEM-2024-0068-0005	Correspondence, dated January 16, 2024, submitted by Gregory Abrahamson, Chairman, Spokane Tribal Business Council.
EPA-HQ-OLEM-2024-0068-0006	Comment, dated March 7, 2024, submitted by Joseph Hale.
EPA-HQ-OLEM-2024-0068-0007	Comment, dated March 8, 2024, submitted by Philip Schwartz.
EPA-HQ-OLEM-2024-0068-0008	Comment, dated March 8, 2024, submitted by Anthony Lantrip.
EPA-HQ-OLEM-2024-0068-0009	Comment, dated March 11, 2024, submitted by Paul Mcnitt.
EPA-HQ-OLEM-2024-0068-0010	Comment dated March 12, 2024, submitted by Catherine Merrill.
EPA-HQ-OLEM-2024-0068-0011	Comment dated March 13, 2024, submitted by Laney Marx.
EPA-HQ-OLEM-2024-0068-0012	Comment dated March 13, 2024, submitted by Lukas Day.
EPA-HQ-OLEM-2024-0068-0013	Comment, dated March 13, 2024, submitted by Eleanor Mattice.
EPA-HQ-OLEM-2024-0068-0014	Comment dated March 13, 2024, submitted by Robert Settje.
EPA-HQ-OLEM-2024-0068-0015	Comment, dated March 13, 2024, submitted by Barrett Byers.
EPA-HQ-OLEM-2024-0068-0016	Comment, dated March 14, 2024, submitted by an anonymous commenter.
EPA-HQ-OLEM-2024-0068-0017	Comment, dated March 14, 2024, submitted by an anonymous commenter.
EPA-HQ-OLEM-2024-0068-0018	Comment, dated March 18, 2024, submitted by J.B.
EPA-HQ-OLEM-2024-0068-0019	Comment, dated March 19, 2024, submitted by John Ridlington.
EPA-HQ-OLEM-2024-0068-0020	Comment, dated March 22, 2024, submitted by Ronald Snodgrass.
EPA-HQ-OLEM-2024-0068-0021	Comment, dated March 24, 2024, submitted by an anonymous commenter.
EPA-HQ-OLEM-2024-0068-0022	Comment, dated April 3, 2024, submitted by Jacob Dreifuerst.
EPA-HQ-OLEM-2024-0068-0023	Comment, dated April 7, 2024, submitted by Mark Barnum.
EPA-HQ-OLEM-2024-0068-0024	Comment, dated April 16, 2024, submitted by Thomas Duffy.
EPA-HQ-OLEM-2024-0068-0025	Comment, dated April 16, 2024, submitted by Judith Redden.

EPA-HQ-OLEM-2024-0068-0026	Comment, dated April 16, 2024, submitted by George Redden.
EPA-HQ-OLEM-2024-0068-0027	Comment, dated April 18, 2024, submitted by Ryan Burton.
EPA-HQ-OLEM-2024-0068-0028	Comment, dated April 22, 2024, submitted by Kamori Cattadoris.
EPA-HQ-OLEM-2024-0068-0029	Comment, dated April 22, 2024, submitted by Joseph Wichmann.
EPA-HQ-OLEM-2024-0068-0030	Comment, dated April 22, 2024, submitted by Walther Soeldner.
EPA-HQ-OLEM-2024-0068-0031	Comment, dated April 24, 2024, submitted by Katherine Humphrey.
EPA-HQ-OLEM-2024-0068-0032	Comment, dated April 24, 2024, submitted by Diana Ehrman.
EPA-HQ-OLEM-2024-0068-0033	Comment, dated April 25, 2024, submitted by an anonymous commenter.
EPA-HQ-OLEM-2024-0068-0034	Comment, dated April 25, 2024, submitted by Albery Kegley.
EPA-HQ-OLEM-2024-0068-0035	Comment, dated March 14, 2024, submitted by Tommy Walen.
EPA-HQ-OLEM-2024-0068-0036	Comment, dated April 27, 2024, submitted by Wendi Kregger.
EPA-HQ-OLEM-2024-0068-0037	Comment, dated April 30, 2024, submitted by Kefarue Davis.
EPA-HQ-OLEM-2024-0068-0038	Comment, dated April 30, 2024, submitted by L. Browne.
EPA-HQ-OLEM-2024-0068-0039	Comment, dated May 1, 2024, submitted by Karen Hensley.
EPA-HQ-OLEM-2024-0068-0040	Comment, dated May 1, 2024, submitted by Asif Hossain.
EPA-HQ-OLEM-2024-0068-0041	Comment, dated May 1, 2024, submitted by Angel Reyes.
EPA-HQ-OLEM-2024-0068-0042	Comment, dated May 1, 2024, submitted by Carolyn Crain.
EPA-HQ-OLEM-2024-0068-0043	Comment, dated May 1, 2024, submitted by Roger Sonnichesen, Secretary-Manager, Quincy-Columbia Basin Irrigation District.
EPA-HQ-OLEM-2024-0068-0044	Comment, dated May 1, 2024, submitted by an anonymous commenter.
EPA-HQ-OLEM-2024-0068-0045	Comment, dated May 1, 2024, submitted by John O'Callaghan, Secretary/Manager, South Columbia Basin Irrigation District.
EPA-HQ-OLEM-2024-0068-0046	Comment, dated May 2, 2024, submitted by Adam Gebauer, The Lands Council.
EPA-HQ-OLEM-2024-0068-0047	Comment, dated May 2, 2024, submitted by Gayle Mann.

EPA-HQ-OLEM-2024-0068-0048	Comment, dated May 2, 2024, submitted by Lincoln County Commissioners.
EPA-HQ-OLEM-2024-0068-0049	Comment, dated May 2, 2024, submitted by Jo Gilchrist.
EPA-HQ-OLEM-2024-0068-0050	Comment, dated May 2, 2024, submitted by Amy Crandall.
EPA-HQ-OLEM-2024-0068-0051	Comment, dated May 2, 2024, submitted by Debra Watson.
EPA-HQ-OLEM-2024-0068-0052	Comment, dated May 2, 2024, submitted by Charley Colbert.
EPA-HQ-OLEM-2024-0068-0053	Comment, dated May 2, 2024, submitted by Jason Gilchrist.
EPA-HQ-OLEM-2024-0068-0054	Comment, dated May 2, 2024, submitted by Adam Colbert.
EPA-HQ-OLEM-2024-0068-0055	Comment with attachment, dated May 3, 2024, submitted by Gregory Abrahamson, Chairman, the Spokane Tribal Business Council.
EPA-HQ-OLEM-2024-0068-0056	Comment, dated May 3, 2024, submitted by Jeanne Barnum.
EPA-HQ-OLEM-2024-0068-0057	Comment, dated May 4, 2024, submitted by Rimrock Cabin Owners Association.
EPA-HQ-OLEM-2024-0068-0058	Comment, dated May 4, 2024, submitted by Kit Arbuckle.
EPA-HQ-OLEM-2024-0068-0059	Comment, dated May 5, 2024, submitted by M. J. Braley.
EPA-HQ-OLEM-2024-0068-0060	Comment, dated May 6, 2024, submitted by Nancy Churchill.
EPA-HQ-OLEM-2024-0068-0061	Comment, dated May 6, 2024, submitted by Stacy Storm.
EPA-HQ-OLEM-2024-0068-0062	Comment, dated May 6, 2024, submitted by Evelyn Nelson.
EPA-HQ-OLEM-2024-0068-0063	Comment, dated May 6, 2024, submitted by an anonymous commenter.
EPA-HQ-OLEM-2024-0068-0064	Comment, dated May 6, 2024, submitted by Matt Hawkins.
EPA-HQ-OLEM-2024-0068-0065	Comment, dated May 6, 2024, submitted by Trudee Nims.
EPA-HQ-OLEM-2024-0068-0066	Comment, dated May 6, 2024, submitted by Mary Sizer.
EPA-HQ-OLEM-2024-0068-0067	Comment, dated May 6, 2024, submitted by William Koster.
EPA-HQ-OLEM-2024-0068-0068	Comment, dated May 6, 2024, submitted by Jeanette Burrage.
EPA-HQ-OLEM-2024-0068-0069	Comment, dated May 6, 2024, submitted by an anonymous commenter.
EPA-HQ-OLEM-2024-0068-0070	Comment, dated May 6, 2024, submitted by Candace Erickson.

EPA-HQ-OLEM-2024-0068-0071	Comment, dated May 6, 2024, submitted by Linda Powell.
EPA-HQ-OLEM-2024-0068-0072	Comment, dated May 6, 2024, submitted by Robert Birney.
EPA-HQ-OLEM-2024-0068-0073	Comment, dated May 6, 2024, submitted by Jerry Martens.
EPA-HQ-OLEM-2024-0068-0074	Comment, dated May 6, 2024, submitted by Timothy Ramsey.
EPA-HQ-OLEM-2024-0068-0075	Comment, dated May 6, 2024, submitted by Valerie Woelk.
EPA-HQ-OLEM-2024-0068-0076	Comment, dated May 6, 2024, submitted by Spokane Mountaineers.
EPA-HQ-OLEM-2024-0068-0077	Comment, dated May 6, 2024, submitted by Don Storm.
EPA-HQ-OLEM-2024-0068-0078	Comment, dated May 6, 2024, submitted by C. Carter.
EPA-HQ-OLEM-2024-0068-0079	Comment, dated May 6, 2024, submitted by Sondra Martinkat-Taule.
EPA-HQ-OLEM-2024-0068-0080	Comment with attachments, dated May 5, 2024, submitted by Stevens County and Eastern Washington Council of Governments (EWCOG).
EPA-HQ-OLEM-2024-0068-0081	Comment, dated May 6, 2024, submitted by Government of Canada.
EPA-HQ-OLEM-2024-0068-0082	Comment with attachments, dated May 6, 2024, submitted by Teck American Incorporated (TAI).
EPA-HQ-OLEM-2024-0068-0083	Comment, dated May 6, 2024, submitted by DR Michel, Executive Director, the Upper Columbia United Tribes.
EPA-HQ-OLEM-2024-0068-0084	Comment, dated May 6, 2024, submitted by Kelley Unger.
EPA-HQ-OLEM-2024-0068-0085	Comment, dated May 2, 2024, submitted by East Columbia Basin Irrigation District.
EPA-HQ-OLEM-2024-0068-0086	Comment, dated April 30, 2024, submitted by Board of Commissioners, County of Benton.

2. Site Description

The Upper Columbia River site (the Site) includes the release of metals from two smelters (Cominco[1] and Le Roi smelters) to the Upper Columbia River and to soil. Associated contamination in the area is the combined result of historical discharges of wastes and emissions from the two smelter operations, some of which has comingled in soils and surface water sediments. Upland soils in the area are contaminated with metals, including arsenic and lead. Sediments in the Upper Columbia River contain slag, a by-product of smelting, and are contaminated with

[1] The Cominco smelter is also known as the Trail Smelter and the Teck Cominco Smelter.

metals, including antimony, arsenic, cadmium, chromium, copper, lead, mercury, and zinc. There is a significant quantity of slag present in the river system. The Site is being placed on the NPL based on an HRS evaluation of the Site documenting that contamination in sediments and soil achieve an NPL-eligible HRS site score. Although the contamination has comingled, the HRS documentation record at proposal also showed that releases associated with the Cominco smelter (approximately 10 miles upstream of the international border) and releases associated with the Le Roi smelter (approximately 10 river miles downstream of the international border) each would independently achieve an NPL qualifying HRS site score of 28.50 or greater if scored separately.

The HRS evaluation of the Site scored the surface water migration pathway based on concentrations of hazardous substances in sediments from the Upper Columbia River and the soil exposure and subsurface intrusion pathway based on the concentrations of hazardous substances in soil. As presented in the HRS documentation record at proposal, the Site, for HRS scoring purposes, includes contaminated sediments in the Upper Columbia River between and downstream of the three scored HRS sources spanning approximately 35 river miles of the Columbia River from the U.S.-Canada border south and west to Marcus, Washington (see Figure 1 of this support document below). The Site includes three scored sources: slag historically discharged via outfalls from the Cominco smelter, which is currently owned by Teck Metals Ltd. and located upstream of the international border in Canada (Source 1); contaminated soil on the former Le Roi smelter facility in Northport, Washington (Source 2); and sluice box discharge associated with the former Le Roi smelter (Source 3). These sources have been documented to contain metals, including antimony, arsenic, cadmium, chromium, copper, lead, nickel, silver, zinc, and mercury. The releases from the smelters have become comingled in the Upper Columbia River (at and downstream of the Le Roi smelter). In addition, an area of observed contamination (AOC) in soil in Northport, Washington was documented in the HRS documentation record at proposal. Releases from both facilities have also become comingled in the AOC soil contamination.

In the evaluation of the surface water migration pathway, contamination and targets were scored in the HRS documentation record at proposal for the U.S. portion of the zone of contamination, which encompasses a length of approximately 35 river miles. Both an observed release by direct observation and an observed release by chemical analysis were documented. Observed releases by direct observation were scored based on Cominco smelter discharge of hazardous substance-bearing slag/effluent to the river and Le Roi smelter discharge of hazardous substance-bearing slag to the river. An observed release by chemical analysis based on the concentrations of metals (i.e., antimony, arsenic, cadmium, chromium, copper, lead, mercury, and zinc) in sediments was established in the HRS documentation record at proposal. Targets in the surface water migration pathway (i.e., fishery, wetlands, and a federal-designated threatened species habitat) were evaluated as subject to Level II concentrations.

In the evaluation of the soil exposure component of the soil exposure and subsurface intrusion pathway, the AOC is located in a residential area to the southwest of the former Le Roi smelter and is defined by a polygon bounded by soil contamination meeting HRS observed contamination criteria (i.e., locations showing lead and arsenic at concentrations significantly above published background levels and collected from the top 2 feet of soil). This AOC is attributable to historical aerial deposition from both smelters. Historical smelter smokestack emissions from both smelters have resulted in upland residential soil contamination; residential populations subject to Level I and Level II contamination for HRS scoring purposes associated with the AOC were documented in the HRS documentation record at proposal for the soil exposure component of the soil exposure and subsurface intrusion pathway.

Since 2003, numerous EPA removal activities have occurred in and around the Northport, Washington area, including several removal site evaluations (RSEs). In 2003 and 2004, Northport residential and commercial properties with lead concentrations in soil greater than the removal action level of 1,000 milligrams per kilogram (mg/kg) were identified for a time-critical removal action (TCRA). In 2004, a removal action was conducted at the former Le Roi smelter and residential areas with the excavated contaminated soils being consolidated at an 11-acre area of the Le Roi smelter site. In 2014 and 2016, residential properties and tribal allotments were sampled. For these sampling events, a removal action level of 700 mg/kg for lead in soil was evaluated. In an EPA dispute

decision issued in 2015, EPA stated an intent to select a lower removal action level for lead in soil, lowering the action level from 1,000 mg/kg to 700 mg/kg. Based on analytical results from residential soil sampling, TCRAs were conducted in 2015, 2017, and 2018 using a removal action level of 700 mg/kg. The EPA conducted additional RSEs at properties within the town of Northport that were sampled in 2003 and 2004 as described above and found to have lead in soil at concentrations near or above 700 mg/kg. In 2020, soil cleanup activities were conducted using a removal action level of 700 mg/kg. The EPA conducted a subsequent RSE in the residential area of Northport in 2021. TCRAs were conducted at additional properties in 2022 using a removal action level for lead in soil of 700 mg/kg. In 2024, additional TCRAs were conducted using a removal action level of 200 mg/kg.

Additional investigations have been ongoing at the Site, including a remedial investigation and feasibility study (RI/FS). The RI/FS is underway as part of the 2006 Settlement Agreement between Teck Cominco Metals Ltd., Teck Cominco American Incorporated (TAI), the U.S. Department of Justice (DOJ), and the EPA; there is no settlement agreement for funding or performance of a potential remedial action. In February 2021, the EPA released a Human Health Risk Assessment (HHRA) for the Upper Columbia River site, which was conducted as part of the ongoing RI/FS. An Upland Baseline Ecological Risk Assessment and an Aquatic Baseline Ecological Risk Assessment are also underway. The ongoing RI/FS will guide subsequent stages of the CERCLA process, and information from completed, ongoing, and subsequent investigations will inform the ultimate extent of site-related contamination. Completed site investigations and remedial work, as well as time critical removal actions, were considered in the HRS evaluation of the Site, and the current conditions in sediments and soil at the Site achieve an HRS site score, described above, that is eligible for placement on the NPL as presented in the HRS documentation record at proposal.

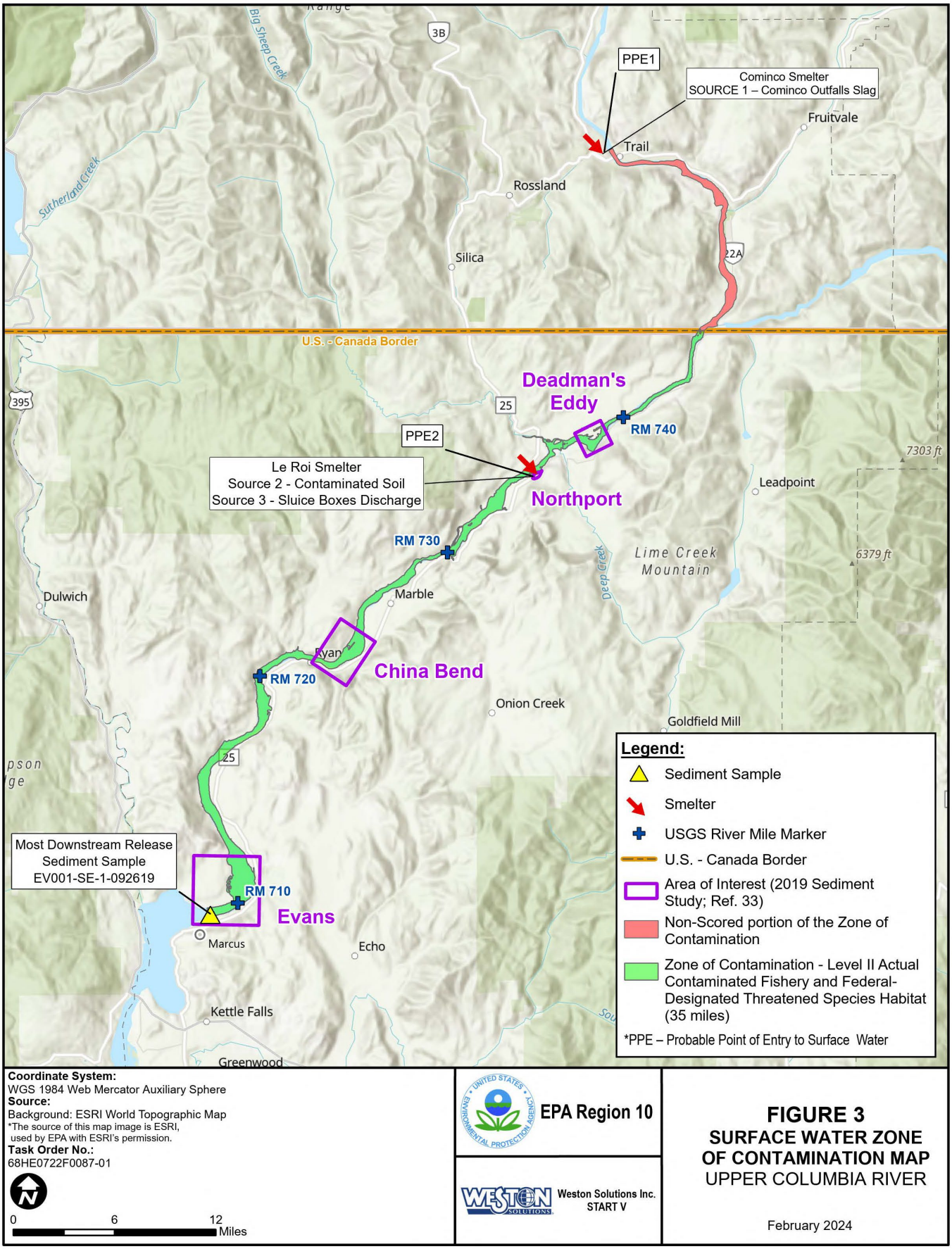


Figure 1. Surface Water Zone of Contamination Map (Figure 3 of the HRS documentation record at proposal).

3. Summary of Comments

The state of Washington, the Spokane Tribe of Indians, the Confederated Tribes of the Colville Reservation[2] the Lands Council, the Upper Columbia United Tribes, the Spokane Mountaineers, and 20 citizens supported or did not oppose placing the Site on the NPL.

Teck American Incorporated[3] (TAI), the Stevens County Board of County Commissioners[4] (hereinafter referred to as Stevens County), the Eastern Washington Council of Governments (EWCOG), the Lincoln County Commissioners (Lincoln County), South Columbia Basin Irrigation District (SCBID), East Columbia Basin Irrigation District (ECBID), Quincy-Columbia Basin Irrigation District (QCBID), Board of Commissioners, County of Benton (Benton County), the Rimrock Cabin Owners Association, and 47 citizens opposed placing the Site on the NPL. TAI also requested that the EPA consider its comments prior to adding the Site on the NPL.

TAI, Stevens County, and several citizens provided comments on the supporting data and documentation. TAI and Stevens County questioned the data included in the HRS documentation record at proposal, asserting that additional data and information were available as a part of the ongoing RI/FS. TAI stated that "arbitrarily limited data and completed studies" were used. TAI commented that evaluating the Site with the HRS is inappropriate given the level of investigation into the Site already completed.

In discussing the Site as presented at proposal, TAI and Stevens County commented on perceived differences between the site as described in previous EPA communication and the Site as scored. TAI and Stevens County asserted that past descriptions of the Site pointed to uplands residential soil contamination, while the HRS documentation record at proposal primarily focuses on the sediment contamination in the Upper Columbia River.

TAI questioned the inclusion of the Northport area as part of the Site asserting that the Northport area has historically been treated as a separate site from the Upper Columbia River. TAI disagreed with comingling of the smelters' contamination in soil as the basis for inclusion of the Northport area as part of the site, asserting that Cominco smelter aerial emissions are limited to the smelter in British Columbia and a few miles into Washington.

Several commenters submitted comments discussing possible effects of the NPL designation. TAI, Stevens County, and multiple citizens expressed concern for how liability will be assigned for the contamination and/or what the sources of funding for remediation of the contamination will be. Stevens County, Lincoln County, SCBID, QCBID, ECBID and 20 citizens provided comments discussing the possible impacts to the region, including negative economic impacts, as a result of a NPL designation.

Several commenters opposed to listing provided comments discussing issues related to the listing process. Comments related to the listing process include:

- Comments questioning the rationale for listing given that the Site is undergoing an RI/FS.
- Comments asserting that the HRS is intended for a limited evaluation of a Site in the preliminary stages of the evaluation process.
- Assertions that there is no need for listing based on the conditions at the Site.

[2] See the December 6, 2023, letter from the Confederated Tribes of the Colville Reservation to EPA, included as Attachment A of this support document.
[3] Teck American Incorporated submitted comments on the proposed listing and is an affiliate of Teck Metals Ltd., the owner and operator of the Trail smelter (also referred to as the Cominco Smelter and the Teck Cominco Smelter) in Canada.
[4] The Stevens County Board of County Commissioners submitted comments on its behalf along with comments on behalf of the Eastern Washington Council of Governments. (See Docket ID EPA-HQ-OLEM-2024-0068-0080 on regulations.gov for the combined comment submission by Stevens County and the Eastern Washington Council of Governments.) Comments specifically authored by the Eastern Washington Council of Governments were included as Attachment E of the combined comment submission.

- Assertions that information about the Site has been delayed or withheld.
- Requests that listing not occur until after the completion of the RI/FS for the Site.
- Comments that ecological benefits are overdue and ineffective.

Additionally, in Attachments A[5] and D[6] to its comment submission, in opposition of NPL listing and disagreement with the state concurrence with listing, Stevens County stated that they "do not relinquish" their "authority as elected officials over to the governor."

Multiple commenters discussed whether the risk posed by the Site is sufficient for NPL placement, commenting that:

- The Site does not pose a risk to human health.
- Fish from the Upper Columbia River are generally not impacted.
- Soil contamination at residential properties is being or has been addressed via removal actions or remedial activities.
- The quality of water in the Columbia River is clean and/or meets water quality standards.
- The area is clean except for rubbish.

In questioning technical aspects of the HRS scoring of the Site, TAI commented that slag is not a hazardous substance under CERCLA, and that the solid waste definition in 40 CFR 261.4 excludes slag. TAI asserted that since slag is not a hazardous substance under CERCLA, using slag to determine the hazardous waste quantity for Source 1 is incorrect and misleading.

In challenging the evaluation of the surface water migration pathway, commenters asserted that:

- The slag in the river is unlikely to release metals.
- Contamination is buried in sediment at deeper depths, and it would be safer to leave it as-is than risking rereleasing the associated metals by stirring sediments during removal processes.
- The other possible sources not scored section of the HRS documentation record at proposal is incomplete because it does not discuss other possible origins of contamination.
- The waste characteristics factor category value was inappropriately calculated and overestimated.
- Fish from the Columbia River are generally safe for consumption.
- The Site may not be the driver of fish advisories in place for sensitive groups.

In commenting on the evaluation of the soil exposure component, commenters asserted that:

- The soil exposure component would not achieve an NPL-eligible score by itself.
- The extent of residential contamination described in general EPA communications is an overstatement of the residential land use area.
- Areas identified as residential for scoring purposes or future cleanup purposes inappropriately included forest, industrial, and commercial areas.
- Only limited soil contamination remains because properties above the action level have been remediated.

In this support document, the EPA responds to comments submitted on the March 2024 proposed listing of the Upper Columbia River site. After consideration of these items, the HRS site score remains unchanged, and the EPA is appropriately placing the site on the NPL.

[5] Attachment A of Stevens County's comment submission is a January 16, 2024, letter to Calvin Terada, EPA.
[6] Attachment D of Stevens County's comment submission is a January 16, 2024, letter to Jay Inslee, Governor, state of Washington.

3.1 Support for Listing and Other Non-opposition Comments

The state of Washington, the Spokane Tribe of Indians, the Confederated Tribes of the Colville Reservation,[7] the Lands Council, the Upper Columbia United Tribes, the Spokane Mountaineers and 20 citizens expressed support for the proposed listing of the Site on the NPL.

The state of the Washington expressed willingness to participate with cleanup activities at the Site. Reasons for support provided by the state of Washington include:

- Addressing historical contamination that may be posing risks to human health and the environment, particularly to low-income and Tribal residents
- Obtaining funding for a comprehensive cleanup
- Allowing for additional and timely cleanup and investigation as the current RI/FS work is being completed under a settlement agreement
- Allowing for cleanup which is outside of the scope of the RI/FS settlement agreement
- Allowing for authority over the Site investigation and cleanup in accordance with CERCLA
- Enabling cost recovery

The Confederated Tribes of the Colville Reservation provided support for the EPA's proposal to add the Site on the NPL, noting they will coordinate with EPA staff as the NPL listing process moves forward. They commented that NPL listing will bring access to resources needed for cleanup of the Site.

The Spokane Tribe of Indians expressed support for NPL listing, referring to the negative impacts associated with Site-related contamination, such as health and welfare impacts, economic security, and political integrity of the Spokane Tribe of Indians. The Spokane Tribe of Indians asserted that delays have occurred as a result of the Site not being placed on the NPL and the RI/FS process is still ongoing. Other reasons for support cited by the Spokane Tribe of Indians include the ability of the EPA to use federal funding, control of cleanup, cost recovery, the ability of the EPA to better characterize the contamination.

The Spokane Tribe of Indians concurred with the proposed listing of the Site on the NPL assuming that the Site is "meant to encompass the Upper Columbia River from the U.S. Canadian border and downstream, including Lake Roosevelt, to the Grand Coulee Dam." The Spokane Tribe of Indians commented that the HRS documentation record at proposal provided an incomplete characterization of the contamination in that it focused on the area from the border to Marcus, Washington, and requested that future remedial investigations and response activities characterize the lower river.

The Upper Columbia United Tribes supported the proposal to add the Site to the NPL, stating that NPL placement would allow for funding, legal status, and resources to address contamination affecting the land, water, and wildlife. The Upper Columbia United Tribes asserted that site-related contaminants, such as metals, may be posing a risk to human health and the environment. They stated that the "federal government should dedicate more resources to address the legacy of heavy metal pollution in the waters and lands of the upper Columbia Region." They also stated that the government should proceed "in recovering clean and safe environments in support of these recovery efforts and the communities who stand to benefit from them."

Multiple citizens and the Spokane Mountaineers supported listing. One citizen provided support for listing if access to the Upper Columbia River or Lake Roosevelt is not restricted. A citizen commented that CERCLA activities have fallen short in addressing sites in the past. One citizen also asserted that negative economic impacts

[7] See the December 6, 2023, letter from the Confederated Tribes of the Colville Reservation to EPA, included as Attachment A of this support document.

may not necessarily occur and property values may not necessarily decrease. Additional reasons for support provided by commenters include:

- Cleanup of site-related contamination
- Protection of human health, wildlife, and/or the environment
- Possible negotiations and funding for cleanup
- Positive impacts to the economy as a result of remediation of contamination
- The possible removal of buried waste at the former Le Roi smelter property.

The Lands Council and a citizen expressed a request for cooperation with tribes in addressing the Site.

Response: The EPA has added the Upper Columbia River site to the NPL. Listing makes a site eligible for remedial action funding under CERCLA, and the EPA will examine the site to determine what response, if any, is appropriate. Actual funding may not necessarily be undertaken in the precise order of HRS scores, however, and upon more detailed investigation may not be necessary at all in some cases. The EPA will determine the need for using Superfund monies for remedial activities on a site-by-site basis, considering the NPL ranking, State priorities, further site investigation, other response alternatives, and other factors as appropriate.

Regarding the Site definition and extent of Site, please see sections 3.4, Site Description and Definition, and 3.5, Extent of Site, of this support document.

Regarding a commenter's concern about access to the Upper Columbia River, the EPA acknowledges the commenter's concern and notes that access to the river is not determined by the listing decision.

This comment results in no change to the HRS score and no change in the decision to place the Site on the NPL.

3.2 Community Involvement

Comment: TAI, Stevens County, and six citizens submitted comments about EPA communications to the public, the level of community involvement, and the EPA's coordination with local government.

TAI stated that the EPA made incorrect statements in public communications about benefits the EPA may gain through NPL designation. TAI asserted that the EPA's news release about the proposed listing of the Upper Columbia River site on the NPL "incorrectly suggests that a site listing automatically ensures EPA can access Superfund dollars: 'Listing the site on the NPL allows EPA to access Superfund dollars for cleanup activities which can also help ensure a more timely cleanup.'"[8] TAI commented NPL listing makes sites eligible for federal funding, and it does not guarantee that funding. TAI also pointed to a local newspaper article in which an EPA spokesman stated that NPL listing gives the EPA "access to legal tools that could compel action if needed."[9] However, TAI argued that NPL listing "does not, in itself, reflect the responsible parties or the bases of their liability, require those entities to take any action, determine whether remediation is possible or even necessary or the extent of any potential remediation, or assign liability to any person or entity." TAI also argued that NPL listing does not give the EPA additional enforcement authority.

Stevens County and multiple citizens discussed the level of community involvement and coordination with local government. Stevens County commented that while the EPA has indicated that it would like to work with the community and local officials to ensure contaminated areas that have been identified are within acceptable levels,

[8] TAI cited a March 5, 2024 EPA news release available at https://www.epa.gov/newsreleases/epa-proposes-adding-upper-columbia-river-wa-superfund-list. TAI quoted the statement, "Listing the site on the NPL allows EPA to access Superfund dollars for cleanup activities which can also help ensure a more timely cleanup."
[9] TAI cited a March 5, 2024 article in The Spokesman-Review available at https://www.spokesman.com/stories/2024/mar/05/epa-proposes-adding-upper-columbia-river-to-superf/.

it has been not included in the process. Five citizens commented that local officials' input has been ignored, and three of these citizens argued that local officials would be communicating there is a problem if concerning levels of contamination were present in the Upper Columbia River area. Five citizens also stated that the urgency to list the Site on the NPL is politically motivated.

Stevens County stated that "local elected officials do not concur with EPA that NPL listing is needed or warranted at this time." Stevens County asserted that it is "willing to help" and "EPA regional staff should be focused on working with the local governments." Stevens County commented that it is willing to cooperate to find solutions for health, safety, and ecological concerns. Two citizens commented that government officials opposed the designation, and one of these citizens suggested that local officials should be consulted about the issue.

Stevens County asserted that EPA provided insufficient information and communication. It commented that:

- The EPA has delayed and withheld information.
- A local group received a draft document—the draft Upland Baseline Ecological Risk Assessment (BERA)—from the EPA for comment while the local government was not given the same opportunity.
- The messaging provided by the EPA suggested soil contamination is the issue at the Site although the scoring of the Site relied on other data.
- Data used in the listing, including compounds and metals other than lead, were not provided to the local government.
- The EPA has not been transparent in the process, and misleading information about the process has been provided.
- The EPA provided different information in public meetings than in the proposal to add the Site to the NPL.
- The Governor provided a concurrence letter to the EPA without obtaining input from the local government.
- Local public health offices were not consulted.

One citizen requested that, before allowing federal government and EPA involvement, local residents should be allowed to participate and given a controlling vote. Two citizens asserted that local individuals would be more familiar with the area. A citizen also commented that the local community should be given opportunities for input and discussion along with local voting options for agreed-upon cleanup.

Response: The EPA communicated with the public frequently during the site assessment and RI/FS stages and has made multiple efforts to involve the community and other interested parties throughout the RI/FS and site assessment stages. The EPA will continue community engagement efforts for the Site throughout the CERCLA process.

Regarding the procedures used to list the Site on the NPL, the EPA complied with all relevant administrative requirements. The HRS evaluation of the Site is consistent with the HRS regulation and the Administrative Procedure Act (APA). The HRS documentation record at proposal and this support document clearly document that the EPA has complied with the HRS regulation; this support document addresses all comments on the proposed listing of this Site, including those comments that challenge compliance with the HRS, and shows that HRS requirements have been met in every aspect of the evaluation of this Site.

As part of the standard community involvement process, the Superfund program offers numerous opportunities for public participation at NPL sites. The EPA Regional Office develops a Community Involvement Plan (CIP) before remedial investigation/feasibility study (RI/FS) field work begins. The CIP is the "work plan" for

community relations activities that the EPA will conduct during the entire cleanup process. In developing a CIP, Regional staff interviews State and local officials and interested citizens to learn about citizen concerns, site conditions, and local history. This information is used to formulate a schedule of activities designed to keep citizens apprised and to keep the EPA aware of community concerns. Typical community relations activities include:

- Public meetings where the EPA presents a summary of technical information regarding the site and citizens can ask questions or comment
- Small, informal public sessions where EPA representatives are available to citizens
- Development and distribution of fact sheets to keep citizens up to date on site activities

For each site, an "information repository" is established, usually in a library or town hall and/or on an EPA Web site, containing reports, studies, fact sheets, and other documents containing information about the site. The EPA Regional Office continually updates the repository and must ensure that the facility housing the repository has copying capabilities. For the Upper Columbia River site, the EPA Regional Office developed a CIP for the Site in 2004 before the start of the RI/FS, and information repositories have been established in libraries in the local communities.

In addition to meeting federal requirements, the EPA ensures that community involvement is a continuing activity designed to meet the specific needs of the community. Anyone wanting information should contact the Community Involvement Coordinator in the appropriate EPA Regional Office.

To provide information about the ongoing progress at the Upper Columbia River site, because a remedial investigation/feasibility study is ongoing, the EPA maintains an Upper Columbia River Study Area webpage (https://www.epa.gov/columbiariver/upper-columbia-river-study-area). This webpage provides the community and other interested parties information regarding the Site status, publicly available documents, including fact sheets, and other relevant site-specific information. The EPA hosted numerous outreach events in the community regarding the Site. These outreach activities have included public meetings and briefings with members of Congress and local officials. Table 1 below presents a selected list of outreach events the EPA conducted prior to proposal.

Table 1: Recent Upper Columbia River Outreach Events

Date[a]	EPA Outreach Event
October 15, 2019	Northport public meeting on HHRA
October 16, 2019	Confederated Tribes of the Colville Reservation public meeting on HHRA
November 20, 2019	HHRA update presentation at the Lake Roosevelt Forum conference
June 10, 2020	HHRA overview public webinar
July 15, 2020	HHRA overview public webinar (repeated presentation)
June 28, 2023	Briefed congressional representatives on Site update and NPL proposal
June 28, 2023	Conversation with Teck on NPL proposal
July 24, 2023	Briefed Northeast Tri-County Health Dept. and Washington Dept. of Health on NPL proposal
July 17, 2023	Briefed Stevens County Commissioners on NPL proposal
July 24, 2023	Briefed Ferry County Commissioners on NPL proposal
August 7, 2023	Briefed Lincoln County Commissioners on NPL proposal
August 9, 2023	Briefed Northport Town Council and Mayor Karene Balcom on NPL proposal
September 19, 2023	Briefed Grant County Commissioners on NPL proposal

Date[a]	EPA Outreach Event
September 29, 2023	Eastern Washington Council of Governments meeting
November 27, 2023	Citizens for a Clean Columbia informal meeting with members and potential guests to brief on Site update and NPL proposal (with Q&A)
November 28, 2023	Briefed U.S. Senators Murray and Cantwell's staff
November 28, 2023	Site update with Southern, Eastern, and Quincy Irrigation Districts
January 18, 2024	Briefed Representative McMorris Rodgers' staff
July 17, 2024	EPA and Citizens for Clean Columbia co-hosted a community meeting at Northport High School

[a] – The EPA notes that this table reflects recent outreach events. Additional outreach activities have been conducted by EPA Region 10 dating back to 2000 regarding the Upper Columbia River site.

Additionally, as part of the EPA's Technical Assistance Services for Communities program, the EPA awarded Citizens for a Clean Columbia a technical assistance contract to fund participation and a review of the RI/FS process. The EPA provides further information regarding community technical assistance on its Upper Columbia River Study Area webpage.

Regarding coordination with the public and other interested parties or stakeholders, the CERCLA process encourages public participation, including potentially responsible parties. The public can comment during the comment period (typically 60 days) after a site is proposed for listing on the NPL and during the time the EPA is evaluating and selecting a remedy. The EPA may also hold a public hearing during the latter decision-making period. If private parties conduct remedial actions under a consent decree between the EPA and the parties, the decree is also subject to public comment. The EPA believes that the above process offers the public sufficient opportunity to present facts and opinions germane to its decision-making.

Regarding comments addressing the tools that become accessible to the EPA as a result of listing a site, the EPA statements referred to by TAI and communicated to the public regarding funding and legal tools are correct. In public communications the EPA stated that NPL listing allows the EPA "to access Superfund dollars for cleanup activities." This statement did not assert that such funding is automatic at listing or that remedial action is automatic. Listing a site on the NPL also gives the EPA "access to legal tools that could compel action if needed." This statement by the EPA about access to legal tools does not imply that the NPL listing itself assigns liability or requires specific remedial actions. With NPL listing, EPA may use federal funds to advance CERCLA response actions when negotiations with a potentially responsible party or parties (PRPs) are not successful or become protracted, or if a PRP is not in compliance with an enforcement order or settlement agreement. The EPA would then seek to recover its costs from the PRP(s). This approach incentivizes PRPs to negotiate or to complete work because the cost for a private party to conduct work is generally less expensive than costs incurred by the EPA. Both the EPA statement on potential funding from an NPL listing and enforcement tools that may be available from listing are consistent with the explanation of the limited significance of the NPL outlined in the *Federal Register* notice proposing this Site to the NPL (89 FR 16498).

Regarding the information and data used to support the proposed addition of the Site to the NPL, please see section 3.3, Adequacy of Documentation, of this support document for a detailed discussion.

This comment results in no change to the HRS score and no change in the decision to place the Site on the NPL.

3.3 Adequacy of Documentation

Comment: TAI, Stevens County, and several citizens asserted that insufficient data or documentation were available to support placing the Site on the NPL.

TAI and Stevens County commented that the Site has been extensively studied as part of the RI/FS and these data were not included in the HRS scoring of the Site. TAI commented that the HRS is not appropriate for the Site because of the extensive investigation already completed for the Site. Stevens County stated that the HRS scoring is incomplete. TAI stated that the HRS scoring "did not incorporate the bulk of the RI/FS data" and used "arbitrarily limited data and completed studies" despite the availability of additional technical information that is sometimes more current and comprehensive. Stevens County also commented that prior data are available from the RI/FS process on the Upper Columbia River. TAI asserted that the most recent data from the RI/FS should be used to reflect the current risk posed by the Site.

In discussing the data used, Stevens County stated that the HRS scoring used "other unscientific data to list the area on the NPL." Stevens County commented that HRS scoring should be completed based on the known risk associated with the Site as opposed to "guesses." Stevens County commented that data for compounds and metals other than lead used in the documentation to support the proposed listing were not provided to it.

Stevens County and 10 citizens made additional assertions regarding the adequacy of the supporting documentation. Stevens County asserted that it is unclear why the Site achieved an NPL eligible HRS site score given that no human health risk is associated with the Site and no conclusive data on sediment contamination from the Upper Columbia River are present. Four citizens commented that the proposed designation lacks scientific evidence to support the decision. Four citizens commented that placing the Site on the NPL prior to the completion of the RI/FS suggests that the decision is being made without important data. Three citizens commented that there is a lack of scientific data to support the NPL designation or scope of the Site because the RI/FS process is still underway. Two citizens expressed opposition to the proposed NPL designation until ongoing studies have been completed and verified. As part of the assertion that available data were incomplete, three citizens stated that there are no blood test results for children living in the impacted area that would support listing the Site on the NPL.

Regarding availability of documentation and data, one citizen commented that the five documents for review did not include data tables or a map. This citizen also asserted that the fact sheet appears to indicate that remediation occurred at the areas with higher contamination and no associated data were provided.

Response: The data relied upon in the HRS documentation record at proposal are of sufficient quantity and type for the purposes of scoring the Site and Site placement on the NPL. Relevant data for the NPL listing were included in the HRS documentation record references at proposal and are available to the public via the Site docket[10]. Documents referenced in the HRS documentation record at proposal were available to the public upon request via the Region 10 Site docket at the time of proposal as described in the *Federal Register* notice proposing the Site to the NPL. The docket for the Site at the time of proposal was also sufficient for the public to review the HRS evaluation of the Site. As shown in other sections of this support document, the scoring of the surface water migration pathway and the soil exposure component of the soil exposure and subsurface intrusion pathway were supported in the HRS documentation record at proposal and achieved an HRS site score above the NPL listing threshold of 28.50.

The EPA used appropriate levels of data and investigation in determining the HRS score for the Site consistent with HRS regulation. As explained in the preamble in the *Federal Register* notice promulgating the 1990 HRS (55 FR 51533, December 14, 1990), Congress, in discussing the substantive standards against which HRS revisions could be assessed, stated:

[10] The EPA maintains dockets for the Site at EPA Headquarters and Region 10, which are available to the public per the instructions provided in the *Federal Register* notice proposing the Site to the NPL (89 FR 16498 March 7, 2024). The documents in the EPA Headquarters docket explain the basis for the HRS evaluation of the Site (e.g., the HRS documentation record with scoresheets and figures, the narrative summary, etc.) and have been made available online at regulations.gov. The documents in the EPA Region 10 docket for the Site include the documents in the EPA Headquarters docket along with all reference documents identified in the HRS documentation record at proposal.

> This standard is to be applied within the context of the purpose for the National Priorities List; i.e., identifying for the States and the public those facilities and sites which appear to warrant remedial actions…. The standard does not require the Hazard Ranking System to be equivalent to detailed risk assessments, quantitative or qualitative, such as might be performed as part of remedial actions. This standard requires the Hazard Ranking System to rank sites as accurately as the Agency believes is feasible using information from preliminary assessments and site inspections.... Meeting this standard does not require long-term monitoring or an accurate determination of the full nature and extent of contamination at sites or the projected levels of exposure such as might be done during remedial investigations and feasibility studies. This provision is intended to ensure that the Hazard Ranking System performs with a degree of accuracy appropriate to its role in expeditiously identifying candidates for response actions. [H.R. Rep. No. 962, 99th Cong. 2nd Sess. at 199-200 [1986]]

In addition, the HRS documentation record at proposal explained that other data that were not used in the HRS scoring of the Site were available and included in the references supporting the HRS documentation record at proposal. These data were not included in the scoring or in the body of the HRS documentation record itself due to the volume of available data but were available to the public in the HRS documentation record references at the time of proposal. The Site achieved an HRS score sufficient to warrant NPL listing based on the HRS scoring presented in the HRS documentation record at proposal and the cited reference documents used to support that scoring. Additional data were not necessary for the HRS scoring of the Site to achieve and NPL-qualifying site score but were included in the record for the Site as additional evidence supporting the presence of Site-related contamination in sediments. Page 76 of the HRS documentation record at proposal stated:

> Additional Sediment samples confirming an Observed Release by Chemical Analysis:
>
> It should be noted that there are additional sediment samples from the 2019 Teck Phase 3 Sediment Study which meet the criteria for an observed release to surface water; however, they were not included due to the sheer volume of data. These samples were not included because they were collected near sediment samples already included in documenting an observed release to surface water. In addition, the current samples and associated data used resulted in a maximized score of the surface water migration pathway. These sediment samples and associated data are included in References 35 and 36.

Moreover, although these additional data provide supplementary information regarding the Site, these data were not necessary to score the Site because the data relied upon sufficiently documented that the Site achieved an NPL-eligible HRS site score of 28.50 or greater. As shown throughout this support document, the comments submitted have not identified errors in the HRS factor values that would result in the Site score falling below the listing threshold of 28.50. The Site qualifies for addition to the NPL because it has achieved an HRS score greater than 28.50, as is demonstrated in the HRS documentation record and this support document. This score is based on the facts presented in the HRS documentation record and this support document. Achieving a site score of 28.50 or greater indicates that the Site is eligible for inclusion on the NPL and therefore warrants further investigation.

Regarding the citizen's comments asserting that data tables were not provided at proposal, the HRS documentation record at proposal included data tables summarizing the data relied on to score relevant HRS factors. The HRS documentation record at proposal was made available to the public on regulations.gov at the time of proposal and in the EPA Headquarters and EPA Region 10 dockets. References supporting the HRS scoring of the Site, including source documents for the analytical data, were identified in the HRS documentation record at proposal's reference list and were available to the public, upon request, at the time of proposal via the EPA Region 10 Site docket.

This comment results in no change to the HRS score and no change in the decision to place the Site on the NPL.

3.4 Site Description and Definition

Comment: Several commenters submitted comments concerning the general description of the Site, and whether the Site as scored is consistent with prior EPA communications and investigations. TAI commented that the proposed Site is inconsistent with the EPA's public communications for moving forward with the proposal for adding the Site to the NPL, which have centered on residential soil contamination. TAI commented that, while soil contamination near Northport was emphasized in communications to the public, the HRS documentation record at proposal instead focused on the concentration of metals in sediments. TAI stated that "[i]n fact, EPA omitted all but a small portion of the upland areas from the HRS scoring entirely, with the score premised on the Upper Columbia River."

The Government of Canada commented that the 2006 Settlement Agreement to conduct the RI/FS and a description of the ongoing RI/FS should be included in the HRS documentation record and "introductory remarks."

Stevens County commented on a perceived difference between the EPA's communication and the Site as scored, stating:

> The scoring of this proposal is arbitrary and capricious, or at the very least is skewed to fit the desired outcome of NPL listing as a priority site. We have received no communications on contamination on river sediment, yet the scoring to list this site seems to be based on river sediment data as opposed to the uplands area where lead levels are a little higher and the ninth circuit court of appeals has ruled that air deposition is not the responsibility of the Tech [sic] smelter in Canada to clean up and studies have been done. The messaging and purpose of this proposed listing is to clean up the higher lead levels in the Uplands Residential areas where studies have been conducted and no responsible party exists for clean up of residential properties near Northport and the Canadian Border. Yet this messaging to us local governments and citizens throughout the area was only based on the Uplands data.

Stevens County also asserted that the EPA's messaging has focused on lead contamination, while the information supporting the proposed listing of the Site includes other compounds and metals in addition to lead.

Response: The HRS documentation record at proposal sufficiently described the Site as evaluated for HRS scoring purposes and provided sufficient description for the purpose of identifying the Site for possible NPL placement.

As indicated on page 14 of the HRS documentation record at proposal, for HRS scoring purposes, the Site is the release of metals to the Upper Columbia River and soil from former operations at the two smelters, Cominco and Le Roi. The Site was described on page 14 of the HRS documentation record at proposal as being located in the northeast portion of Washington State and contaminated due to historical disposal and discharges of wastes and emissions from smelter operations, and comingling in soils and surface water sediments. Sediments in the river are contaminated with slag and metals, including antimony, arsenic, cadmium, chromium, copper, lead, mercury, and zinc, and a significant quantity of slag still remains in the Upper Columbia River. Upland soils at the Site are contaminated with metals including arsenic and lead. The HRS evaluation of the Site scored the surface water migration pathway based on concentrations of hazardous substances in sediments in the Upper Columbia River and the soil exposure and subsurface intrusion pathway based on the concentrations of hazardous substances in soil.

The Site description presented in the HRS documentation record at proposal was intended to describe the Site based on the information used to complete the HRS scoring of the Site. Page 1 of the HRS documentation record at proposal elaborated on the location and description of the Site explaining that, "[t]he street address, coordinates, and contaminant locations.… represent one or more locations EPA considers to be part of the site based on the screening information EPA used to evaluate the site for National Priorities List (NPL) listing." The description of the Site in the HRS documentation record was also not a final determination of what composes the entire Site, because, as also explained on page 1, "HRS scoring and the subsequent listing of a release merely represent the initial determination that a certain area may need to be addressed under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)." Regardless of prior descriptions of the contamination, the subject of this rulemaking is the evaluation of the Site for HRS scoring purposes, which is the Site as described in the HRS documentation record at proposal and which meets the HRS definition of a site.

The Site was properly described and defined in the HRS documentation record at proposal, consistent with the HRS. For HRS purposes, a site is defined in HRS Section 1.1, Definitions, as:

> Area(s) where a hazardous substance has been deposited, stored, disposed, or placed, or has otherwise come to be located. Such areas may include multiple sources and may include the area between sources.

Page 1 of the HRS documentation record at proposal stated that the "EPA lists national priorities among the known 'releases or threatened releases' of hazardous substances; thus, the focus is on the release, not precisely delineated boundaries." Page 14 of the HRS documentation record at proposal described the specific Site and stated that it:

> includes for HRS scoring purposes the release of metals from two smelters to the UCR and to soil. The Upper Columbia River site includes three sources: slag historically discharged via outfalls from the Cominco smelter, currently owned by Teck Metals Ltd. (Teck; also referred to in references as Teck American Incorporated [TAI]), to the UCR approximately 10 river miles (RMs) upstream of the international border in Trail, British Columbia (B.C.); and two sources (i.e., contaminated soil and sluice box discharge) associated with the former Le Roi smelter located in Northport, Washington.

This description of the Site meets the criteria of a site as defined by the HRS and adequately describes the contamination as evaluated in the HRS documentation record at proposal.

As these comments relate to the communication between the EPA and the public, please see section 3.2, Community Involvement, of this support document for a discussion of comments questioning the level of communication with the public.

This comment results in no change to the HRS score and no change in the decision to place the Site on the NPL.

3.5 Extent of Site

Comment: Several commenters submitted comments questioning the extent of the proposed Site. Five citizens stated that the Site is too extensive, asserting that the Site should be more specific. One other citizen asserted that the extent of the Site should be reduced and should not include the entire 150 miles of the Upper Columbia River from the U.S.-Canada border to the Grand Coulee Dam. Three citizens commented that the extent of the proposed Site is inappropriate due to insufficient data to support the designation.

TAI, Stevens County, and the Lincoln County Commissioners (Lincoln County) provided comments discussing whether contamination is present in specific areas. TAI asserted that if placed on the NPL, the Site should be

limited to the Le Roi/Northport smelter facility. In discussing the ongoing investigations, Lincoln County commented that "[n]othing of significance has arisen in the lower parts of the lake, all the way to Grand Coulee Dam." Stevens County stated that it disagreed that unidentified properties may require remediation.

Response: The determination of the extent of the Site for HRS scoring purposes was appropriately established and described in the HRS documentation record at proposal. The full extent of site-related contamination, however, is not determined at the listing stage of the CERCLA process. The Site boundaries may change pending the results of further investigation into where the contamination has come to be located. Placing a site on the NPL is based on an evaluation, in accordance with the HRS, of a release or threatened release of hazardous substances, pollutants, or contaminants. However, the fact that the EPA initially identifies and lists the release based on a review of contamination at a certain parcel of property (or area) does not necessarily mean that the site boundaries are limited to that parcel (or area).

CERCLA Section 105(a)(8)(A) requires the EPA to list national priorities among the known "releases or threatened releases" of hazardous substances; thus, the focus is on the release, not precisely delineated boundaries. Further, CERCLA Section 101(a) defines a "facility" as the "site" where a hazardous substance has been "deposited, stored, placed, or otherwise come to be located." The "come to be located" language gives the EPA broad authority to clean up contamination when it has spread from the original source. On March 31, 1989 (54 FR 13298), the EPA stated:

> HRS scoring and the subsequent listing of a release merely represent the initial determination that a certain area may need to be addressed under CERCLA. Accordingly, EPA contemplates that the preliminary description of facility boundaries at the time of scoring will need to be refined and improved as more information is developed as to where the contamination has come to be located; this refining step generally comes during the RI/FS stage. [emphasis added]

The revised HRS (55 FR 51587, December 14, 1990) elaborates on the "come to be located" language, defining "site" as "area(s) where a hazardous substance has been deposited, stored, disposed, or placed, or has otherwise come to be located. Such areas may include multiple sources and may include the area between the sources."

Until the site investigation process has been completed and a remedial action (if any) selected, the EPA can neither estimate the extent of contamination at the NPL site, nor describe the ultimate dimensions of the site. Even during a remedial action (e.g., the removal of buried waste) the EPA may find that the contamination has spread further than previously estimated, and the site definition may be correspondingly expanded.

Regarding specific locations with contamination, the Site was defined in the HRS documentation record at proposal based on locations where hazardous substances were located consistent with the HRS definition of a site. Page 1 of the HRS documentation record at proposal explained that the:

> contaminant locations presented in this Hazard Ranking System (HRS) documentation record identify the general area the site is located. They represent one or more locations EPA considers to be part of the site based on the screening information EPA used to evaluate the site for National Priorities List (NPL) listing.

In describing the specifics of the Site being scored, page 14 of the HRS documentation record at proposal stated that the Site includes, "the release of metals from two smelters to the UCR and to soil" and "three sources." This page continued that the three sources include:

> slag historically discharged via outfalls from the Cominco smelter … to the UCR approximately 10 river miles (RMs) upstream of the international border in Trail, British Columbia (B.C.); and two sources (i.e., contaminated soil and sluice box discharge) associated with the former Le Roi smelter.

Page 14 indicated that the three sources "have been documented to contain metals, including antimony, arsenic, cadmium, chromium, copper, lead, nickel, silver, zinc, and mercury." The HRS documentation record at proposal explained where the contamination is located (in surface water sediments in the Upper Columbia River and in nearby soil) and the specific hazardous substances in the contamination being evaluated. Accordingly, the HRS documentation record at proposal sufficiently identified the extent of the Site for the purpose of HRS scoring and NPL placement. See also section 3.4, Site Description and Definition, of this support document, for further discussion of the Site description.

This comment results in no change to the HRS score and no change in the decision to place the Site on the NPL.

3.6 Comingled Contamination

Comment: TAI commented that inclusion of the Northport area as part of the Site is inappropriate and inconsistent with historical treatment of that area as a separate site. TAI asserted that the EPA's public communications have focused on the soil contamination in the Northport area which is a separate site unrelated to the Cominco smelter. TAI stated that it disagreed with the inclusion of two separate sites as part of the Upper Columbia River site for NPL designation purposes. TAI distinguished the two, stating that "the Upper Columbia River/Lake Roosevelt Site surrounds the town of Northport, Washington, located approximately 7 river miles downstream of the U.S.-Canada border." It asserted that Northport has been treated as a separate site in other instances, such as the exclusion of the Northport area from the RI/FS residential sampling. TAI commented that the scoring approach used could cause "confusion around what 'the site' it aims to list actually is." TAI disagreed with the scoring of the Site based on comingled contamination, stating:

> EPA has discretion to score different portions of a site: EPA guidance[11] indicates that when multiple sources are in an area, the EPA Regional Office must decide whether to treat the area as one site or as several sites for HRS scoring purposes.[6] EPA Region 10 now apparently considers Northport part of the Upper Columbia River/Lake Roosevelt Site, on the basis that emissions from the Trail smelter 20 miles away have "commingled" with contamination from the former Le Roi/Northport smelter. TAI disagrees with this assertion based on extensive work done as part of the RI/FS, which shows that, as expected, the material impact of aerial emissions from the Trail smelter are localized around the smelter in British Columbia and a few miles into Washington.[12] [61, 61a, 62]

Response: The HRS documentation record at proposal appropriately evaluated the Site as the comingled contamination from historical releases associated with the Cominco and Le Roi smelters. While the Site is the comingled contamination from releases from the two smelters, the HRS documentation record at proposal also documented that both releases associated with Cominco and Le Roi smelters would independently achieve an NPL qualifying HRS site score of 28.50 or greater if scored separately (see Appendix A of the HRS documentation record at proposal). These independent releases from the two smelters comingled in surface water and via air deposition to soil. (See pages 14, 77-78, and 96-97 of the HRS documentation record at proposal.) Therefore, listing this Site as presented in the HRS documentation record at proposal is consistent with the intent

[11] TAI cited page 39 of the *HRS Guidance Manual.*

[12] TAI points to TAI, *Upper Columbia River Draft Final Remedial Investigation Report for OU 3*. Prepared for Teck American Incorporated by ERM in association with Ramboll, Exponent, EnviroComp, Endeavour EHS, and Parametrix. October 2023.

of CERCLA as it evaluates the overlapping threat posed by the comingled releases from the former smelter operations.

In discussing the function of the NPL, CERCLA Section 105 (a)(8)(B) (as modified by SARA) directs the establishment of the NPL:

> Based upon the criteria set forth in subparagraph (A) of this paragraph, the President shall list as part of the plan national priorities among the known releases or threatened releases throughout the United States,... In assembling or revising the national list, the President shall consider any priorities established by the states. To the extent practicable, [at least four hundred of] the highest priority facilities shall be designated individually and shall be referred to as the "top priority among known response targets"

Section 105(a)(8)(A) of CERCLA, as amended by SARA, requires that the National Contingency Plan (NCP) include:

> [C]riteria for determining priorities among releases or threatened releases throughout the United States for the purpose of taking remedial action and, to the extent practicable, take into account the potential urgency of such action, for the purpose of taking removal action.

To direct implementation of CERCLA (and SARA), the EPA revised the NCP (40 CFR part 300). Section 300.5, Definitions, of the NCP lists the definitions in CERCLA and adds others. It defines the National Priorities List as:

> National Priorities List (NPL) means the list, compiled by EPA pursuant to CERCLA section 105, of uncontrolled hazardous substance releases that are priorities for long-term remedial evaluation and response.

The HRS definition of a site is centered on where contamination has come to be located and may include consideration of more than one area. HRS Section 1.1, *Definitions*, provides the definition for a site and directs that a site can include multiple areas. The HRS defines the term site as:

> Area(s) where a hazardous substance has been deposited, stored, disposed, or placed, or has otherwise come to be located. Such areas may include multiple sources and may include the area between sources.

Hence, the focus of the listing is on the release and the EPA has scored the overall comingled release from the two smelters based on information available for a complete HRS evaluation. In addition, the EPA provided a supplemental scoring in the HRS documentation record at proposal in Appendix A showing each smelter's release would achieve an HRS site score of 28.50 or greater if scored separately.

As explained throughout the HRS documentation record at proposal, the Site is the release of metals from the two smelters (Cominco and Le Roi) to the Upper Columbia River and to soil:

- The Site Summary section on page 14 of the HRS documentation record at proposal discussed that the Site includes for HRS scoring purposes the release of metals from two smelters to the Upper Columbia River and to soil. It identified that releases from the three scored sources (Cominco slag discharges, Le Roi sluice box discharges, and contaminated soil at the former Le Roi facility) have resulted in comingled contamination in the Upper Columbia River. It also identified aerial deposition released from both smelters has become comingled in the AOC soil contamination.
- The Attribution section for the surface water migration pathway on pages 77-78 of the HRS documentation record at proposal discussed the nearly continuous contamination in the 35-mile stretch of

the river encompassing the zone of contamination scored, and the comingling of the two smelters' releases to surface water at and downstream of the Le Roi smelter.

- The Attribution section for the soil exposure component on pages 96-97 of the HRS documentation record at proposal discussed airborne emissions from the two smelters, including operations/emissions from Le Roi and air quality/deposition modeling and analysis for emissions from the Cominco smelter to the greater Upper Columbia River Basin over an 85-year period.

The inclusion of the Northport area within the scope of the Site in the NPL listing is appropriate. The EPA conducted a removal site evaluation of the Le Roi smelter in 2003 and a removal action in 2004. The RI/FS work did not begin until after the removal action at Le Roi smelter began. Thus, the Le Roi smelter location of the 2003 removal action was, at that time, considered a separate site. The purpose of the RI/FS for the Upper Columbia River site is to determine the nature and extent of contamination, which includes the Le Roi smelter. In 2015, TAI disputed a direction from the EPA and, as part of the dispute resolution, the EPA agreed to reduce the area of soil sampling TAI was required to do. The EPA did not require TAI to sample in the Northport town proper in 2016. However, the EPA did not exclude Northport from any future sampling or response actions.

As noted above, both the Cominco and Le Roi smelter releases would independently achieve an NPL qualifying HRS site score of 28.50 or greater if scored separately. While both smelters independently achieve an NPL eligible HRS site score, the threat to the surface water migration pathway and the soil exposure and subsurface intrusion pathway is the result of comingled releases from the operations at the smelters.

TAI's claim that aerial emissions from the Cominco smelter are localized around the smelter in British Columbia and a few miles into Washington is incorrect. TAI cites its October 2023 *Upper Columbia River Draft Final Remedial Investigation Report for OU 3* as the basis for these statements. The EPA disapproved this report on April 9, 2024, for multiple reasons including TAI's mistaken assertions concerning the geographic limitation of aerial metals emissions from the Cominco smelter. The full extent of the upland soil contamination is not known, and the EPA is pursuing further investigations.

Finally, even if the comingling of Cominco/Le Roi releases in contamination in the soil at Northport were not considered and the soil exposure component were not scored, the Site would still achieve an NPL-qualifying HRS site score of 28.50 or greater based solely on the comingled surface water contamination and the surface water migration pathway score (i.e., the surface water migration pathway yields a pathway score of 100.00, which would result by itself in a site score of 50.00).

This comment results in no change to the HRS score and no change in the decision to place the Site on the NPL.

3.7 Liability

Comment: TAI, Stevens County, and two citizens commented on the presence of PRPs and/or liability for the contamination scored. TAI commented that some of the upland soil contamination along the Upper Columbia River is related to impacts from the Le Roi/Northport smelter and unrelated to the Cominco smelter and Teck. TAI asserted that as the release associated with the Le/Roi Smelter lacks a solvent PRP, the Site should be limited to the impacts from the Le Roi smelter. TAI commented that following the Settlement Agreement, Teck has made continual progress on the RI/FS. Stevens County stated that a PRP is not present for the residential soil contamination around Northport. Additionally, two citizens commented that involvement from Canada is needed to address the issue as contamination is coming from Canada.

Response: The NPL listing process is separate from a determination of liability, and liability is not considered in evaluating a site under the HRS. The NPL serves primarily as an informational tool for use by the EPA in identifying those sites that appear to present a significant risk to public health or the environment. Listing a site on the NPL does not reflect a judgment on the activities of the owner(s) or operator(s) of a site. It does not require

those persons to undertake any action, nor does it assign any liability to any person. This position, stated in the legislative history of CERCLA, has been explained more fully in the *Federal Register* (48 FR 40674, September 8, 1983, and 53 FR 23988, June 24, 1988). See Kent County v. EPA, 963 F.2d 391 (D.C. Cir. 1992

Furthermore, the presence or absence of a PRP (solvent or otherwise) or the absence of involvement from other parties are not factors considered in determining whether to place a site on the NPL. Evaluating whether this Site is eligible for proposal to the NPL is based on the technical analysis set forth in the HRS and explained in the HRS documentation record at proposal. Comments about funding for site remediation are addressed in section 3.8, Funding, of this support document.

This comment results in no change to the HRS score and no change in the decision to place the Site on the NPL.

3.8 Funding

Comment: TAI, Stevens County, Benton County, and several citizens submitted comments discussing sources and uses of funding for remedial work.

TAI commented that an RI/FS is ongoing and fully funded. TAI asserted that if NPL designation is pursued, then the Site should be limited to the Le Roi/Northport smelter due to its lack of a solvent PRP.

TAI asserted that while the EPA's news release about the proposed addition of the Site to the NPL suggested that NPL placement allows the EPA access to funding via the Superfund program, the process of NPL designation only makes non-federal sites eligible for federal funding, and that NPL listing makes sites eligible for this funding but does not guarantee it. TAI commented that:

- Only non-federal sites are eligible for funding via the Superfund program following placement on the NPL.
- Other funding mechanisms are required to be pursued by the NCP prior financing remedial actions via the Superfund.
- Actual funding via the Superfund program is determined through specific prioritization factors.
- This Site is unlikely to be prioritized for funding due to the limited risk posed by the Site compared other sites.
- Funding, if awarded, may not be immediately available.

Stevens County, Benton County, and five citizens asserted that the motivation behind the pursuit of an NPL designation for the Site is to obtain funding. Stevens County stated that it disagreed that adding the entire area to the NPL would result in funding for remedial actions. Stevens County stated that "references to tapping into IIJA [Infrastructure Investment and Jobs Act] dollars" for this Site have been made. Five citizens asserted that including this Site on the NPL would be an inappropriate use of tax dollars. One citizen commented that funding should be in the form of grants to allow the community to make improvements that will work at a local level. Five citizens commented that political power associated with funding is another motivation behind the placement of the Site on the NPL. One citizen asserted that placing the Site on the NPL could become a major cost to taxpayers. Benton County asserted that the idea that NPL listing will lead to cleanup funding is flawed because it is based on the assumption that public health/environmental concerns will be identified (which is inconsistent with RI/FS findings so far).

Response: Insomuch as these comments are related to sources of funding for future or ongoing remedial activities, sources of funding for remedial activities are not a factor considered in evaluating whether the NPL placement of a site is warranted. The costs associated with future or ongoing remedial actions are not determined as part of the

listing stage of the CERCLA process. The discussion of costs in NPL rules in the *Federal Register* clearly states that including a site on the NPL does not cause the EPA necessarily to undertake remedial action; it does not require any action by a private party, nor does it assign liability for site response costs (56 FR 21462, May 9, 1991). The cost discussion outlines the EPA's perception of average potential costs per site that may occur in association with events generally following the proposed listing of a site. Any EPA actions that may impose costs on entities are based on discretionary decisions and are made on a case-by-case basis. Also, responsible parties may bear some or all the costs of the RI/FS and subsequent work, or the costs may be shared by the EPA and the States. Therefore, expenditures cited by the commenter are associated with events that generally follow listing the site, not with the listing itself. The EPA has not allocated costs for this Site at this time.

This comment results in no change to the HRS score and no change in the decision to place the Site on the NPL.

3.9 Economic Impact and Stigma of Listing

Comment: Stevens County, Lincoln County, SCBID, QCBID, ECBID, and 21 citizens expressed concern regarding potential economic impacts to the region. In discussing possible economic impacts, Stevens County, QCBID, SCBID, ECBID, and 10 citizens expressed concern for one or more of the following:

- Possible decreases in property values
- Possible changes in taxation and/or shifting tax burdens
- Negative impacts to local business
- Decreases in local tourism and/or local recreation
- Impacts to agriculture and/or global trade markets for food products

The SCBID, QCBID, ECBID, and one citizen also stated that because local farms irrigate crops with water from the Columbia River, crops from the region may be stigmatized resulting in negative economic impacts to agriculture businesses. The SCBID, QCBID, and ECBID also asserted that the resulting decreases to agriculture businesses could cascade and affect national food supply and/or global trade markets.

In addition, four citizens commented that economic concerns could occur, asserting previous economic impacts have occurred to the local industry (e.g., logging) because of the protection of the spotted owl as an endangered species.

Response: The EPA notes that there are both costs and benefits that can be associated with listing a site. The potential stigma and economic impacts identified by the commenters, however, are not considered in the assessment of whether a site belongs on the NPL. Such impacts are not the result of NPL listing. Instead, potential negative impacts associated with listing the Site, as noted by the commenter, would be engendered by the contamination in the area, not by placing the Site on the NPL. Furthermore, inclusion of a site or facility on the NPL reflects the EPA's judgment that a significant release or threat of release has occurred and that the site is a priority for further investigation under CERCLA.

Among the benefits associated with listing a site are increased health and environmental protection as a result of increased public awareness of potential hazards. In addition to the potential for federally financed remedial actions, the addition of a site to the NPL could accelerate privately financed, voluntary cleanup efforts. Listing sites as national priority targets also can give States increased support for funding responses at particular sites. As a result of the additional CERCLA remedies, there will be lower human exposure to high-risk chemicals, and access to higher quality surface water, groundwater, soil, and air. Therefore, it is possible that any perceived or actual negative fluctuations in property values, stigma, or development opportunities that may result from contamination may also be countered by positive fluctuations when a CERCLA investigation and any necessary cleanup are completed. For further information, see information in the September 2000 EPA fact sheet, *Superfund*

Today, How Can a Superfund Site Affect My Property? (EPA 540-F-98-001, available at https://semspub.epa.gov/src/document/05/927384.pdf).

This comment results in no change to the HRS score and no change in the decision to place the Site on the NPL.

3.10 Purpose of Listing

Comment: TAI, Stevens County, Lincoln County, QCBID, SCBID, ECBID, the Rimrock Cabin Owners Association, and several citizens submitted comments discussing the purpose and rationale for listing.

Purpose of NPL Listing
TAI requested that the purpose of listing be clarified, including the benefits and limitations. TAI asserted that statements have been made that incorrectly suggest that additional enforcement authority is provided via NPL placement and that these types of statements provide misinformation about the status of a proposed NPL site. TAI commented that NPL designation does not provide additional enforcement authority. TAI commented that a Washington State Department of Ecology staff member made a statement suggesting that an NPL designation for the Site would end an ongoing litigation.[13]

TAI stated that an RI/FS is ongoing for this Site in contrast to most sites, which are typically considered for NPL placement at the preliminary assessment (PA) stage. TAI commented that HRS scoring is a site evaluation process intended "for a relatively quick, limited assessment based on high-level data available in the early days of understanding the site." It asserted that HRS scoring is not intended to account for extensive site-specific data. TAI stated that the *HRS Guidance Manual* notes that HRS scores are intended to reflect the threat at the time of scoring. TAI commented that the ongoing RI/FS will determine the need for remedial action and the specific actions necessary.

Need for Listing
Several commenters provided comments discussing whether a need for listing the Site on the NPL had been established. Five citizens commented that a need for the proposed NPL designation of the Site had not been provided. In discussing results of prior investigations, Lincoln County commented that no significant issues have been found for lower parts of Lake Roosevelt to the Grand Coulee Dam. A citizen commented that it is unclear what remediation of the Site will accomplish. Three citizens asserted that the designation appeared to be motivated by the pursuit of funding. Three citizens also commented that a Superfund designation will shift political power over a large part of Eastern Washington to the State and local tribes. A citizen asserted that without coordination with the Government of Canada, the issue of contamination in the Upper Columbia River will remain. The QCBID, SCBID, and ECBID asserted that alternative approaches to remediate the soil contamination that are being identified in the RI/FS should be pursued. Lincoln County commented that alternatives should be pursued to address issues identified in the lower portion of Lake Roosevelt.

Stevens County asserted that NPL placement of the Site is premature and the process of completing the RI/FS prior to placing the Site on the NPL should be followed. Stevens County commented that the process should also be followed because the new EPA guidance on lead levels in soil is inconsistent with the screening levels for metals in Washington state. Stevens County asserted that placing the Site on the NPL at this time would eliminate the determination of whether remedial work would exacerbate the threat to human health and public safety. It also commented that NPL placement at this stage would eliminate the examination of which remedial methods are most appropriate.

[13] TAI points to statements made by Brook Beeler, Eastern Regional Manager at the Washington State Department of Ecology, as shown in an article from the Roll Call newspaper, available at https://rollcall.com/2024/04/10/superfund-plan-for-columbia-river-sparks-debate-in-northwest/.

One citizen commented that other areas may be in a greater need of remediation and funding for remediation. Another citizen asserted that listing would cause adverse public health impacts as a result of an economic downturn.

Remedy Decision/Remedial Actions
The Rimrock Cabin Owners Association and 14 citizens submitted comments providing suggested remedial actions. These concerns about future remediation from the Rimrock Cabin Owners Association and the citizens included comments that:

- Remediation of the sediment in the Columbia River could lead to a greater exposure to contamination if sediment is disturbed.
- Additional unbiased testing to determine high levels of contamination should occur before remediation begins.
- Documentation that the proposed remedial work will result in improved conditions should be required.
- Unique solutions for remediation and additional planning should be considered.
- Smelters should be shut down and modified.
- Instead of removing the dam, adding fish ladders is a more appropriate mitigation approach and will not impact agriculture in the area.
- Remedial work should be focused on a specific area as opposed to a broader geographic area.
- Remedial work could negatively impact the lake and river area.
- Cleanup should be completed on an area-specific basis accounting for the risk to human health or wildlife.

Response: The purpose of listing a site on the NPL is to inform the public of a possible threat posed by a site that warrants further investigation. The EPA's actions to evaluate the Upper Columbia River site using the HRS and listing the Site are consistent with the requirements of CERCLA and SARA, and the statutory purpose of the NPL.

Placing the Site on the NPL is not an announcement of any site-specific risk level or a determination of the need for remedial action. Listing a site reflects the EPA's decision to inform the public of the possible threat posed by the site and at a later stage in the CERCLA process the EPA will determine what, or if, cleanup action is warranted. An HRS site score above 28.50 for the Upper Columbia River site represents the EPA's determination that the Site poses a relative risk as compared to other sites evaluated under the HRS and that the Site warrants further investigation and potential remediation. At this Site, hazardous substances, including antimony, arsenic, cadmium, chromium, copper, lead, zinc, and mercury, were identified in a release to surface water, and lead and arsenic were identified in contaminated soil; the relative risk posed by this contamination is reflected in the HRS scoring of the surface water migration pathway and soil exposure component in the HRS documentation record at proposal. The contamination documented in sediments and surface soil has the potential to affect human health and/or the environment. The need for remedial action to address the sediment and soil contamination will be assessed during later stages of the CERCLA process.

Purpose of NPL Listing
The NPL is generally intended to be a "rough list" of prioritized hazardous sites; a "first step in a process—nothing more, nothing less." Eagle Picher Indus. v. EPA, 759 F.2d 922, 932 (D.C. Cir. 1985) (Eagle Picher II). The HRS is the mechanism used to evaluate the relative risk of a site. If a site scores 28.50 or greater using the HRS, then it may be added to the NPL.

The purpose of NPL listing is explained in the *Federal Register* Notice of February 21, 1990 (Volume 55, Number 35), excerpted below:

> The purpose of the NPL, therefore, is primarily to serve as an informational and management tool. The initial identification of a site for the NPL is intended primarily to guide EPA in determining which sites warrant further investigation to assess the nature and extent of the public health and environmental risks associated with the site and to determine what CERCLA-financed remedial action(s), if any, may be appropriate. The NPL also serves to notify the public of sites EPA believes warrant further investigation.

Addition of the Site to the NPL thus indicates further investigation is warranted to fully assess the extent of risk posed by the Site (and remedial actions may be selected based on the findings of that complete assessment).

Need for Listing

Sufficient basis for placing the Site on the NPL has been established. The Site qualifies for addition to the NPL because it has achieved an HRS score equal to or greater than 28.50, as is demonstrated in the HRS documentation record and this support document. Achieving a site score of 28.50 or greater indicates that the Site is eligible for inclusion on the NPL and therefore warrants further investigation. Placing a site on the NPL allows the EPA to more effectively prioritize sites and manage possible future site investigations and response actions; it also notifies the public that the release at a site is of concern to the Agency. The HRS score for the Site is based on the release of contamination documented in sediments in the surface water migration pathway and soil contamination in the soil exposure component of the soil exposure and subsurface intrusion pathway, the contaminants present, and the targets subject to actual and potential contamination, consistent with the HRS. The HRS site score above 28.50 presents sufficient need for NPL placement and establishes that the Site poses sufficient relative risk to warrant further investigation. As explained in detail in section 3.15, Risk to Human Health and the Environment, of this support document, the HRS evaluation of a site is not a risk assessment and not intended to provide a specific determination of risk. Rather, the specific risk posed by the Site is determined at a separate stage in the CERCLA process.

Remedy Decision/Remedial Actions

Placement of a site on the NPL is not an evaluation of the effectiveness of any remedy currently in place or a determination of whether specific remedial actions are appropriate. The EPA has a procedure for identifying sites where releases of substances addressed under CERCLA have occurred or may occur, placing such sites on the NPL, evaluating the nature and extent of the threats at such sites, responding to those threats, and deleting sites from the NPL. The evaluation, or RI/FS phase, involves on-site testing to assess the nature and extent of the public health and environmental risks associated with the site, and provides information to determine what remedial actions, if any, may be appropriate. After a period of public comment, the EPA responds to those threats by issuing a Record of Decision that selects the most appropriate alternative. The selected remedy is implemented during the remedial design/remedial action phase. Finally, the site may be deleted from the NPL when the EPA determines that no further response is appropriate.

While the steps in the CERCLA process are distinct, they can be conducted in parallel. For the Upper Columbia River site, the Site was evaluated using the HRS and received an HRS site score of 51.15, which exceeds the threshold for placement on the NPL. Because of an NPL eligible HRS site score, in conjunction with concurrence from the state of Washington, the Confederated Tribes of the Colville Reservation, and The Spokane Tribe of Indians, the EPA proposed the Site for listing on the NPL. Prior to proposing the Site on the NPL, to address the Site in a more timely manner, the EPA has been overseeing the conduct of an RI/FS by a PRP to evaluate the Site in more depth to characterize site contamination and to analyze interim remedial alternatives to address the most pressing threats at the Site. The EPA has also conducted or overseen implementation of time critical removal

actions to address immediate threats to public health.[14] As a matter of policy, however, the EPA does not delay NPL listing of a site to incorporate any new data or to score new pathways if the ultimate listing decision is not affected.

As previously noted in this support document, the selection of remedy—if any is found necessary for some or all of the Site—and any associated funding is a step carried out at a later stage of the CERCLA process. Thus, comments on a remedy are premature at the listing stage. However, placing the Site on the NPL does not prohibit any PRP or stakeholder from participating in cleanup efforts as discussed in detail in section 3.14, Ongoing Investigation and Remediation, of this support document. The ongoing RI/FS is also discussed further in that section.

This comment results in no change to the HRS score and no change in the decision to place the Site on the NPL.

3.11 Due Process

Comment: Stevens County stated that information has been delayed or withheld to move forward with the listing process. Stevens County asserted that comments were solicited from select groups on the draft BERA, which is used to support some aspects of the NPL proposal of the Site. It commented that Citizens for Clean Columbia were provided an opportunity to comment prior to the release of the draft document, while local governments were not given the same opportunity to comment.

Stevens County also stated that the "solicitation of clean up action contracting for this process under the CERCLA program and NPL"[15] prior to the proposal to list the Site on the NPL suggests that "this rule-making process has a predetermined outcome without affording the process follow all federal guidelines." Stevens County quoted the solicitation, which, in part, states:

> R10 Upper Columbia River Sampling and Removal Action Technical Support The U.S. Environmental Protection Agency (EPA) Region 7, Acquisition Management Branch, is seeking the services of an experienced firm to provide Sampling and Removal Action Technical Support services within the Upper Columbia River (UCR) Site. The primary focus of this requirement will be on residential properties within the Town of Northport that are affected by commingled contamination from smelter operations.… To achieve this, work includes: 1) an additional round of voluntary soil sampling at properties that have not been previously sampled; 2) complete a removal assessment and prioritization of properties for cleanup using data obtained during the current and previous sampling events; and 3) conduct time critical removal actions (TCRA) at the properties identified for cleanup. [A12]

Response: The EPA correctly followed the HRS, complied with the requirements in the APA, and followed relevant procedures in determining whether to list the Site on the NPL. The EPA has concluded that placing the Site on the NPL is an appropriate step in the multi-step CERCLA process.

Consistent with CERCLA, the EPA has in place a procedure for identifying sites where releases of substances addressed under CERCLA have occurred or may occur, placing such sites on the NPL, evaluating the nature and extent of the threats at such sites, responding to those threats, and deleting sites from the NPL. The purpose of the initial two steps is to develop the NPL, which identifies for the States and the public those sites that appear to

[14] See the Upper Columbia River Study Area webpage (https://www.epa.gov/columbiariver/upper-columbia-river-study-area) discussion in the section titled "Residential cleanups" (as well as planning for future actions in the section "EPA to conduct time-critical removal/soil cleanup action").

[15] Stevens County pointed to a solicitation located at: https://www.fedconnect.net/FedConnect/default.aspx?ReturnUrl=%2ffedconnect%3fdoc%3d68HE0724R0014%26agency%3dEPA&doc=68HE0724R0014&agency=EPA

warrant remedial action (56 FR 35842, July 29, 1991). The evaluation or RI/FS phase involves on-site testing to assess the nature and extent of the public health and environmental risks associated with the site and to determine what alternatives for remedial action, if any, may be appropriate. After a period of public comment following issuance of the RI/FS and the identification of a preferred alternative, the EPA responds to the identified threats by issuing a Record of Decision which selects the most appropriate alternative. The selected remedy is implemented during the remedial design/remedial action phase. Finally, the site may be deleted from the NPL when the EPA determines that no further response is appropriate.

This process encourages and relies on the participation of the public, including PRPs. The public can comment during the comment period (typically 60 days) after a site is proposed for listing and during the time the EPA is evaluating and selecting a remedy (the EPA may also hold a public hearing during the latter decision-making period). If private parties conduct a remedial action under a consent decree between the EPA and the parties, the decree is also subject to public comment. The EPA believes that the above process offers the public sufficient opportunity to present facts and opinions germane to its decision-making.

Additionally, the CERCLA process allows the Agency to include expedited removal actions and interim measures to address more immediate concerns or address portions of a site. The EPA may select removal actions (such as a TCRA) at any time to address immediate risks to human health. (See CERCLA Section 104.)

As further detailed in section 3.3, Adequacy of Documentation, of this support document, on the subject of the BERA, whether the BERA forms part of the basis for listing and the lack of opportunity for local governments to comment on the BERA, the HRS evaluation and HRS site score is fully supported by the references in the HRS documentation record at proposal, and the draft BERA is not needed to support the HRS score. The public was provided a 60-day comment period to review and comment on all documents supporting the listing decision, including the HRS documentation record at proposal and supporting references. The BERA was not included as a reference to the HRS documentation record at proposal and is not needed to support the HRS score. Whether another group may have had an opportunity to evaluate a document not relied upon for the proposed listing of the Site is unrelated to the present listing action.

Regarding the solicitation identified by the commenter ("solicitation of clean up action"), the solicitation summary quoted above is looking for services to complete Sampling and Removal Action Technical Support services. Removal action support services can occur separately and be unrelated to the evaluation of whether placing a site on the NPL is appropriate. As identified in the HRS documentation record at proposal, removal actions have been conducted to address soil contamination in and around the Northport area. The volume of contaminated soil removed at those locations was not included in the Site for HRS scoring purposes. Page 92 of the HRS documentation record at proposal explained that the "EPA has conducted removal activities at many properties in the Northport area dating back to 2003," and for the evaluation of "the hazardous waste quantity area and resident population for the AOC … only contaminated properties from the 2021 RSE sampling event, that did not have soil removals, were included in the calculation." Thus, this solicitation is unrelated to the HRS documentation record and does not impact the site score or affect the assessment of whether placement on the NPL is appropriate. Note that NPL listing allows for CERCLA remedial action, which is different from a removal action (i.e., as set out in 42 U.S.C. § 9601(24), a remedial action is generally considered to include those actions taken that are consistent with a permanent remedy); also, CERCLA removal actions may occur at any time on sites that are either on, or not on, the NPL.

The solicitation referred to by the commenter was issued to ensure that contract services are in place to support additional removal site evaluation and removal actions, should they be determined to be necessary, at properties where potential immediate risk exists.

This comment results in no change to the HRS score and no change in the decision to place the Site on the NPL.

3.12 Delay Listing Until the RI/FS is Completed

Comment: Stevens County, the Eastern Washington Council of Governments (EWCOG), Lincoln County, QCBID, SCBID, ECBID, Benton County, and 22 citizens stated that placement of the Site on the NPL should not occur prior to the completion of an RI/FS or other similar investigation. Stevens County and one citizen commented that the EPA previously stated that the Site would not be placed on the NPL until after the RI/FS is completed. One citizen asserted that the 2006 settlement agreement with Teck mandated certain studies be completed before NPL listing. [C15] EWCOG stated that, as a high concern is not present, delaying listing "will not have a detrimental effect."

Stevens County asserted that the RI/FS is ongoing, would be complete in a few years, and should be completed as soon as possible. Stevens County stated that placing the Site on the NPL after the RI/FS would:

- Ensure "reliable science-based studies to confirm there is/was an issue needing clean up"
- Identify "specific areas for clean-up where the cleanup action would not create more harm than benefit"

Stevens County and several citizens submitted comments discussing whether the Site should be placed on the NPL prior to the collection of data and information from additional reports. Eight citizens stated that it is unclear why NPL designation is occurring without the scientific data that would result from the RI/FS. Stevens County commented that it is unclear why NPL designation is being pursued for the entire waterbody as an EPA representative indicated that Lake Roosevelt meets drinking water standards except for bacteria, which have not been tested for. Stevens County asserted that pursuing listing prior to completion of the RI/FS would eliminate the assessment of whether remedial efforts may have negative effects and identifying which cleanup methods are appropriate. Stevens County commented that an FS needs to be completed to limit exposure during cleanup. Stevens County stated that the RI/FS investigation for ecologic health is funded and that completed human health studies are indicating no actions are needed. One citizen commented that the RI/FS will provide information about the best remedial approach.

In a letter provided to the EPA included as Attachment A to its comment submission, Stevens County requested that NPL listing be reconsidered. Stevens County also stated that if the EPA were to pursue an "NPL Listing (Superfund Designation) without completing the RI/FS studies first, you leave us with no other option but to challenge your actions in court."

Response: There is no need to delay NPL listing to wait for the results of the RI/FS investigation. All site investigation work performed to date or currently proceeding, including the ongoing RI/FS, will be considered in subsequent steps of the CERCLA process. The available information presented in the HRS documentation record at proposal establishes an HRS site score exceeding the 28.50 threshold and qualifying the Site for NPL listing based on the current conditions at the Site. Site-related contamination remains in sediments and soil as documented in the HRS documentation record at proposal. The EPA has determined that this site-related contamination appears to warrant further investigation and potential remediation. Other ongoing investigations do not negate the need for listing. Nevertheless, the results of the Upper Columbia River RI/FS will be taken into account as part of later stages of the CERCLA process for the Site.

As previously indicated in section 3.11, Due Process, of this support document, and consistent with CERCLA, the EPA has in place a procedure for identifying sites where releases of substances addressed under CERCLA have occurred or may occur, placing such sites on the NPL, evaluating the nature and extent of the threats at such sites, responding to those threats, and deleting sites from the NPL. The purpose of the initial two steps is to develop the NPL which identifies for the States and the public those sites that appear to warrant further investigation and potential remedial action. The evaluation or RI/FS phase involves on-site testing to define the nature and extent of the threat posed by the contamination and to identify alternatives for remedial action. The RI/FS investigation

typically occurs following listing on the NPL. (However, as noted in section 3.10, Purpose of Listing, of this support document, for this Site, the RI/FS has been ongoing and is proceeding in parallel with NPL listing.)

Thus, the purpose of NPL listing is to identify sites warranting further investigation to fully assess the extent of risk posed by the site (and ultimately to evaluate and determine what CERCLA-financed remedial actions, if any, may be appropriate). The RI/FS identifies the extent of contamination and possible remedies to address that contamination. In this case, both steps are being done concurrently, as there is a party conducting an RI/FS pursuant to a settlement agreement, and, at the same time, there is sufficient information available to justify NPL listing.

Regarding the data and documentation used to evaluate and score the Site with the HRS, sufficient data and documentation were used for the purposes of HRS scoring as explained in detail in section 3.3, Adequacy of Documentation, of this support document.

This comment results in no change to the HRS score and no change in the decision to place the Site on the NPL.

3.13 Consistency with Guidance/Use of Guidance

Comment: TAI and Stevens County submitted comments questioning aspects of EPA guidance documents and the application of guidance:

- TAI asserted that the *HRS Guidance Manual* indicates that, when addressing an area with multiple sources, the EPA can use its discretion to determine whether one or more sites is present for HRS scoring purposes. TAI commented that it disagreed with the EPA's consideration of the Le Roi smelter as a part of the Site due to comingling of releases.
- In discussing EPA guidance developed using an extrapolation of Center for Disease Control (CDC) guidance for blood lead levels, Stevens County commented that prior blood lead studies:

  > show NO elevated lead levels in children, the most vulnerable population, from the old standards prior to the new guidance. As guidance is simply that and has not been available for public comment, and extrapolation of data is a scientific guess with no degree [of] certainty, it draws the conclusion that lead levels of blood in the children and population in the area should be done prior to scoring being completed to show there is an issue. Scoring should be done on known risks, not guesses by those in the agency.…

- TAI commented on the EPA's new lead screening level guidance. It pointed to a March 5, 2024, EPA news release[16] in which the EPA noted that soil at more than 194 residential areas related to the Site involve lead at levels that exceed the new EPA screening level for residential lead contamination. TAI commented that guidance for the new screening level does not prescribe cleanup levels (and that site-specific screening levels are already set).
- TAI asserted that the *HRS Guidance Manual* indicates that releases are scored based on the threat at the time of scoring.

Response: The EPA followed the HRS regulation to list the Site on the NPL. Furthermore, unlike the HRS regulation itself, the *HRS Guidance Manual* and other EPA guidance are not regulations and impose no mandatory requirements on the Agency.

[16] The news release is available at https://www.epa.gov/newsreleases/epa-proposes-adding-upper-columbia-river-wa-superfund-list.

Regardless, the Interim Final *HRS Guidance Manual* was also applied appropriately in the HRS evaluation based on the facts and circumstances known to be present for this Site at proposal; any variation in applying the *HRS Guidance Manual* was carried out to reflect site-specific conditions. The *HRS Guidance Manual* states that:

> [t]he procedures set forth in this document are intended as guidance to employees of the U.S. Environmental Protection Agency (EPA), States, and other government agencies. EPA officials may decide to follow the guidance provided in this directive, or to act at variance with it, based on analysis of specific site circumstances.

In evaluating whether a site merits NPL listing, the EPA complies with the HRS and uses the *HRS Guidance Manual* as just that—guidance to determine how best to perform the HRS evaluation based on the facts or circumstances presented at each site. The *HRS Guidance Manual* is consistent with the HRS (this was not challenged by the commenters), and the EPA has followed the HRS in scoring the Site and applied the *HRS Guidance Manual*, as appropriate, depending on the facts presented by this Site.

Regarding the consideration of the Le Roi smelter as a part of the Site due to comingling of releases, the Site was appropriately evaluated as the comingled contamination from historical releases associated with the Cominco and Le Roi smelters as discussed in detail in section 3.6, Commingled Contamination, of this support document.

Regarding consistency with the draft EPA's *Updated Residential Soil Lead Guidance for CERCLA Sites and RCRA Corrective Action Facilities*[17] guidance document, this document is intended to only provide recommendations and present guidance on evaluating sites at stages unrelated to the listing stage of the CERCLA process. This guidance document provides residential soil lead regional screening levels (RSLs) and regional removal management levels (RMLs), which are used during other stages of the CERCLA process for remedial and removal actions. Further, these screening levels are not used in the HRS evaluation and therefore have no impact on the HRS score.

Regarding the absence of elevated blood lead levels, the HRS does not require blood lead sampling in scoring sites for NPL listing nor require inclusion of blood lead levels directly in any of the HRS factors. Additionally, the EPA also does not require, or encourage, blood lead sampling for CERCLA risk assessments as indicated in EPA guidance.[18] The EPA's mission is to protect human health and the environment by preventing adverse health effects from pollution. The EPA does not require evidence of elevated blood lead levels before HRS scoring of a site or taking actions to protect human health. Please see section, 3.15, Risk to Human Health and the Environment, of this support document for additional discussion of blood lead level studies.

Regarding the comments suggesting that a determination of a specific level of risk associated with the Site be made, as noted above, the Site was evaluated using the HRS regulation which is a screening tool intended to provide a limited evaluation of a site. The determination of site-specific risk occurs at a separate stage of the CERCLA process, and comments discussing the possible risk posed by the Site are addressed in section 3.15, Risk to Human Health or the Environment, of this support document.

This comment results in no change to the HRS score and no change in the decision to place the Site on the NPL.

3.14 Ongoing Investigation and Remediation

Comment: TAI, the Government of Canada, and two citizens commented that extensive remediation and investigation of the Site have occurred and are ongoing. TAI commented that an RI/FS is ongoing, the BERA is

[17] Information regarding this EPA guidance document and the purpose of screening levels can be found at https://www.epa.gov/superfund/updated-soil-lead-guidance-cercla-sites-and-rcra-corrective-action-facilities.
[18] The EPA memorandum, *Recommendations for Using Blood Lead Data at Superfund and RCRA Corrective Action Sites,* is available online at https://semspub.epa.gov/src/document/11/100000158.

ongoing, and the human health risk assessment (HHRA) has been completed. TAI stated that the HRS "approach largely does not account for the extensive RI/FS work already done." As part of the comments provided by TAI on the robust nature of the remedial work Teck has been completing, it commented that:

- The HHRA indicated that unacceptable levels of contamination are not present in surface water and fish from the Upper Columbia River.
- Many of the residential properties with lead-contaminated soil above the EPA action levels have been remediated.
- The work completed as part of the ongoing RI/FS included a Tribal consumption and use survey and a recreational use survey.
- The draft BERA for the aquatic portion of the Site has been submitted and is a comprehensive aquatic ecologic risk assessment
- Analysis of thousands of samples from the Site has occurred.
- Multiple types of environmental media have been sampled and assessed.

TAI and the Government of Canada submitted comments pointing to the ongoing RI/FS. The Government of Canada stated that "[i]t is expected that the results included in these reports will provide essential data on the extent and magnitude of risks as well as identify data gaps for future studies," and it noted that a hydro-dynamic model may provide additional data regarding the transport of slag in the river. The Government of Canada requested that the nature and extent of the completed and on-going remedial work be clearly stated. TAI also stated that "the nature and necessity of any final remedial action will be determined on a site-specific basis in the RI/FS." It commented that the aquatic RI report is ongoing and the FS and Records of Decision will occur following the RI.[19]

As part of its comments regarding the extensive remedial work completed for the Site and the evaluation of the Site, TAI asserted that the HRS is an inappropriate tool for evaluating a site with extensive completed remedial work and available data. TAI stated that while evaluating NPL placement in the early stages of site assessment is appropriate,[20] the function of listing to serve as a quick and inexpensive tool[21] for assessing sites does not apply to a site like the Upper Columbia River, which already has extensive data and an ongoing RI/FS. It commented that unlike this Site where investigation has been occurring for 20 years, NPL placement usually occurs early in the site evaluation process. It asserted that NPL placement typically also does not occur where a funded on-going RI/FS is occurring.

TAI commented that while the EPA's stated primary concern is reducing residential exposure to lead in soil, the EPA also noted that NPL listing would not change the process, investigation, or remediation, culminating in the remediation of both upland soil and aquatic areas associated with the Site.[22] In discussing the remediation process, TAI commented that an RI/FS is already mandated as part of a Settlement Agreement between EPA and Teck.

Response: The EPA has determined that listing the Site on the NPL is the next appropriate step in the CERCLA process. Future remedial actions are not considered during the HRS evaluation of the Site because an HRS site score is based on current conditions. Here, the Site warrants placement on the NPL as evidenced by the Site achieving an HRS site score above the listing threshold based on an assessment of the current conditions.

[19] TAI pointed to Attachment A of its comment submission, which includes a timeline of related RI/FS work.
[20] TAI quoted *Carus Chem. Co. v. EPA*, 395 F.3d 434, 437 (D.C. Cir. 2005) to support the nature of an NPL designation only ensuring additional study.
[21] TAI quoted *Wash. State Dep't of Transp. v. EPA*, 917 F.2d 1309, 1310 (D.C. Cir.1990) to support that the listing stage of the CERCLA process is a tool for identifying sites warranting further study.
[22] TAI pointed to Attachments B And C of its comment submission, which include copies of the EPA and TAI's presentations to the EWCOG.

With regard to completed remedial work, completed removal actions have been considered in the assessment of the Site. Although response actions may have been completed and other investigations are ongoing, the Site is still eligible for NPL placement, and the conditions at the Site qualify for listing as established by the Site achieving an HRS site score of 51.15. The RI/FS referenced by the commenters is ongoing per a settlement agreement. This settlement agreement covers the RI/FS but does not provide for a potential site-wide cleanup. However, completed response actions and the results of ongoing investigations, including the results of the RI/FS, will be considered in subsequent stages of the CERCLA process.

Additionally, numerous completed and ongoing investigations were acknowledged in the HRS documentation record at proposal. Pages 14-16 of the HRS documentation record at proposal discussed investigations into the Upper Columbia River and associated soil contamination in the Northport area. Page 16 of the HRS documentation record at proposal discussed that "numerous EPA Removal activities have occurred in the Northport, Washington area, including several removal site evaluations (RSEs)."

This comment results in no change to the HRS score and no change in the decision to place the Site on the NPL.

3.15 Risk to Human Health and the Environment

Comment: TAI, Stevens County, and several citizens submitted comments questioning whether the Site poses a risk. Stevens County and eight citizens commented that the available studies do not appear to indicate a risk posed by the Site. Stevens County commented that except for bacteria, which have not been tested for, the Columbia River meets water quality standards. One citizen commented that tests to determine whether there is a risk posed by metal contamination have not been completed.

In discussing the risks associated with the Columbia River, nine citizens commented that the water is clean and/or meets water quality standards. Three citizens stated that there are no human health risks associated with the Upper Columbia River, the Site and/or Lake Roosevelt. Eight citizens commented that fish are safe to consume. One commenter asserted the area is clean except for rubbish.

TAI asserted that there has been a miscommunication whether a human health risk is present associated with the Upper Columbia River. TAI asserted that the Columbia River does not pose a risk based on past reports. TAI commented that an HHRA has been completed, showing no human health risks. TAI also noted a draft BERA has been submitted for the aquatic portion of the Site and is a comprehensive assessment of aquatic ecological risk. TAI stated that the HRS documentation record at proposal focuses on metal contamination in sediments which has been determined to not pose a risk to human health. Regarding the risk posed by the Upper Columbia River, TAI commented that the river is safe, asserting that:

- The water in the Columbia River is safe.
- The beaches are safe, except for one closed beach.
- The fish from the Columbia River are safe to consume except for largescale suckers.
- The river has a healthy game fishery.
- The aquatic portion of the Site does not pose actionable human health risks.
- Risk calculations completed in the HHRA determined that contaminants of concern were not associated with surface water exposure pathways.

Commenting on the risk associated with contaminated soil, TAI asserted that, while public communications have conveyed that the Upper Columbia River is safe, the EPA has emphasized a possible human health risk associated with contaminated soil in the Northport area. TAI commented that a March 5, 2024, EPA news release refers to

soil contamination as the main risk posed by the Site and pointed to the news releases' discussion[23] of residential areas above the EPA's new screening level. TAI stated that a human health risk associated with lead in residential soil has been emphasized and stated that "the potential justification for Listing—if there even is one—is primarily due to residential properties in and around Northport" as opposed to contamination in the Columbia River. Regarding soil contamination, TAI commented that:

- The majority of properties with soil contamination above the action level have been cleaned up.
- The RI and ecological risk assessment for the upland soil contamination is ongoing and close to completion.
- A significant amount of work has been completed.
- The residential soil contamination has been overstated by including non-residential areas in the scope.
- Soil contamination affecting numerous residential properties as a result of the former Le Roi/Northport smelter operations is being addressed via removal and remedial actions.
- Impacted upland soil contamination has been addressed to the current action level.
- The potential human health risk is associated with lead in soil in a small portion of the uplands area adjacent to the former Le Roi smelter.
- The impacts of air emissions and dusts from the Le Roi smelter have not been fully assessed and delineated.

In commenting on the risk posed by the Site based on testing of blood levels, Stevens County and EWCOG commented that local blood testing does not indicate a health concern. Stevens County commented that local studies do not indicate elevated blood levels in children, which were considered the most vulnerable group under the prior EPA guidance. Stevens County asserted that:

- "[I]t draws the conclusion that lead levels of blood in the children and population in the area should be done prior to scoring being completed to show there is an issue."
- "Scoring should be done on known risks."

Additionally, two citizens asserted that data from blood lead level testing on children do not support NPL designation.

In discussing the HRS scoring, TAI commented that the technical reasoning for the proposed listing is inconsistent with past EPA communication regarding the risk posed by the Site. [31] Stevens County stated that "[i]t is hard to know why the scores are so high to warrant listing with no human health risk and data backing up this conclusion."

Response: The EPA considers that there is a potential threat to human health and the environment posed by the contamination in the surface water sediments and soil and that this threat warrants further investigation and potential further response actions. Consistent with CERCLA, this Site is being placed on the NPL based on an HRS evaluation of the risk relative to other sites being considered for the NPL resulting from the release of hazardous substances to the Upper Columbia River and exposure to contaminated soil in residential yards.

[23] The news release is available at https://www.epa.gov/newsreleases/epa-proposes-adding-upper-columbia-river-wa-superfund-list. TAI pointed to the following statement in the EPA's news release, "[t]he agency has determined that soils contaminated with lead and arsenic pose unacceptable risk to residents at affected properties, particularly to children. EPA determined that soil in at least 194 residential areas contain lead at levels that exceed the agency's new screening level for residential lead contamination."

The EPA has not assumed site-specific risks are present at this Site in determining that the Site qualifies for placement on the NPL. The Site achieved an HRS site score above 28.50, which demonstrates that the Site poses a sufficient relative risk to warrant further investigation. The HRS is not a site-specific risk assessment; rather, it is a screening tool used to help the EPA determine priorities for cleanup, and possible response activities, and represents relative risk among sites undergoing HRS evaluation. Actual determinations of site-specific risk that is posed to human health or the environment are determined during a different stage of the CERCLA process.

The NPL is intended primarily to guide the EPA in determining which sites warrant further investigation, potential further response action, and to assess the nature and extent of public health and environmental risks associated with a release of hazardous substances, pollutants, or contaminants. See 89 FR 16498 (Proposed Rule, Upper Columbia River, March 7, 2024); see also 55 FR 51532 (Final Rule, Hazard Ranking System, December 14, 1990) and 82 FR 2760 (Addition of Subsurface Intrusion Component to the Hazard Ranking System, January 9, 2017). CERCLA § 105(a)(8)(a) requires the EPA to determine NPL priorities among sites based on the "relative risk or danger to public health or welfare, or the environment." The criteria the EPA applies to determine this relative risk or danger is codified in the HRS, and is the Agency's primary tool for deriving a site score based on the factors identified in CERCLA. The HRS evaluation and score above 28.50 represents the EPA's determination that the Site may pose a relative risk or threat to human health and the environment and warrants further investigation under CERCLA. As part of the standard CERCLA process, once the Site is on the NPL, the investigations performed to date to characterize the Site will be evaluated for completeness, further information will be collected if deemed necessary to adequately characterize the risks posed by the Site, and based on this information, a risk assessment decision will be made determining what, if any, remedial action is necessary to protect human health and the environment.

Regarding comments asserting that there is either no risk or limited risk posed by exposure to soil at the Site, as noted above the specific risk posed by soil contamination at the site is not determined by an HRS evaluation. While risk is typically determined during a later stage of the CERCLA process, as part of the ongoing RI/FS, some risk assessments for portions of the Site have been completed or started. The full extent of the risk posed by the Site has not been determined, and the potential risk posed by the Site will continue to be evaluated as part of subsequent stages of the CERCLA process. Regardless, the HRS evaluation of the Site documented lead and arsenic contamination in soil that met observed contamination criteria sufficient for HRS scoring purposes. Additionally, multiple hazardous substances have been documented in surface water sediments to meet HRS requirements for observed release (antimony, arsenic, cadmium, chromium, copper, lead, mercury, and zinc), and slag containing hazardous substances is documented to have been released directly into the Columbia River. These hazardous substances present in surface water sediments and in soil are in part attributable to the Site as listed at proposal.

In 2021, the EPA completed the HHRA at the Site and concluded that risks associated with human exposure to contaminated soils exceeds risk-based benchmarks on residential and common use properties. The EPA's HHRA concluded that human ingestion of certain fish species, including large-scale suckers, exceeded risk-based benchmarks. (See pages 39 and 40 of the HHRA included as Reference 17 of the HRS documentation record at proposal.)

Regarding comments discussing the risk the Site may pose based on the testing of blood lead levels from local populations, blood lead levels are not required for HRS scoring and not used in an HRS evaluation of a site. Sufficient relative risk was established by the Site achieving an NPL eligible HRS site score of 51.15 based on the HRS scoring of the surface water migration pathway and the soil exposure component of the soil exposure and subsurface intrusion pathway.

See also section 3.14, Ongoing Investigation and Remediation, of this support document for information related to investigation and remedial efforts at the Site, and section 3.2, Community Involvement, of this support document for discussion of comments about public communications.

This comment results in no change to the HRS score and no change in the decision to place the Site on the NPL.

3.16 Regulatory Limits and Screening Levels

Comment: Several commenters provided comments discussing contamination compared to screening levels and regulatory limits.

Water Quality
Several commenters stated there were little to no surface water concentrations that exceeded water quality standards in the Upper Columbia River. TAI commented that the Upper Columbia River and Lake Roosevelt surface water data indicated few metals have been detected at concentrations exceeding generic water quality benchmarks and standards. Stevens County stated that the water in Upper Columbia River and Lake Roosevelt meets and exceeds drinking water standards, which makes it hard to understand "why the scores are so high to warrant listing with no human health risk and data backing up this conclusion." SCBID commented that comprehensive surface water sampling in the Upper Columbia River, including where irrigation water is drawn from the river, has yielded results that were all below human health and ecological surface water screening levels. Several citizens commented that the water in Lake Roosevelt meets drinking water standards and with some characterizing the situation as "hardly an environmental catastrophe"; the same commenters recognized there is metals contamination in sediments, but described it as trapped or buried in river sediments. One additional public commenter stated that tests show most of the lake water meets drinking water standards and most fish are edible with no adverse health issues being reported by those who eat the fish.

One citizen commented that while the EPA indicated that there are locations with slag that can lower water quality levels, most people do not use river water for drinking water.

Soil
TAI commented that many residential properties that exceeded the EPA assigned site-specific action level of 700 parts per million (ppm) lead in soil have already been cleaned up. It commented that it is unclear if scoring the upland areas alone would be sufficient to support adding this site to the NPL because these residential properties that exceed the site-specific action level have been cleaned up and the area is sparsely populated. Stevens County commented that all residential properties exceeding previous guidance on lead levels have been cleaned up, noting that lead levels alone do not indicate a need for remedial actions.

Multiple commenters questioned the use and validity of new EPA lead level guidance. TAI asserted that the existence of areas with lead concentrations above the EPA's new screening levels is not an appropriate basis for adding a site to the NPL. TAI also commented that an action level has already been set, action has been taken, and the RI/FS is currently underway to determine the type and necessity of remedial actions. TAI contended that the EPA's new screening level does not justify listing, as there is no indication that the current action level for the Site is not protective. Stevens County argued that the EPA's new soil lead screening level guidance is associated with questions regarding its validity and there is no science-based connection to blood levels in vulnerable populations. Stevens County also commented that blood studies conducted by the local health district show no elevated lead levels in children, prior to the new EPA lead guidance. Stevens County noted that the new EPA lead guidance, which is not complete yet, will not match the metal levels regulated by the state of Washington. A citizen also claimed that "EPA changed the levels downward to match the data" because lead levels in the Stevens County area were not high enough to support the listing decision.

Response: The HRS documentation record at proposal properly documented an observed release of metals, including antimony, arsenic, cadmium, chromium, copper, lead zinc, and mercury, to the Upper Columba River based on sediment samples and established the presence of lead and arsenic in soil at concentrations meeting observed contamination criteria. That releases to the Upper Columbia River and contamination in the soil may be below various site, State, or EPA cleanup standards and goals does not eliminate those hazardous substances or

their releases from consideration when evaluating a site using the HRS. CERCLA Section 105(a)(8)(B) directs the EPA to list on the NPL "releases" of hazardous substances, pollutants and contaminants according to specific criteria set out in CERCLA Section 105(a)(8)(A). The definition of "release" in CERCLA Section 101(22) exempts certain releases from its scope, but it does not exempt releases below regulatory limits (or screening/action levels).

The concentrations of hazardous substances evaluated in the HRS documentation record at proposal were eligible for consideration consistent with the HRS. On July 16, 1982, when responding to public comments on the proposed (original) HRS (47 FR 31188), and again on September 8, 1983 (48 FR 40665), the EPA rejected the idea that releases within regulatory limits should not be considered "observed releases" under the HRS. As the EPA noted in 1982:

> [E]mission or effluent limits do not necessarily represent levels which cause no harm to public health or the environment. These limitations are frequently established on the basis of economic impacts or achievability.

By contrast, an observed release represents a 100 percent likelihood that substances can migrate from the site (47 FR 31188, July 16, 1982). Similarly, observed contamination (the soil exposure counterpart for the HRS observed release used in other HRS pathways) documents that a hazardous substance is present in the surface at concentrations significantly above background.

Section 2.3 of the revised HRS (55 FR 51589, December 14, 1990) states that an observed release can be established either by direct observation or by chemical analysis. An observed release by chemical analysis has occurred when a contaminant is measured significantly above background level if some portion of the release is attributable to the site; observed contamination is documented when a hazardous substance attributable to the site is present at a concentration significantly above background levels for the site within two feet of the surface. Although contaminant levels may be lower than regulatory limits, an observed release or observed contamination is nevertheless considered to have occurred if the measured levels are significantly higher than background levels. The HRS does, however, consider whether releases are above regulatory limits in evaluating target populations, increasing by a factor of 10 the weight assigned populations exposed to contaminants above regulatory limits. For this Site, observed releases by both direct observation and chemical analysis were established for the surface water migration pathway at the Site (see pages 55-76 of the HRS documentation record at proposal). The observed release by chemical analysis at this Site was established based on sediment samples collected from the river. An area of observed contamination was established, as well as Level I targets, for the soil exposure component of the soil exposure and subsurface intrusion pathway (see pages 92-95 and 108 of the HRS documentation record at proposal).

Documentation of an observed release or observed exposure and associated HRS likelihood of release/likelihood of exposure factors alone are not intended to reflect the hazard presented by the particular release. Instead, the hazard of a site is approximated by the total HRS score, which incorporates the likelihood of release/likelihood of exposure factors with other factors such as waste characteristics (including waste quantity, toxicity, ecotoxicity, persistence, and bioaccumulation) and targets. This total HRS score reflects the hazard of the site relative to the other sites that have been scored. A more comprehensive characterization of the contamination, associated releases, and the impacts thereof are fully determined during the RI that typically follows listing.

Regarding the commenters' claim that many residential properties that exceed the EPA assigned site-specific action level have already been cleaned up, the Site has been appropriately evaluated with respect to the response actions and current conditions. The EPA considers current conditions, including changes in site conditions due to all removal and remedial activities, when it considers what CERCLA action, if any, is warranted at a site on the NPL. For example, page 92 of the HRS documentation record at proposal stated:

> [h]owever, since EPA has conducted removal activities at many properties in the Northport area dating back to 2003 [see **Site Summary** section of this HRS documentation record], not all properties were included within the AOC polygon; for the purpose of determining the hazardous waste quantity area and resident population for the AOC, a conservative approach was taken and only contaminated properties from the 2021 RSE sampling event, **that did not have soil removals, were included in the calculation**. [emphasis added]

Related to the comments on the use and validity of the EPA's new lead level guidance, this lead level guidance is not relevant to HRS scoring or NPL listing; see section 3.13, Consistency with Guidance/Use of Guidance, of this support document for more details. Additionally, blood lead levels are not required for HRS scoring and are not used in an HRS evaluation of a site.

This comment results in no change to the HRS score and no change in the decision to place the Site on the NPL.

3.17 Other Non-Listing Activities

Comment: Several commenters submitted comments discussing activities that are not directly related to placing the Site on the NPL.

The EWCOG, SCBID, and EBID expressed concern that the proposed NPL placement of the Site could possibly impact the on-going Columbia River Treaty negotiations between the U.S. Government and the Government of Canada.

Stevens County commented that it disagreed with Governor Jay Inslee's letter of concurrence for the NPL listing of the Site. It asserted that local officials were not consulted or contacted prior to the Governor submitting a letter of concurrence. Stevens County requested that the Governor retract the letter of concurrence. Stevens County also requested that the Governor discuss the NPL listing with local officials before supporting NPL designation of the Site.

Two citizens submitted comments discussing the dam (Grand Coulee Dam). One commenter opposed listing pointing to the need for the nearby dams for hydroelectric power and for agricultural irrigation purposes and noting that the dams have fish passages. A second citizen submitted similar comments, noting the value of the dam for hydroelectric power and irrigation; the commenter stated that if fish are the concern, mitigation of fish migration pathways should occur via a fish ladder or other alternatives as opposed to removal of the dam.

Response: Comments presenting concerns regarding the on-going Columbia River Treaty negotiations, the coordination efforts between the Governor and local officials, and impacts to the Grand Coulee Dam have been noted and are in the public record for the Site. These topics fall outside of the scope of the present listing action; therefore, these comments do not impact the HRS site score or the decision to list the Site on the NPL.

Regarding the Columbia River Treaty negotiations discussed by commenters, these negotiations are handled by the State Department and are outside the scope of the listing decision. The State Department is involved with these negotiations and provides additional information for interested individuals on its Columbia River Treaty webpage (https://www.state.gov/columbia-river-treaty/).

Regarding Stevens County's concerns about the Governor's concurrence letter and coordination with local officials, the Governor of the state of Washington supported NPL designation in his letter expressing concurrence with the EPA's decision to list the Site on the NPL. The letter of concurrence, in part, states "[o]n behalf of the state of Washington, I strongly support the Environmental Protection Agency's (EPA) proposed listing of the Upper Columbia River (UCR) Site on the National Priorities List (NPL)." Additionally, Stevens County's

concerns regarding coordination efforts between the Governor and local officials are outside the scope of the present NPL listing action.

Additionally, the NPL designation of the Site does not determine the fate of the dam (the Grand Coulee Dam).

This comment results in no change to the HRS score and no change in the decision to place the Site on the NPL.

3.18 Non-Scoring HRS Documentation Record Comments

Comment: TAI and the Government of Canada provided comments discussing possible inconsistencies in the HRS documentation record at proposal relating to discussion of slag releases and/or the discussion of a fish advisory study.

Regarding slag releases, the Government of Canada requested that revisions be made in the HRS documentation record at proposal to clarify that these are historical releases that occurred only up through 1996, with the exception of three accidental releases in 1998. The Government of Canada stated that slag has not been discharged from the Cominco smelter since 1998 and requested that the discussion clarify that current effluent does not contain slag. The Government of Canada also requested additional revisions related to slag releases, suggesting changes to the following discussions in the HRS documentation record at proposal:

- The discussion on page 31 of the HRS documentation record at proposal referring to Cominco's operations as characterized by frequent accidental releases into the river should be clarified as historical.
- The discussion on page 55 of the HRS documentation record at proposal noting that, "[t]he BC MOE required the elimination of slag to the Columbia River by December 1996; however; since this time, Cominco has had several releases of slag to the river" should be clarified as historical.
- The discussion on pages 53 and 55 of the HRS documentation record at proposal described probable point of entry (PPE) 1, associated with the Trail facility, in present tense and PPE2, associated with the Le Roi smelter, in past tense, even though the Trail facility halted slag releases to the river in 1996 and thus this should be corrected.
- The discussion on page 77 of the HRS documentation record at proposal that refers to "outfalls that discharge effluent and slag" to the river should be clarified as historical.
- The description of the table on page 33 of the HRS documentation record at proposal should be revised to "'Table 1 lists hazardous substances present in Cominco outfall effluent in 199[5/6].'"

Regarding the discussion of a Washington State Department of Health (WSDH) fish advisory (Reference 52 of the HRS documentation record at proposal), TAI and the Government of Canada commented that the discussion of the fish advisory on page 84 of the HRS documentation record at proposal appeared to incorrectly discuss the advisory. TAI asserted that the HRS documentation record at proposal misidentified the origin of a statement identifying Teck as the source of metals in the river in stating "'[a] [Washington State Department of Health (WSDH)] fish consumption advisory Technical Summary (dated July 2012) identifies the Teck smelter as a primary source of metals and other chemical contaminants in the UCR'"; instead of the Washington State Department of Health, TAI commented that the origin is actually identified in the advisory document as the EPA. The Government of Canada questioned the same statement, noting that it appeared to suggest that Teck is a source of fish advisories associated with polychlorinated biphenyls (PCBs) and mercury even though smelters and atmospheric sources are identified in the report. The Government of Canada noted that the report refers to Teck because the WSDH used data related to Teck from a fish study. The Government of Canada requested that the statement on page 84 be revised to clarify the reason for the advisory.

Response: The commenters' points about possible inconsistencies in the HRS documentation record at proposal have been noted and are included as a part of the record for the Site because they were submitted to the docket as comments. While the EPA acknowledges the points provided by the commenters, the EPA notes that these possible inconsistencies do not affect the HRS site score or impact the decision to add the Site to the NPL.

The commenter is correct that the supporting information indicates that slag discharges from Teck were historical, and the EPA does not dispute these as historical discharges; this is evidenced by the below items from the HRS documentation record at proposal. Page 31 of the HRS documentation record at proposal stated, "[s]lag, **historically** discharged via smelter outfalls to the Columbia River…." [emphasis added] Further, page 31 stated "[t]he B.C. Ministry of Environment, Lands, and Parks required the elimination of slag to the Columbia River by December 1996; however, since this time, Cominco has had several releases of slag to the river during upset conditions." Page 55 stated "Cominco operated four outfalls that have **historically** discharged slag and effluent directly to the Columbia River." [emphasis added] The statement regarding frequent accidental releases on HRS documentation record at proposal page 31 was intended to describe a wider array of spills (only some of which include slag), as further detailed on HRS documentation record at proposal pages 55-57. Page 55 provided a timeline for the releases and specifically stated that not all of the releases involved hazardous substances:

> Cominco's operations have been characterized by frequent accidental releases of contaminants into the UCR. On 86 occasions between **September 1987 and May 2001**, Cominco reported spills of pollutants into the UCR; **although not all would necessarily involve hazardous substances**…. [emphasis added]

Table 8 of the HRS documentation record listed historical spills, only some of which mention slag.

All of this information indicates that the HRS documentation record at proposal recognized the releases of slag from Cominco were, for the most part, historical.

The discussion of PPE1 on page 53 of the HRS documentation record at proposal began by stating "Cominco operates outfalls that have **historically** discharged slag and effluent directly to the UCR" [emphasis added] and subsequent discussion of PPE1 in the present tense generally involves HRS scoring elements (the HRS probable point of entry itself, the HRS in-water segment, the HRS target distance limit). PPEs can be historical in nature, and there are no HRS requirements that PPEs or releases have to be occurring in the present day to be eligible for HRS listing.

Regarding the paragraph concerning the fish advisory on page 84 of the HRS documentation record at proposal, the commenter is correct that Teck is not the sole cause of the fish advisory, and the intent of the HRS documentation record was not to imply that Teck was the sole cause. The intent of the associated statements in the HRS documentation record at proposal was simply to note that 1) fish advisories are in place that affect the Upper Columbia River, 2) the advisories are due to both PCBs (which is not associated with the Site) and mercury (which is associated with the Site); and Teck is a significant contributor to contaminants (including contaminants in the river).

On the origin of identification of the Cominco smelter as a primary source of metals and other chemical contaminants in the Upper Columbia River, the EPA acknowledges that the commenters are correct and clarifies that, although the supporting statement is housed in a WSDH document, that document attributes the identification to the EPA.

Because these issues do not affect the HRS site score or the decision to list the Site on the NPL, the HRS documentation record at proposal itself will not be revised; however, these clarifications are part of the record for the Site by virtue of inclusion in this support document.

This comment results in no change to the HRS score and no change in the decision to place the Site on the NPL.

3.19 Hazardous Substance Definition

Comment: TAI commented that slag is not a CERCLA hazardous substance and is not included in 40 CFR part 302, Table 302.4, List of Hazardous Substances and Reportable Quantities. TAI also asserted that the solid waste definition in 40 CFR 261.4 excludes slag. TAI stated that the hazardous constituent quantity is based only on the mass of CERCLA hazardous substances. TAI asserted that since slag is not a hazardous substance under CERLCA, using slag to determine the hazardous waste quantity for Source 1 is incorrect and misleading.

Response: Slag is appropriate to use in determining the hazardous waste quantity for a source in the HRS evaluation of a site because it is a source material that contains hazardous substances. Although "slag" is indeed not itself a CERCLA hazardous substance, it contains CERCLA hazardous substances eligible for HRS scoring, and the hazardous substances within the slag evaluated as part of Source 1[24] were appropriately associated with the source. A material need not be a "solid waste" or "hazardous waste" under the 40 CFR Part 261 list for Resource Conservation and Recovery Act (RCRA) to be addressed under CERCLA.

HRS Section 1.1, *Definitions*, defines a hazardous substance for HRS purposes as "CERCLA hazardous substances, pollutants, and contaminants as defined in CERCLA Sections 101(14) and 101(33), except where otherwise specifically noted in the HRS." Additionally:

- CERCLA Section 101(14) defines "hazardous substance" in the context of other federal legislation, including substances listed pursuant to Sections 307(a) and 311(b)(2)(A) of the Federal Water Pollution Control Act, Section 3001 of the Solid Waste Disposal Act (known as RCRA), and Section 112 of the Clean Air Act, and substances that are the subject of an action under Section 7 of the Toxic Substances Control Act. It states that a CERCLA "hazardous substance" is:

  > (A) any substance designated pursuant to section 311(b)(2)(A) of the Federal Water Pollution Control Act [33 U.S.C. 1321(b)(2)(A)], (B) any element, compound, mixture, solution, or substance designated pursuant to section 9602 of this title, (C) any hazardous waste having the characteristics identified under or listed pursuant to section 3001 of the Solid Waste Disposal Act [42 U.S.C. 6921] (but not including any waste the regulation of which under the Solid Waste Disposal Act [42 U.S.C. 6901 et seq.] has been suspended by Act of Congress), (D) any toxic pollutant listed under section 307(a) of the Federal Water Pollution Control Act [33 U.S.C. 1317(a)], (E) any hazardous air pollutant listed under section 112 of the Clean Air Act [42 U.S.C. 7412], and (F) any imminently hazardous chemical substance or mixture with respect to which the Administrator has taken action pursuant to section 7 of the Toxic Substances Control Act [15 U.S.C. 2606]. The term does not include petroleum, including crude oil or any fraction thereof which is not otherwise specifically listed or designated as a hazardous substance under subparagraphs (A) through (F) of this paragraph, and the term does not include natural gas, natural gas liquids, liquefied natural gas, or synthetic gas usable for fuel (or mixtures of natural gas and such synthetic gas)."

  Thus, hazardous wastes as defined under RCRA are only a subset of the broader list of CERCLA hazardous substances.

[24] Page 31 of the HRS documentation record at proposal referred to the name of Source 1 as "Cominco Outfalls Slag"; however, for HRS scoring purposes, Source 1 does not solely consist of slag and is defined as "effluent from outfalls from a lead, silver, and zinc smelter and fertilizer production operation owned by Consolidated Mining and Smelting Company of Canada, Ltd. (Cominco)."

- CERCLA Section 102(a) empowers the Administrator to promulgate regulations designating other substances as hazardous if when released into the environment they may present substantial danger to the public health or welfare or the environment.
- CERCLA Section 101(33) defines "pollutant or contaminant" as including but not limited to "any element, substance, compound, or mixture, including disease-causing agents, which after release into the environment and upon exposure, ingestion, inhalation, or assimilation into any organism, either directly from the environment or indirectly by ingestion through food chains, will or may reasonably be anticipated to cause death, disease, behavioral abnormalities, cancer, genetic mutation, physiological malfunctions (including malfunctions in reproduction) or physical deformations, in such organisms or their offspring." Substances meeting that definition may also be addressed under CERCLA.

The list of hazardous substances for CERCLA purposes (pursuant to CERCLA Section 102) is maintained in table 302.4 of 40 CFR part 302.4.[25] This table also notes the particular federal legislation under which each hazardous substance is designated.

HRS Section 2.2.2, *Identify hazardous substances associated with a source*, gives instruction on associating hazardous substances with a source, stating:

> For each of the three migration pathways, consider those hazardous substances documented in a source (for example, by sampling, labels, manifests, oral or written statements) to be associated with that source when evaluating each pathway.

Page 33 of the HRS documentation record at proposal explained that hazardous substances are associated with Source 1, Cominco Outfalls Slag. Page 33 stated that:

> [E]ffluent was not sampled by consultants for EPA. For this reason, hazardous substances listed to be present in outfall effluent are documented by Cominco reports and from outfall releases reported to the B.C. Ministry of Environment, Lands, and Parks by Cominco.

TABLE 1 – Cominco Smelter – Outfalls HAZARDOUS SUBSTANCES	
Analyte	**Reference**
Arsenic	Refs. 12, p. 17; 13, pp. 138-139
Cadmium	Refs. 12, p. 17; 13, pp. 138-139
Copper	Refs. 11; 13, p. 138
Lead	Refs. 11; 12, p. 17; 13, p. 140
Mercury	Refs. 12, p. 17; 13, pp. 139-140
Zinc	Refs. 11; 12, p. 17; 13, pp. 139-140

> In April 2010, a consultant for CCT collected a slag sample (SL4) from the UCR riverbed adjacent to the Cominco smelter….

TABLE 2 – APRIL 2010 SLAG SAMPLE RESULTS (mg/kg)*						
Slag Sample SL4	<0.063 mm	0.1777-0.25 mm	0.71-1 mm	1.41-2 mm	2.83-4 mm	Bagged Sample
Antimony	93	17	17	7.9	7.2	7.8
Arsenic	580	170	160	110	64	86
Cadmium	140	73	73	3	2	33

[25] The 40 CFR 302.4 list is available at https://www.ecfr.gov/current/title-40/chapter-I/subchapter-J/part-302/section-302.4

Chromium	41	34	54	59	58	49
Copper	4,200	1,500	1,700	1,500	1,400	1,300
Lead	25,000	8,800	7,900	3,700	1,200	3,600
Mercury	8.4	0.39	0.086	0.075	0.041	0.088
Nickel	40	16	18	22	16	16
Silver	39	11	8.2	5.7	2.6	4.7
Zinc	30,000	36,000	36,000	18,000	2,800	16,000

mm = millimeter
mg/kg = milligrams per kilogram
*Ref. 18, p. 74

Thus antimony, arsenic, cadmium, chromium, copper, lead, mercury, nickel, silver, and zinc were associated with Source 1. These substances are CERCLA hazardous substances based on their specific listing in the list of CERCLA hazardous substances. The 40 CFR Table 302.4 list of CERCLA hazardous substances includes antimony, arsenic, cadmium, chromium, copper, lead, mercury, nickel, silver, and zinc, and shows that each of these particular substances qualifies as a CERCLA hazardous substance via being listed as a toxic pollutant under the Federal Water Pollution Control Act and/or a hazardous air pollutant under the Clean Air Act (i.e., via CERCLA 101(14) subparts (D) and (E), respectively). These substances therefore qualify as CERCLA hazardous substances, meet the HRS definition of hazardous substance, and are eligible for HRS scoring.

In addition, the fact that slag as a material does not qualify as a RCRA hazardous waste does not negate the CERCLA hazardous substance status of the metals in that slag. As noted above, the CERCLA definition of hazardous substances includes those substances listed as RCRA hazardous wastes as a subset of substances that qualify as CERCLA hazardous substances, along with substances listed under the other statutes. Exclusion of a material under one of these statutes does not invalidate the inclusion of the same or related material on one of the other statute's lists. The courts have understood that RCRA hazardous wastes are only one subset of the broader list of CERCLA hazardous substances. See, e.g., Louisiana-Pacific Corp. v. ASARCO, Inc., 24 F.3d 1565, 1572-1573 (9th Cir. 1994); Eagle-Picher v. EPA, 759 F.2d 922, 926-931 (D.C. Cir. 1985).[26] Thus, the metals in the slag were properly scored based on their eligibility as CERCLA hazardous substances consistent with the HRS definition of a hazardous substance.

Finally, as further explained in section 3.20, Source 1 Hazardous Waste Quantity, of this support document, the hazardous constituent quantity was not scored for Source 1. The hazardous wastestream quantity was used to determine the Source 1 hazardous waste quantity value and involves a measure of the mass of source material that contains CERCLA hazardous substances.

This comment results in no change to the HRS score and no change in the decision to place the Site on the NPL.

3.20 Source 1 Hazardous Waste Quantity

Comment: TAI commented that the Source 1 hazardous waste quantity was not appropriately estimated. TAI stated that the HRS documentation record at proposal incorrectly used a release of 4,313,132 cubic yards of slag to assign a maximum hazardous waste quantity value from HRS Table 2-6. TAI commented that the HRS uses the

[26] The Eagle Picher court opinion included that "based upon the clear language of section 101(14), we conclude that the exception set forth in section 101(14)(C) does not prevent a substance from being labelled a 'hazardous substance' if it falls within another subparagraph of section 101(14)." *Eagle-Picher v. EPA*, 759 F.2d 922, 930 (D.C. Cir. 1985). The Louisiana-Pacific Corp. opinion discussed that slag in that case included metals like arsenic, copper, lead, and zinc and that these are hazardous substances under CERCLA 101(14) subsections (A), (B), and (D), and noted that "[t]he fact that slag is excepted from subsection (C) by the Bevill Amendment has no bearing on whether slag in its component forms is excepted from the other subsections." *Louisiana-Pacific Corp. v. ASARCO, Inc.*, 24 F.3d 1565, 1572-1573 (9th Cir. 1994).

mass of CERCLA hazardous substances to determine the hazardous constituent quantity. TAI also stated that slag is not a CERCLA hazardous substance and excluded from the definition of solid waste under 40 CFR 261.4. TAI concluded that the Source 1 hazardous waste quantity value was incorrectly estimated based on a volume of slag, which is not a CERCLA hazardous substance.

Response: The HRS documentation record at proposal properly assigned a hazardous waste quantity value for Source 1 based on an evaluation of Tier B, hazardous wastestream quantity. The HRS documentation record at proposal did not evaluate Tier A, hazardous constituent quantity, for Source 1 as implied by the commenter.

HRS Section 1.1, *Definitions*, defines a hazardous wastestream as "[m]aterial containing CERCLA hazardous substances (as defined in CERCLA section 101[14]) that was deposited, stored, disposed, or placed in, or that otherwise migrated to, a source."

In providing instructions for the source hazardous waste quantity evaluation, HRS Section 2.4.2.1.2, *Hazardous wastestream quantity*, states:

> Evaluate hazardous wastestream quantity for the source (or area of observed contamination or area of observed exposure) based on the mass of hazardous wastestreams plus the mass of any additional CERCLA pollutants and contaminants (as defined in CERCLA section 101[33], as amended) that are allocated to the source (or area of observed contamination or area of observed exposure). For a wastestream that consists solely of a hazardous waste listed pursuant to section 3001 of RCRA, as amended or that consists solely of a RCRA hazardous waste that exhibits the characteristics identified under section 3001 of RCRA, as amended, include the mass of that entire hazardous waste in the evaluation of this measure.
>
> Based on this mass, designated as W, assign a value for hazardous wastestream quantity as follows:
>
> - For the migration pathways, assign the source a value for hazardous wastestream quantity using the Tier B equation of Table 2–5….
>
> Do not evaluate the volume and area measures described below if the source is the unallocated source or if the following condition applies:
>
> - The hazardous wastestream quantity for the source (or area of observed contamination or area of observed exposure) is adequately determined–that is, total mass of all hazardous wastestreams and CERCLA pollutants and contaminants for the source and releases from the source (or for the area of observed contamination) is known or is estimated with reasonable confidence….
>
> Otherwise, assign the source (or area of observed contamination) a value for hazardous wastestream quantity based on the available data and proceed to section 2.4.2.1.3.

HRS Section 2.4.2.1.5, *Calculation of source hazardous waste quantity value*, states:

> Select the highest of the values assigned to the source (or areas of observed contamination, areas of observed exposure, or areas of subsurface contamination) for the hazardous constituent quantity, hazardous wastestream quantity, volume, and area measures.

Page 33 of the HRS documentation record at proposal identified the hazardous substances associated with Source 1. As explained in section 3.19, Hazardous Substance Definition, of this support document, page 33 of the HRS documentation record at proposal included Tables 1 and 2, which identify that antimony, arsenic, cadmium, chromium, copper, lead, mercury, nickel, silver, and zinc were associated with Source 1.

As part of the discussion of the Source 1 hazardous waste quantity evaluation, page 34 of the HRS documentation record at proposal stated that:

> Therefore, there is insufficient information to evaluate the associated releases from the source to calculate the hazardous constituent quantity for Source 1 with reasonable confidence. As a result, the evaluation of hazardous waste quantity proceeds to the evaluation of *Tier B*, Hazardous Wastestream Quantity.

In discussing the scoring of Tier B, Hazardous Wastestream Quantity, pages 34 and 38 stated:

> Reports that accurately document the yearly and daily amounts of tail slag released to the UCR from the Cominco smelter have not been located. Reports prepared by consultants to Cominco state that prior to 1995, slag was discharged to the UCR at an average yearly rate of 145,000 tonnes or 159,836 tons (i.e., 145,000 tonnes / 0.90718 tonnes per 1 ton = 159,836 tons) and an average daily rate of 360 tonnes or 397 tons (i.e., 360 tonnes / 0.90718 tonnes per 1 ton = 397 tons) [Ref. 13, p. 37; Ref. 53, p. 2]. The quantity of slag produced for each year of smelter operation can more accurately be calculated from lead production values. Cominco has reported that the amount of lead is directly related to the amount of slag produced using the following information [Ref. 15, p. 2].
>
> > Lead production x 140% = amount of blast furnace slag produced.
> > Amount of blast furnace slag produced x 85% = Amount of slag produced. For example:
> >
> > - 151,492 tons of lead produced in 1930 x 140% = 212,088.8 tons of blast furnace slag
> > - 212,088.8 tons of blast furnace slag x 85% = 180,275.48 tons of slag produced in 1930
>
> Lead production values were obtained from Cominco annual reports [Ref. 3, pp. 3-20]. Using this information, it is estimated that 11,980,922.52 tons or 23,961,845,040 pounds (11,980,922.52 x 2,000 pounds per 1 ton) of tail slag were produced from the Cominco smelter and released to the UCR over the course of operations from 1930 to 1994 as demonstrated in Table 3 below…
>
> Based on the report conducted by a consultant for CCT, it is estimated that 90 percent of the slag discharged to the UCR (between 1930 and 1994) was transported into the U.S. [Ref. 18, p. 5, 87, 89, 90]. The value assigned to hazardous wastestream quantity is calculated as follows:
>
> > 23,961,845,040 pounds x 0.9 = 21,565,660,536 pounds
> > 21,565,660,536 pounds / 5,000 = 4,313,132.10
> > Hazardous Wastestream Quantity (W) Value: 4,313,132.10
> > [Ref. 1, Section 2.4.2.1.2, Table 2-5]

Page 39 of the HRS documentation record at proposal discussed the source hazardous waste quantity value for Source 1 and stated, "[t]he source hazardous waste quantity value for Source 1 is 4,313,132.10 for Tier B – Hazardous Wastestream Quantity."

In calculating the hazardous waste quantity for Source 1, the hazardous wastestream quantity was evaluated and not the hazardous constituent quantity as implied by the commenter. Page 34 of the HRS documentation record at proposal, quoted above, explained that because insufficient information was available to calculate Tier A, hazardous constituent quantity, the next tier, Tier B, hazardous wastestream quantity, was evaluated instead.

As described in HRS Section 2.4.2.1.1, *Hazardous constituent quantity*, the hazardous constituent quantity is the HRS measure that involves just the mass of hazardous substances (i.e., it is "based solely on the mass of CERCLA

hazardous substances (as defined in CERCLA section 101(14)" with some exceptions for certain RCRA wastes). By contrast, for HRS purposes, a hazardous wastestream is defined as material that contains hazardous substances, and the mass of that wastestream is the subject of this hazardous waste quantity measure. (See HRS Section 2.4.2.1.2, quoted above.) Slag is material containing hazardous substances that are eligible for HRS scoring, as explained in section 3.19, Hazardous Substance Definition, of this support document. Therefore, slag that has been released from an outfall is consistent with the HRS definition of a hazardous wastestream.

As these comments relate to the evaluation of the hazardous waste quantity, Tier B, the hazardous wastestream quantity, was properly determined consistent with the HRS requirements. HRS Section 2.4.2.1.2 directs to calculate the mass of hazardous wastestreams and to assign a value for the hazardous wastestream quantity regardless of whether it is completely or partially estimated. Using the available data for the mass of slag released (i.e., an HRS-eligible hazardous wastestream), a partial estimate of the mass of the wastestream from the outfall (i.e., the slag) was calculated as 21,565,660,536 pounds. In this case, only the slag discharged to the river and transported to the U.S. part of the river was scored. As quoted above, after applying the divisor in HRS Table 2-5, a value of 4,313,132.10 was assigned as a partial estimate of the hazardous wastestream quantity. As directed in HRS Section 2.4.2.1.2, because the "total mass of all hazardous wastestreams and CERCLA pollutants and contaminants for the source and releases from the source" is not known or "estimated with reasonable confidence," the evaluation proceeded to Tier C, Volume, in accordance with the HRS.

Furthermore, although the HRS documentation record at proposal assigned the Source 1 hazardous waste quantity value based on a partial Tier B (hazardous wastestream quantity) estimate, the Tier C (volume) estimate received the same value. As discussed on page 38 of the HRS documentation record at proposal, the HRS documentation record at proposal also evaluated Tier C, Volume, based on the volume of the slag discharged and carried to the U.S. part of the river, which received the same estimated value of 4,313,132.10.

This comment results in no change to the HRS score and no change in the decision to place the Site on the NPL.

3.21 Surface Water Migration Pathway

Comment: TAI and three citizens submitted comments questioning aspects of the scoring of the surface water migration pathway.

Response: The HRS documentation record at proposal properly scored the surface water migration pathway consistent with the HRS. Specific comments and responses are provided below in the following subsections:

- 3.21.1 Containment
- 3.21.2 Attribution
- 3.21.3 Waste Characteristics
- 3.21.4 Human Food Chain Threat – Targets

3.21.1 Containment

Comment: TAI and three citizens submitted comments related to containment of contamination. TAI asserted that metals are releasing from slag at slow rates as indicated by the few metals detected at concentrations above benchmarks. Two citizens commented that the metal contamination in the Upper Columbia River is buried beneath sediment. A citizen stated that metals are covered by sediment as indicated by the lack of contamination in bottom feeding fish.

Response: Insomuch as these comments pertain to whether the contamination scored is contained, Sources 1, 2, and 3 were determined to be uncontained for HRS scoring purposes. For HRS scoring purposes, the containment

of contamination is generally measured at the source and is an evaluation of how well contained hazardous substance-bearing source material is from escaping into the environment.

In providing source containment instructions in the surface water migration pathway section, HRS Section 4.1.2.1.2.1.1, *Containment*, states:

> Determine the containment factor value for the watershed as follows:
>
> - If one or more sources is located in surface water in the watershed (for example, intact sealed drums in surface water), assign the containment factor a value of 10 for the watershed. Enter this value in table 4–1.
> - If none of the sources is located in surface water in the watershed, assign a containment factor value from table 4–2 to each source at the site that can potentially release hazardous substances to the hazardous substance migration path for this watershed. Assign the containment factor value for the watershed as follows:
>   - Select the highest containment factor value assigned to those sources that meet the minimum size requirement described below. Assign this highest value as the containment factor value for the watershed. Enter this value in table 4–1.
>   - If, for this watershed, no source at the site meets the minimum size requirement, then select the highest containment factor value assigned to the sources at the site eligible to be evaluated for this watershed and assign it as the containment factor value for the watershed. Enter this value in table 4–1.
>
> A source meets the minimum size requirement if its source hazardous waste quantity value (see section 2.4.2.1.5) is 0.5 or more. Do not include the minimum size requirement in evaluating any other factor of this surface water migration component, except potential to release by flood as specified in section 4.1.2.1.2.2.3.

HRS Table 4-2, *Containment Factor Values for Surface Water Migration Pathway*, states in relevant part:

TABLE 4–2—CONTAINMENT FACTOR VALUES FOR SURFACE WATER MIGRATION PATHWAY

Source	Assigned value
All Sources (Except Surface Impoundments, Land Treatment, Containers, and Tanks)	
Evidence of hazardous substance migration from source areas (i.e., source area includes source and any associated containment structures)	10
No evidence of hazardous substance migration from source area and:	
(a) Neither of the following present (1) maintained engineer cover, or (2) functioning and maintained run-on control system and runoff management system	10
(b) Any one of the two items in (a) present.	9
(c) Any two the following present (1) maintained engineer cover, or (2) functioning and maintained run-on control system and runoff management system, or (3) liner with functioning leachate collection and removal system immediately above liner.	7
(d) All items in (c) present	5
(e) (All items in (c) present, plus no bulk or non-containerized liquids nor materials containing free liquids deposited in source area.	3

No evidence of hazardous substance migration from source area, double liner with functioning leachate collection and removal system above and between liners, *and*:	
(f) Only one of the following deficiencies in containment: (1) bulk or noncontainerized liquids or materials containing free liquids deposited in source areas, or (2) no or nonfunctioning or nonmaintained run-on control system and runoff management system, or (3) no or nonmaintained engineered cover.	3
(g) None of the deficiencies in (f) present	0
Source area inside or under maintained intact structure that provides protection from precipitation so that neither runoff nor leachate is generated, liquids or materials containing free liquids not deposited in source area, and functioning and maintain run-on control present.	

In discussing Source 1, page 32 of the HRS documentation record at proposal stated:

> Containment
>
> Release to surface water via overland migration:
>
> The source consists of outfalls that discharged effluent and slag directly to the Columbia River [Ref. 4, p. 26]. A surface water containment value of 10 is assigned based on evidence of hazardous substance migration from the source to the UCR [Ref. 1, Table 4-2].
>
> Release to surface water via flood:
>
> The containment factor value for release to surface water via flood is not evaluated because it does not affect the listing decision.

In discussing Source 2, page 40 of the HRS documentation record at proposal stated:

> Containment
>
> Release to surface water via overland migration: The source consists of exposed contaminated soil which does not have a maintained engineered cover or a functioning and maintained run-on control system and runoff management system [Refs. 5, p. 791-792; 38, pp. 68-69, 94; 57, p. 2]. A surface water containment factor value of 10 is assigned [Ref. 1, Table 4-2].
>
> Release to surface water via flood:
>
> The containment factor value for release to surface water via flood is not evaluated because it does not affect the listing decision.

In discussing Source 3, pages 46-47 of the HRS documentation record at proposal stated:

> Containment
>
> Release to surface water via overland migration: The source consists of sluice boxes which discharged slag directly to the UCR. This source does not have a maintained engineered cover or a functioning and maintained run-on control system and runoff management system [Refs. 4, pp. 22-24; 5, pp. 780-782; 46, pp. 9-10]. During RI activities conducted by a contractor of the Washington State Department of Ecology in 2019, slag was observed in 101 of 138 samples sampled along the UCR waterfront. Most of the observed slag was either granular or mixed

> granular and clinker [Ref. 37, pp. 10, 36-38]. Based on this information and the direct discharge to the UCR (evidence of hazardous substance migration from the source to the UCR), a surface water containment factor value of 10 is assigned [Ref. 1, Table 4-2].
>
> Release to surface water via flood:
>
> The containment factor value for release to surface water via flood is not evaluated because it does not affect the listing decision.

Source 1 (Cominco outfalls slag), Source 2 (contaminated soil), and Source 3 (Le Roi sluice boxes discharge) were assigned containment factor values of 10 because of evidence of hazardous substance migration and/or a lack of containment features as quoted above. As indicated in the HRS, quoted above, hazardous substances associated with a source with a surface water containment factor value greater than 0 are considered available to the watershed and included in the Site score because these sources are not fully contained. As all three sources were assigned containment factor values of 10 based on source-specific conditions, the HRS documentation record at proposal properly established that each source is uncontained and the associated contamination, including the Cominco outfalls slag (Source 1) and the Le Roi sluice boxes discharge (Source 3), is available to the watershed and the surface water migration pathway. For source material that has already migrated into a pathway medium—i.e., slag in surface water sediments for the Site—the HRS scoring factors for the surface water migration pathway do not consider such characteristics as the rate of hazardous substance leaching from source materials in sediments into the aqueous phase of the water body or sediment cover of the contaminants.

This comment results in no change to the HRS score and no change in the decision to place the Site on the NPL.

3.21.2 Attribution

Comment: TAI submitted comments discussing other possible contributors to the contamination scored. TAI asserted that the Other Possible Sources Not Scored section of the HRS documentation record at proposal is incomplete because it does not discuss other possible origins of contamination.

Response: The Other Possible Sources Not Scored section of the HRS documentation record was intended to provide discussion of other possible sources associated with the site being scored (i.e., releases from Cominco smelter and Le Roi smelter), as opposed to other non-site-related sources. Insomuch as these comments relate to the consideration of other possible non-site-related contributors of contamination (contributors other than the releases from Cominco smelter and Le Roi smelter) in determining appropriate attribution of the releases scored, such contributors were discussed in the Attribution section of the HRS documentation record at proposal, and attribution of the significant increase of hazardous substances to the Site, at least in part, was properly documented for the purpose of scoring an observed release by chemical analysis to surface water.

In presenting the requirements for an observed release by chemical analysis, HRS Section 4.1.2.1.1, *Observed Release*, states, in relevant part:

> Establish an observed release to surface water for a watershed by demonstrating that the site has released a hazardous substance to the surface water in the watershed. Base this demonstration on either:
>
> - Direct observation.…
> - Chemical analysis:
>   - Analysis of surface water, benthic, or sediment samples indicates that the concentration of hazardous substance(s) has increased significantly above the background concentration for the site for that type of sample (see section 2.3)….

- **Some portion of the significant increase must be attributable to the site** to establish the observed release, except: when the site itself consists of contaminated sediments with no identified source, no separate attribution is required. [emphasis added]

In describing other possibles sources associated with the Upper Columbia River site (i.e., related to the Cominco smelter and Le Roi smelter) that were not scored as sources, page 52 of the HRS documentation record at proposal stated:

> **Other Possible Sources Not Scored**
>
> Cominco Smelter – Fertilizer Outfall Effluent Discharge - Fertilizer plants were built at the Trail smelter in 1930, facilitating the production of both nitrogen- and phosphorous-based fertilizers. One of the five outfalls associated with the Cominco smelter (i.e., Sewer IV) was used for the fertilizer operation, which discharged effluent to the UCR. A trend graph of metals in effluents from the metallurgical operation from 1980 to 1996 demonstrates that fertilizer plant operation contributed to an average effluent discharge up to 4 kg/d of total mercury and 350 kg/d of dissolved zinc [Refs. 4, pp. 25, 26; 9, pp. 6, 24; 12, p. 18]. The outfall discharge associated with the fertilizer operation was not scored in this HRS documentation record because the current surface water migration pathway score has a maximum pathway score of 100.

This section was not intended to address non-site sources unrelated to the Cominco smelter and Le Roi smelter. Instead, the HRS documentation record at proposal described the rationale used to assess attribution for the observed release in the surface water migration pathway on pages 77-81. This Attribution section includes on pages 78-81 a subsection, Other Possible Sites, which discusses possible contributions of other sources not related to the Site. The Attribution section states:

> Attribution
>
> Analytical results from sediment samples collected in September and October 2019 by consultants of Teck as part of a Phase 3 sediment study document an observed release by chemical analysis to the UCR. The UCR is contaminated with heavy metals from the U.S. Canada border to RM 708 near Marcus, Washington, an approximate 35-mile stretch of river [see **Section 4.1.2.1.1** of this HRS documentation record]. Although sediment samples were collected from three areas of concern which are several miles apart, contamination does exist between these areas. A Phase 2 Sediment study was previously conducted by a consultant of Teck and when this sediment data is combined with the Phase 3 data, the 35-mile stretch encompassing the zone of contamination exhibits nearly continuous contamination [Ref. 66, pp. 3-162]. Sources associated with each smelter included in this HRS documentation record [see **Section 2.2** of this HRS documentation record] have contributed to commingling of metals contamination in the UCR [see **Section 4.1.2.1.1** of this HRS documentation record] and impact the targets on the UCR including fisheries, wetlands, and a Federal-designated threatened species habitat [**Sections 4.1.3.3.1, 4.1.3.3.2.2**, and **4.1.4.3.1.2** of this HRS documentation record].
>
> Previous sediment investigations within the UCR have also documented contamination to the UCR from sources associated with both smelters. In 2001, consultants for EPA conducted an expanded site inspection (ESI) of the UCR.... Analytical results from this investigation indicated widespread contamination in lake and river sediments throughout the UCR between Inchelium, Washington and the U.S.-Canada border. Arsenic, cadmium, copper, lead, mercury, and zinc were detected at concentrations significantly above background sample concentrations, which were collected from Lower Arrow Lake by the Washington State Department of Ecology [Ref. 4, pp. 66, 71-85]. During this investigation, several sediment samples collected from the UCR

consisted of a visibly dark glassy sandy mixture characterized by EPA field personnel as slag [Ref. 4, p. 93]. The ESI sampling program also included the collection of sediment samples from the mouths of 110 tributaries located along the UCR to determine other potential sources of contamination. Analytical results from tributary samples did not indicate the presence of elevated contaminants of interest indicative of major watershed sources of contamination [Refs. 4, pp. 165-217, 226-227; 17, pp. 62-63].

Source 1 (i.e., Cominco Outfalls Slag) is located approximately 10 RMs upstream of the U.S.-Canada border and was scored based on an observed release by direct observation from outfalls that discharge effluent and slag contaminated with metals directly to the UCR [see Source 1 discussion **Section 2.2** of this HRS documentation record]. Although the most upstream scored observed release sample is located at Deadman's Eddy, approximately 17 RMs downstream of the Cominco outfalls, contamination of the UCR does exist between the Cominco facility and the most upstream scored observed release sample located in Deadman's Eddy… In 2010, a consultant for CCT collected sediment samples from the UCR at locations both upstream and downstream of the Cominco outfalls. Analytical results of sediment samples collected during this investigation indicates that concentrations of these metals increased markedly downstream (compared to sediment samples collected upstream) of the Cominco smelter and remained at elevated levels at four U.S. sampling sites across the U.S. border; the most downstream sample being collected upstream of the Le Roi smelter. Background sediment samples were collected upstream of the Cominco smelter in Genelle and just downstream of the Keenleyside Dam [Ref. 18, pp. 58, 72, 74]. In addition, analytical results of a slag sample collected near the Cominco smelter indicated the presence of metals including antimony, arsenic, cadmium, chromium, copper, lead, nickel, zinc, and mercury [see **Section 2.2** of this HRS documentation record; Ref. 18, pp. 36, 58, 63, 74].

From the Cominco smelter outfalls, metals contamination extends downstream along the UCR where it comingles with releases associated with the Le Roi smelter. In 1897, the Le Roi smelter began refining copper, lead, and silver ores from mines in northeast Washington, as well as copper ore from British Columbia, Canada [Ref. 5, p, 104]…. The smelter was closed and dismantled in 1922, after 24 years of sporadic operation [Ref. 5, p. 105]. During its operation, slag was discharged from the furnaces at the Le Roi smelter directly into the UCR via underground waterways, also referred to as sluice boxes (i.e., Source 3)…. Facility maps from 1901 and 1908 depict five underground waterways (sluice boxes, grouped as three passage areas) transporting slag from furnaces to discharge points on the UCR [Refs. 4, p. 24; 46, pp. 9-10].

In 2019, an RI of the Northport Waterfront was conducted by a consultant of the Washington State Department of Ecology…. During this investigation, slag materials, (as both clinker and fine granulated particles) were noted to be widespread on the beach, the hillside leading to the UCR as well as in the UCR [Ref. 37, pp. 6, 7, 36-38]….

The presence of slag along the shores of the UCR has been documented from Trail B.C., the location of the Cominco smelter, to RM 708 in Washington State indicating Cominco and Le Roi smelters as the sources for this contamination [see **Section 2.2** of this HRS documentation record].

Metals associated with Cominco smelter and the Le Roi smelter sources were detected at concentrations significantly above those concentrations detected in background sediment samples; therefore, at least some portion of the significant increase of these metals in observed release samples in the UCR is attributable to a release from sources associated with both smelters [**Table 11**; **Table 13** of this HRS documentation record; Ref. 1, Section 4.1.2.1.1].

Other Possible Sites

In addition to contamination from sources (associated with the two smelters) scored in this HRS evaluation, other potential sources of hazardous substances that may have contributed to contamination include mining and milling operations and pulp and paper production [see Figures 2-1 and 5 of this HRS documentation record]. These contaminant sources are summarized in the following paragraphs. [emphasis added]

Celgar Pulp Mill - The Celgar Pulp Company (Celgar) bleach kraft pulp mill is an additional source of hazardous substance contamination to the Columbia River, however, it is not included as a source in this HRS documentation record since this document has been limited to sources of inorganic contamination and the Celgar mill is instead a source of dioxin/furan contamination. The Celgar mill is in Castlegar, B.C., approximately 30 RMs upstream from the U.S.-Canada border [**Figure 2-1** of this HRS documentation record; Ref. 22, p. 20]. From 1961 until mid-1993, the mill primarily used chlorine in its bleaching process [Ref. 4, p. 31]. The pulp mill discharged effluent containing chlorinated organic compounds, including dioxins and furans, into the Columbia River [Ref. 4, p. 31].

Bonanza Mill - The Bonanza Mill is located approximately 3 miles northwest of Colville, Washington, on the Colville River, a tributary of the Columbia River. The site is a former lead and zinc mill that operated from 1885 to 1952 [Ref. 7, p. 8, 9]. The facility contained a 100-ton flotation mill that processed ore using amalgamation, leaching, and/or flocculation, each of which utilized inorganic elements including mercury [Ref. 7, p. 8]. As a result of milling activities, approximately 17,500 cubic yards of tailings and waste rock were spread across the facility [Ref. 7, p. 11]. Analytical results of tailings/waste rock samples indicate the presence of significant concentrations of arsenic, barium, cadmium, cobalt, copper, lead, manganese, mercury, silver, and zinc [Ref. 7, pp. 30-31 (Table 6-1)]. Further, analytical results of sediment samples collected from the Colville River indicate the presence of lead at an elevated concentration and analytical results of sediment samples collected from on-site ditches draining to the Colville River indicate the presence of elevated concentrations of arsenic, barium, copper, lead, manganese, mercury, silver, and zinc [Ref. 7, pp. 19, 89, 91-92, 94, and 95]. After these sampling efforts, consultants for the EPA conducted a removal action at the facility which included placing 12 to 18 inches of either rock or clay barrier over exposed contaminated mine wastes [Ref. 47, pp. 3, 4]. The Bonanza Mill is not believed to be a source of the zone of contamination as scored in this HRS documentation record, as the Colville River discharges to the UCR downstream of the zone of contamination [Ref. 7, pp. 34, 36].

Young America Mine/Mill – The Young America Mine is located approximately 3.6 miles northwest of Evans and is accessible from Highway 25 via Hutson Jones Way [Ref. 59, p. 5]…. The mine portion is located on the eastern side of Highway 25 and is located on land managed by the U.S. Bureau of Land Management (BLM). The mill and tailings impoundment portion of the site is located on four privately-owned parcels west of Highway 25 near the UCR. The mine operated between 1897 and 1953, mining zinc, lead, silver, and gold. The flotation mill was built (by Gregor Mines, Inc.) in the late 1940s and operated from 1948 to 1954. Tailings resulting from the mining operations were discharged downhill towards the west into an impoundment area located in the mill portion of the site…. Laboratory analyses from soil samples collected from the mine and mill portions of the site indicated the presence of lead, arsenic, cadmium, and manganese above EPA Regional Screening Levels (RSLs) [Ref. 59, p. 9]. In 2012, EPA conducted a TCRA to consolidate and cap contaminated soil and tailings in the area around and below the mill buildings. Mill buildings were crushed in place, the existing cap was removed on the impoundment and the tailings and contaminated soil were capped with a liner and local material. The TCRA was completed on November 3, 2012 [Refs. 60, p. 2; 61, p. 2]. In the 2021

HHRA conducted by EPA, it was determined that there was no evidence that contamination moved down-river from the Young America Mine mill impoundment [Ref. 17, p. 62].

Hahnlen Property – The Hahnlen Property is located approximately 3.6 miles northeast of Evans, WA on the east side of Highway 25. The UCR shoreline is located approximately 800 feet west of the property…. Approximately 31,568 square feet of lead-contaminated soil was covered with a liner; clean soil from a nearby source was placed on the liner Ref. 58, p. 14].

Mines and Mills – Stevens County, Washington

In 2001, EPA conducted PA/SI investigations at 39 mines and mills in Stevens County, Washington. In addition to the Le Roi smelter, four sites were recommended for further action under CERCLA; an additional site (Sierra Zinc Mine/Mill) was later recommended for further action under CERCLA [Ref. 30, p. 1]. These sites are summarized below:

Anderson Calhoun Mine/Mill

The Anderson Calhoun Mine/Mill is located 1 mile north of Leadpoint, Washington, on the west side of Deep Creek, a tributary of the Columbia River [5, pp. 136-137]. The mine/mill is a former lead and zinc mine/mill that is reported to have been in operation from 1948 to 1952 [Ref. 5, p. 136]. The mine/mill contains a tailings pile measuring 555 feet by 500 feet by an unknown depth, a waste rock pile measuring 120 feet by 80 feet by 20 feet deep, an evaporation pond measuring 105 feet by 50 feet, and a mine pit measuring 100 feet by 50 feet [Ref. 5, pp. 6-136, 139]. Analytical results documented significant concentrations of copper and mercury in the tailings pile. Lead and zinc were detected in water from the mine pit [Ref. 5, p. 140]. EPA removal action activities occurred at the site in 2010 [Ref. 17, p. 68]. The Anderson Calhoun Mine/Mill is not believed to be a source of contamination to the UCR, as analytical results from a tributary sample (TS105) collected from Deep Creek at its confluence with the UCR during the 2001 ESI did not exhibit significant concentrations of metals [Ref. 4, pp. 215-216, 227, 451].

Last Chance Mine/Mill

The Last Chance Mine/Mill is located approximately 5 miles southeast of Northport, Washington, near Deep Creek, a tributary of the UCR. The facility is a former lead, silver, and zinc mine/mill that produced 5,937,708 pounds of lead; 18,567 pounds of silver and 110,110 pounds of zinc between 1904-1954 [Ref. 5, pp. 30, 114]…. Analytical results of waste rock samples indicate the presence of significant concentrations of cadmium, lead, mercury, thallium, and zinc [Ref. 5, pp. 175 (Table 6-13), 176, 235 (Figure 6-24)]. A tailings pile is also present at the facility [Ref. 5, p. 115]…. Analytical results of tailings samples indicate the presence of significant concentrations of cadmium, lead, mercury, and zinc [Ref. 5, p. 175 (Table 6-13), 176, 235 (Figure 6-24)]. Further, an unnamed intermittent creek passes through one of the waste rock piles and the tailings pile as it flows toward Deep Creek [Ref. 5, p. 235 (Figure 6-24)]. The Last Chance Mine/Mill is not believed to be a source of contamination to the UCR, as analytical results from a tributary sample (TS105) collected from Deep Creek at its confluence with the UCR during the 2001 ESI did not exhibit significant concentrations of metals [Ref. 4, pp. 215-216, 227, 451].

L-Bar/Northwest Magnesite

L-Bar/Northwest Magnesite facility is located approximately two miles south of Chewelah, Washington, on the south bank of the Colville River, a tributary of the UCR. The facility is a former magnesite plant that opened in 1916 and closed in 1968. In the mid-1970s, the facility was converted to recover magnesium from a magnesium processing byproduct commonly referred to

as flux bar. The magnesium recovery facility was closed in 1991 [Ref. 5, p. 78]. It has been demonstrated that flux bar and flux bar residue materials are sources of ammonia and chloride [Ref. 5, p.79]…. The L-Bar/Northwest Magnesite site is not believed to be a source of the zone of contamination as scored in this HRS documentation record, as the Colville River discharges to the UCR downstream of the zone of contamination [Ref. 5,pp. 258, 299].

Van Stone Mine/Mill

The Van Stone Mine/Mill is located approximately 11 miles south of Northport, Washington, on Onion Creek, a tributary of the Columbia River. The facility is a former cadmium, lead, and zinc mine/mill that contains two tailings piles, a waste rock storage area, an open pit, a seepage pond, and stained soil areas [Ref. 5, pp. 94, 96]; Tailings from ore processing were slurried via a wooden flume to pile locations [Ref. 5, p. 95].… Analytical results of tailings samples indicate the presence of significant concentrations of lead, manganese, mercury, and zinc [Ref. 5, pp. 160-165 (Table 6-6), 166]. Analytical results of waste rock samples indicate the presence of significant concentrations of cadmium, lead, mercury, and zinc [Ref. 5, pp. 158-160 (Table 6-6), 166]. Several unnamed creeks flow through the facility grounds to Onion Creek [Ref. 5, pp. 221 (Figure 6-13), 223 (Figure 6-14), and 262]. Surface water runoff from the tailings piles and the waste rock area drains to these unnamed creeks [Ref. 5, pp. 221 (Figure 6-13), 262, 223 (Figure 6-14)]. Analytical results of a sediment sample collected at the probable point of entry from one of the tailings piles to an adjacent unnamed creek indicate the presence of elevated concentrations of lead and zinc [Ref. 5, pp. 167 (Table 6-7), 168 and 223 (Figure 6-14)]. The Van Stone Mine/Mill underwent a removal action in 2017 [Ref. 17, p. 68]. The Van Stone Mine/Mill is not believed to be a source of contamination to the UCR, as analytical results from a tributary sample (TS099) collected from Onion Creek at its confluence with the UCR during the 2001 ESI did not exhibit significant concentrations of metals [Ref. 4, pp. 213-214, 227, 450].

Sierra Zinc Mine/Mill

The Sierra Zinc Mine/Mill is located approximately 17 miles south of Northport, Washington, on the west side of Deep Creek, a tributary of the Columbia River. The mine/mill is a former gold, lead, silver, and zinc mine/mill that operated sporadically from 1909 to 1952 [Ref. 5, pp. 30, 124]. The mine/mill contains a tailings pile measuring 1,000 feet by 2,100 feet by approximately 20 feet deep and a waste rock pile measuring 100 feet by 50 feet by 5 feet deep [Ref. 5, pp. 124-125]. Analytical results document significant concentrations of cadmium, copper, lead, mercury, and zinc in both the tailings pile and the waste rock pile [Ref. 5, p. 126]. The Sierra Zinc Mine/Mill underwent removal actions in 2001 and 2002 [Ref. 17, pp. 67-68]. The Sierra Zinc Mine/Mill underwent a removal action in 2017 [Ref. 17, p. 68]. The Van Stone Mine/Mill is not believed to be a source of contamination to the UCR, as analytical results from a tributary sample (TS105) collected from Deep Creek at its confluence with the UCR during the 2001 ESI did not exhibit significant concentrations of metals [Ref. 4, pp. 215-216, 227, 451].

Mines and Mills – Pend Oreille County, Washington

In 2001-2002, EPA conducted PA/SI investigations at 21 mines and mills in Pend Oreille County, Washington. During this investigation, a total of five sites were recommended for further action under CERCLA. Three of the sites have since had their status changed to no further remedial action planned (NFRAP) [Ref. 31, p. 1]. The remaining sites are summarized below:

Josephine Mine

> The Josephine Mine is a former zinc, lead, silver, and cadmium mine located in the Metaline mining district. The mine area consisted of a shaft, a waste rock pile, a small building, and collapsing wood structure. The mine is located directly across the Pend Oreille River from the Pend Oreille Mine/Mill. Analytical results of a sediment sample at the probable point of entry of a waste rock pile to the Pend Oreille River documented significant concentrations of cadmium, lead, mercury, silver, and zinc [Ref. 6, pp. 50-53, 133]. The Josephine Mine underwent a removal action; the site was deemed to have localized contaminant concentrations that met EPA requirements for a removal action; however, the Josephine Mine was not identified as a source of contamination to the UCR site [Ref. 17, p. 62].
>
> *Grandview Mine/Mill*
>
> The Grandview Mine/Mill is located in the lower Pend Oreille River Valley, approximately 0.75 mile from the east bank of the Pend Oreille River, approximately 2 miles northeast of Metaline Falls, Washington. Source areas identified on site included a tailings pile, waste rock piles, and an abandoned container and drum area. Analytical results from sampling events conducted in 2000 and 2001 indicated that the Grandview Mine/Mill is a source of hazardous substance contamination to groundwater drinking water wells, an unnamed spring, a former wastewater ditch, and the Pend Oreille River. Contaminants detected at elevated concentrations in a sediment sample collected from the Pend Oreille River included cadmium, copper, lead, and zinc [Ref. 6, pp. 52-53, 134-135]. The Grandview Mine/Mill underwent a removal action; the site was deemed to have localized contaminant concentrations that met EPA requirements for a removal action; however, the Grandview Mine/Mill was not identified as a source of contamination to the UCR site [Ref. 17, p. 62].

Thus, the HRS documentation record at proposal properly established that the observed release by chemical analysis to surface water was attributable, at least in part, to the Site, and included discussion of other non-site-related possible contributors to the contamination. (The significant increase in hazardous substances compared to the background level was not challenged by the commenter.) The 11 other possible sites that were identified during the HRS evaluation were used to help determine that the observed release was attributable, at least in part, to the site as discussed in the Attribution section on pages 77-81 of the HRS documentation record at proposal quoted above.

This comment results in no change to the HRS score and no change in the decision to place the Site on the NPL.

3.21.3 Waste Characteristics

Comment: TAI stated that the waste characteristics factor category value, in conjunction with the hazardous waste quantity and toxicity/persistence/bioaccumulation factor values, was used to determine a maximum human food chain threat score that likely overestimates the risk posed by the Site. TAI commented that this approach is inconsistent with Site conditions and is not supported by RI/FS data.

TAI commented that the metals in the historically released slag have limited bioavailability. TAI asserted that the slow release rates of metals from slag are evident at the Site, as indicated by the low concentrations of metals in surface water from the Upper Columbia River.

Response: The waste characteristics factor category value was correctly calculated in accordance with the HRS in the HRS documentation record at proposal. The related factor values (i.e., the hazardous waste quantity factor value, toxicity, persistence, and bioaccumulation) used in the waste characteristics factor category value calculation were also properly assigned in the HRS documentation record at proposal.

In discussing the procedure to evaluate the human food chain threat waste characteristics, HRS Section 4.1.3.2, *Human food chain threat-waste characteristics*, states to "[e]valuate the waste characteristics factor category for each watershed based on two factors: toxicity/persistence/bioaccumulation and hazardous waste quantity."

HRS Section 4.1.3.2.2, *Hazardous waste quantity*, instructs to "[a]ssign the same factor value for hazardous waste quantity for the watershed as would be assigned in section 4.1.2.2.2 for the drinking water threat." HRS Section, 4.1.2.2.2, *Hazardous waste quantity*, in turn states to "[a]ssign a hazardous waste quantity factor value for the watershed as specified in section 2.4.2." HRS Section 2.4.2, *Hazardous waste quantity*, in relevant part at 2.4.2.2, states:

> Sum the source hazardous waste quantity values assigned to all sources (including the unallocated source) or areas of observed contamination, areas of observed exposure, or areas of subsurface contamination for the pathway being evaluated and round this sum to the nearest integer, except: If the sum is greater than 0, but less than 1, round it to 1. Based on this value, select a hazardous waste quantity factor value for the pathway from Table 2–6.

TABLE 2–6—HAZARDOUS WASTE QUANTITY FACTOR VALUES

Hazardous waste quantity value	Assigned value
0	0
1[a] to 100	[b]1
Greater than 100 to 10,000	100
Greater than 10,000 to 1,000,000	10,000
Greater than 1,000,000	1,000,000

[a] If the hazardous waste quantity value is greater than 0, but less than 1, round it to 1 as specified in text.
[b] For the pathway, if hazardous constituent quantity is not adequately determined, assign a value as specified in the text; do not assign the value of 1.

HRS Section 4.1.3.2.1.4, *Calculation of toxicity/persistence/bioaccumulation factor value*, states how the bioaccumulation potential factor value is used to determine the toxicity/persistence/bioaccumulation factor value for a hazardous substance:

> Assign each hazardous substance a toxicity/persistence factor value from Table 4–12, based on the values assigned to the hazardous substance for the toxicity and persistence factors. Then assign each hazardous substance a toxicity/persistence/bioaccumulation factor value from Table 4–16, based on the values assigned for the toxicity/persistence and bioaccumulation potential factors. Use the hazardous substance with the highest toxicity/persistence/bioaccumulation factor value for the watershed to assign the value to this factor. Enter this value in Table 4–1.

HRS Section 4.1.3.2.3, *Calculation of human food chain threat-waste characteristics factor category value*, describes how a bioaccumulation potential factor value is used to calculate a human food chain threat-waste characteristics factor category for the watershed:

> For the hazardous substance selected for the watershed in section 4.1.3.2.1.4, use its toxicity/persistence factor value and bioaccumulation potential factor value as follows to assign a value to the waste characteristics factor category. First, multiply the toxicity/persistence factor value and the hazardous waste quantity factor value for the watershed, subject to a maximum product of $1x10^8$. Then multiply this product by the bioaccumulation potential factor value for this hazardous substance, subject to a maximum product of $1x10^{12}$. Based on this second product,

assign a value from Table 2–7 (section 2.4.3.1) to the human food chain threat-waste characteristics factor category for the watershed. Enter this value in Table 4–1.

Page 82 of the HRS documentation record at proposal presented the toxicity/persistence/bioaccumulation factor value data for eligible hazardous substances and calculation of the hazardous waste quantity factor value for the human food chain threat. Page 82 of the HRS documentation record at proposal stated:

4.1.3.2.1 Toxicity/Persistence/Bioaccumulation

TABLE 14 - TOXICITY/PERSISTENCE/BIOACCUMULATION							
Hazardous Substance	**Source Number**	**Present in OR**	**Toxicity Factor Value**	**Persistence Factor Value***	**Fresh Water Food Chain Bioaccumulation Factor Value****	**Toxicity/Persistence/ Bioaccumulation Factor Value (HRS Table 4-16)**	**Ref. 2 Page**
Antimony	1, 2, 3	X	10,000	1	5	5×10^4	2
Arsenic	1, 2, 3	X	10,000	1	5	5×10^4	7
Cadmium	1, 2, 3	X	10,000	1	50,000	5×10^8	12
Chromium	1, 3	X	10,000	1	5	5×10^4	17
Copper	1, 2, 3	X	100	1	50,000	5×10^6	22
Lead	1, 2, 3	X	10,000	1	5,000	5×10^7	27
Mercury	1, 2, 3	X	10,000	1	50,000	5×10^8	32
Nickel	1, 2		10,000	1	5	5×10^4	37
Silver	1, 2		100	1	50	5×10^3	42
Zinc	1, 2, 3	X	10	1	500	5×10^3	47

OR = Observed Release
*Persistence factor value for rivers [Ref. 1, Sections 4.1.2.2.1.2 and 4.1.3.2.1.2]
** Bioaccumulation potential factor value for freshwater [Ref. 1, Section 4.1.3.2.1.3]

Toxicity/Persistence/Bioaccumulation Factor Value: 5×10^8

4.1.3.2.2 Hazardous Waste Quantity

TABLE 15 - HAZARDOUS WASTE QUANTITY		
Source Number	**Source Hazardous Waste Quantity (HWQ) Value (HRS Section 2.4.2.1.5)**	**Is source hazardous constituent quantity data complete? (yes/no)**
1	4,313,132.10	No
2	0.12	No
3	>0	No
Sum of Values:	4,313,132	
Hazardous Waste Quantity Factor Value	1,000,000	

The sum corresponds to a hazardous waste quantity factor value of 1,000,000 in HRS Table 2-6 [Ref. 1, Section 2.4.2.2]. However, the HRS states that if any target is subject to Level I or Level II concentrations, assign either the value for Table 2-6 or a value of 100, whichever is greater, as the hazardous waste quantity factor value for that pathway [Ref. 1, Section 2.4.2.2]. Therefore, a hazardous waste quantity factor value of 1,000,000 is assigned for the surface water migration pathway.

Hazardous Waste Quantity Factor Value: 1,000,000
[Ref. 1, Table 2-6]

Page 83 of the HRS documentation record at proposal presented the waste characteristics factor category value calculation and stated:

> 4.1.3.2.3 Waste Characteristics Factor Category Value
>
> Mercury and cadmium are documented in observed releases and associated with Sources 1, 2, and 3, which have a surface water pathway containment factor value greater than 0 for the watershed and correspond to a toxicity/persistence factor value of 10,000 and bioaccumulation potential factor value of 50,000, as shown above [Ref. 1, Section 4.1.3.2.1.4; 2, pp. 12, 32].
>
> (Toxicity/Persistence Factor Value) x (Hazardous Waste Quantity Factor Value) =
> $10{,}000 \times 1{,}000{,}000 = 1 \times 10^{10}$
> (Subject to a maximum of 1×10^{8})
> [Ref. 1, Section 4.1.3.2.3]
>
> (Toxicity/Persistence Factor Value x Hazardous Waste Quantity Factor Value) x
> (Bioaccumulation Potential Factor Value) = $(1 \times 10^{8}) \times (50{,}000) = 5 \times 10^{12}$
> (Subject to a maximum of 1×10^{12})
> [Ref. 1, Section 4.1.3.2.3]
>
> The resulting waste characteristics product of 1×10^{12} corresponds to a Waste Characteristics Factor Category Value of 1,000 in Table 2-7 of the HRS [Ref. 1, Section 2.4.3.1].

Thus, the HRS documentation record at proposal evaluated each of the related factor values (i.e., toxicity, persistence, bioaccumulation, and hazardous waste quantity factor values) to determine the waste characteristics factor category value consistent with the HRS. The hazardous waste quantity factor value was based on the combined sum of the Sources 1-3 hazardous waste quantity values and HRS Table 2-6 as presented above in the quoted text from page 82 of the HRS documentation record at proposal. The toxicity, persistence, and bioaccumulation factor values were determined based on an eligible hazardous substance as presented on page 82 of the HRS documentation record at proposal, quoted above. As noted on page 83 of the HRS documentation record at proposal, mercury and cadmium were determined to be the highest scoring hazardous substances with identical values for toxicity/persistence and bioaccumulation. These values associated with mercury and cadmium were used to calculate the waste characteristics factor category value (i.e., 5×10^{12}, subject to a maximum of 1×10^{12}) in accordance with the HRS as presented in calculations on page 83 of the HRS documentation record at proposal.

Regarding the bioavailability of metals in sediments, the HRS does not consider the bioavailability of hazardous substances in an HRS evaluation.

Regarding the rate of release of metals from slag to water, for source material that has already migrated into a pathway medium—i.e., slag in surface water sediments for the Site—the HRS scoring factors for the surface water migration pathway do not consider this rate. That is, HRS scoring does not consider the rate that metals from waste material in sediment might dissolve into the water. Therefore, this type of leaching process is not considered in the HRS site score.

As these comments relate to the risk posed by the Site, please see section 3.15, Risk to Human Health or the Environment, of this support document for the discussion of site-related risk.

This comment results in no change to the HRS score and no change in the decision to place the Site on the NPL.

3.21.4 Human Food Chain Threat - Targets

Comment: TAI provided comments discussing the level of contamination in fish. TAI commented that a misleading statement[27] is present in the HRS documentation record at proposal that misidentifies the author[28] of a fish consumption Technical Summary. TAI asserted that while an advisory acknowledges contamination, the EPA determined that fish from the Columbia River are generally safe for consumption. TAI commented that low levels of lead are present in fish species except for largescale suckers, which are not widely consumed. TAI also stated that hazardous substances unrelated to the Site may be the driver behind fish advisories in place for sensitive groups.

Response: Insomuch as these comments question the scoring of the human food chain threat of the HRS and the presence of a human food chain fishery, fishing for human consumption within the zone of actual contamination was sufficiently documented to score the human food chain threat.

HRS Section 4.1.3.3, *Human food chain threat-targets,* provides instructions for evaluating targets in the human food chain threat and states in relevant part:

> Evaluate two target factors for each watershed: food chain individual and population. For both factors, determine whether the target fisheries are subject to actual or potential human food chain contamination.
>
> Consider a fishery (or portion of a fishery) within the target distance limit of the watershed to be subject to actual human food chain contamination if any of the following apply:
>
> - A hazardous substance having a bioaccumulation potential factor value of 500 or greater is present either in an observed release by direct observation to the watershed or in a surface water or sediment sample from the watershed at a level that meets the criteria for an observed release to the watershed from the site, and at least a portion of the fishery is within the boundaries of the observed release (that is, it is located either at the point of direct observation or at or between the probable point of entry and the most distant sampling point establishing the observed release)….
>
> When a fishery (or portion of a fishery) is subject to actual food chain contamination, determine the part of the fishery subject to Level I concentrations and the part subject to Level II concentrations. If the actual food chain contamination is based on direct observation, evaluate it using Level II concentrations. However, if the actual food chain contamination is based on samples from the watershed, use these samples and, if available, additional tissue samples from aquatic human food chain organisms as specified below, to determine the part subject to Level I concentrations and the part subject to Level II concentrations:
>
> - Determine the level of actual contamination from samples (including tissue samples from essentially sessile, benthic organisms) that meet the criteria for actual food chain contamination by comparing the exposure concentrations (see section 4.1.2.3) from these samples (or comparable samples) to the health-based benchmarks from table 4-17, as described in section 2.5.1 and 2.5.2. Use only the exposure concentrations for those

[27] TAI referred to page 84 of the HRS documentation record at proposal, pointing to the following statement, "[a] WSDH fish consumption advisory Technical Summary (dated July 2012) identifies the Teck smelter as a primary source of metals and other chemical contaminants in the UCR [Ref. 52, p. 1]."

[28] TAI asserted that the reference document identifies the EPA as the author of the statement, which states that "'[t]he U.S. Environmental Protection Agency (EPA) has identified the Trail Smelter operated by Teck Cominco (now called Teck) as the primary source of metals.'"

> hazardous substances in the sample (or comparable samples) that meet the criteria for actual contamination of the fishery.

HRS Section 4.1.3.3.2.2, *Level II concentrations*, provides instructions for the evaluation a fishery subject to Level II concentrations. It states:

> Determine those fisheries (or portions of fisheries) within the watershed that are subject to Level II concentrations. Do not include any fisheries (or portions of fisheries) already counted under the Level I concentrations factor.
>
> Assign each fishery (or portion of a fishery) a value for human food chain population from table 4–18, based on the estimated human food production for the fishery. Estimate the human food chain production for the fishery as specified in section 4.1.3.3.2.1.

In describing the targets eligible for scoring in the human food chain threat, page 84 of the HRS documentation record at proposal indicated:

> **4.1.3.3 Human Food Chain Threat - Targets**
>
> The zone of actual contamination is the area of the UCR between the most upstream PPE (PPE1) and farthest downstream observed release sample (EV001-SED-1-092619). As stated previously, contamination and targets are not scored for the portion of the UCR located in Canada (i.e., between PPE1 and the U.S.-Canada border). Scored contamination and targets are evaluated for the U.S. portion of the zone of contamination, which encompasses a length of approximately 35 miles [**Figure 3** of this HRS documentation record].
>
> There is an observed release of metals contaminants to the UCR [see **Section 4.1.2.1.1** of this HRS documentation record], which is used for consumption fishing. Species caught for consumption in the UCR from the U.S.–Canada border to Marcus Washington (and within the scored zone of actual contamination) include walleye, sturgeon, rainbow trout, kokanee, and northern pike [Refs. 24, p. 1; 56, p. 1]. The original north boundary of the Colville Indian Reservation was the Canadian border; this former "North Half" of the Colville Indian Reservation continues to be an important homeland to the CCT. The CCT exercises certain management and regulatory authority in this area from the northern boundary of the current reservation north to the Canadian border, bounded by the Okanogan and Columbia rivers. CCT-owned land and individual tribal members reside on the North Half and use the lands, waters, and natural resources for cultural and subsistence uses as they do on the reservation [Refs. 17, p. 61; 20, pp. 1-2; 21, pp. 1-2, 4].
>
> The Washington State Department of Health (WSDH) has a fish advisory in place for the consumption of various fish due to mercury and polychlorinated biphenyl (PCB) concerns. The advisory covers the portion of the UCR from the U.S.-Canada border to the Grand Coulee Dam. Guidelines are in place for the consumption of species within the UCR including kokanee, lake whitefish, rainbow trout, white sturgeon, northern pike, burbot, longnose sucker, mountain whitefish, smallmouth bass, walleye, largescale sucker, and largemouth bass. A do-not-eat advisory is in place for northern pikeminnow [Ref. 23, p. 1]. A WSDH fish consumption advisory Technical Summary (dated July 2012) identifies the Teck smelter as a primary source of metals and other chemical contaminants in the UCR [Ref. 52, p. 1].

Page 86 of the HRS documentation record at proposal presented the scoring of actual contamination associated with targets in the human food chain threat and stated:

> 4.1.3.3.2.2 Level II Concentrations
>
> The zone of actual contamination is the area of the UCR between the most upstream PPE (PPE1) and farthest downstream observed release sample (EV001-SED-1-092619)…. The scored zone of actual contamination in the UCR is used for consumption fishing [Refs. 24, p. 1; 56, p. 1]. Species caught for consumption in the scored zone of actual contamination include walleye, sturgeon, rainbow trout, kokanee and northern pike [Refs. 24, p. 1, 56. p. 1].
>
> The food chain production for the fishery is not documented, so based on the aforementioned information, the fishery is assigned to the category "Greater than 0 to 100 pounds per year," which corresponds to the assigned human food chain population value of 0.03 in Table 4-18 of the HRS [Ref. 1, Section 4.1.3.3.2.2]. The available documentation demonstrates that fishing for human consumption occurs within the scored zone of actual contamination delineated by metals detected in sediment samples at concentrations meeting observed release criteria (i.e., significantly above background and attributable to the site); therefore, the target fishery is evaluated for Level II actual contamination [**Figure 3** of this HRS documentation record; Ref. 1, Section 4.1.3.3; 24, p. 1].

Page 86 of the HRS documentation record at proposal cited References 24 and 56. Reference 24 of the HRS documentation record at proposal, a phone conversation record with a manager for a fishing tour company, states:

> Mr. Lawson stated that although the guided tours target rainbow trout, which are caught and released, he knows that the portion of the Upper Columbia River from the U.S-Canada border to Marcus, Washington is fished for consumption. Species caught for consumption include walleye, sturgeon, rainbow trout and northern pike.

Reference 56 of the HRS documentation record at proposal, a phone conversation record with a retired professor of biology from Eastern Washington University, states:

> Professor Scholz also informed me that this portion of the UCR (between the U.S.-Canada border and Marcus, WA) is fished for consumption. Species caught for consumption include walleye, red band trout (a type of rainbow trout), kokanee, white sturgeon, and northern pike. He also informed me that Colville Tribes still fish the UCR for subsistence, including the North Half, which fished the upper portion of the UCR between the U.S.-Canada border border [*sic*] and Marcus, WA.

Thus, the HRS documentation record at proposal provided sufficient documentation to support that a human food chain fishery is present at the Site to score a fishery as a target for HRS scoring purposes. Consistent with the HRS instructions regarding identifying a fishery subject to actual human food chain contamination, the HRS documentation record at proposal documented that fish are caught and consumed from within the zone of actual contamination to establish that a Level II fishery.

Regarding Reference 52 of the HRS documentation record at proposal, while this reference was used to help provide context regarding the presence of a fishery as indicated on page 84 of the HRS documentation record at proposal, this reference was not relied on to document a fishery within the zone of contamination at the Site. As noted above, two records of conversation (one each in References 24 and 56) were used to document the presence of a human food chain fishery within the zone of contamination. See section 3.18, Non-Scoring HRS Documentation Record Comments, of this support document for clarifications related to Reference 52 and associated HRS documentation record text.

This comment results in no change to the HRS score and no change in the decision to place the Site on the NPL.

3.22 Soil Exposure Component

Comment: TAI and Stevens County commented that it is unclear whether scoring the upland soil contamination would achieve an NPL eligible score. TAI asserted that it is also unlikely that the soil contamination would achieve a sufficient HRS site score as properties above the Action Level have been remediated and the area is rural.

TAI and Stevens County provided comments questioning whether the areas with contaminated soil were appropriately evaluated and considered residential. TAI asserted that the extent of the residential soil contamination described in general EPA communications is overstated because non-residential land use areas are included. Stevens County commented that areas categorized as residential for scoring also include forest, industrial, and commercial areas. It stated that EPA representatives have alluded to the area as residential even though many of the sampling areas are zoned as forest. It commented that it could identify where residential development may occur. It asserted that the other non-residential areas that have been sampled are not eligible as residential areas for scoring or eligible under the soil lead guidance. Stevens County concluded that the resulting scoring of these non-residential areas is incorrect.

TAI asserted that the soil contamination, as opposed to the entire Upper Columbia River site, appears to be the possible justification for placing the Site on the NPL. TAI acknowledged that the soil contamination may involve properties below future cleanup levels, but also stated that the presence "of some areas with lead concentrations above EPA's new *screening levels* is not an appropriate basis for Listing a particular site."

Response: Insomuch as the commenter's assertions are related to the evaluation of the soil exposure component, the soil exposure component of the soil exposure and subsurface intrusion pathway was properly scored in accordance with the HRS in delineating an AOC. Further, when an HRS score is calculated, each individual pathway does not need to achieve an NPL eligible HRS site score, as the HRS site score is based on a combination of the individual pathway scores. In this case, the HRS evaluation of the Site included the surface water migration pathway in addition to the soil exposure component in scoring, and the Site achieved an NPL eligible HRS site score of 51.15, which is above the minimum threshold for NPL placement.

The commenters' specific points regarding scoring the soil exposure component, property types, and soil sample concentrations do not affect or invalidate the HRS site score:

- On the subject of what properties are eligible for consideration in the delineating the AOC, the AOC is delineated based on samples meeting observed contamination criteria. The HRS does not restrict observed contamination to a specific property type.
- On the subject of the pathway-specific score achieved by the soil exposure and subsurface intrusion pathway, the HRS does not require that an individual pathway independently achieve an NPL eligible HRS site score.
- On the subject of the presence of properties with soil contamination below an action level, residents may be eligible for scoring in the soil exposure component even if located at properties with soil sample concentrations below an action level.

In presenting the instructions for determining eligible soil contamination, HRS Section 5.1.0, *General considerations*, states:

> - Establish areas of observed contamination based on sampling locations at which there is observed contamination as follows.
>   - For all sources except contaminated soil, if observed contamination from the site is present at any sampling location within the source, consider that entire source to be an area of observed contamination.

  - For contaminated soil, consider both the sampling location(s) with observed contamination from the site and the area lying between such locations to be an area of observed contamination, unless available information indicates otherwise.

- If an area of observed contamination (or portion of such an area) is covered by a permanent, or otherwise maintained, essentially impenetrable material (for example, asphalt) that is not more than 2 feet thick, exclude that area (or portion of the area) in evaluating the soil exposure component.
- For an area of observed contamination, consider only those hazardous substances that meet the criteria for observed contamination for that area to be associated with that area in evaluating the soil exposure component (see section 2.2.2).

Further instructions for assessing the resident population threat are presented in HRS Section 5.1.1, *Resident population threat*. This section states:

> Evaluate the resident population threat only if there is an area of observed contamination in one or more of the following locations:
>
> - **Within the property boundary of a residence, school, or day care center *and* within 200 feet of the respective residence, school, or day care center, or**
> - **Within a workplace property boundary *and* within 200 feet of a workplace area, or**
> - Within the boundaries of a resource specified in section 5.1.1.3.4, or
> - Within the boundaries of a terrestrial sensitive environment specified in section 5.1.1.3.5 [emphasis added]

For assessing the targets factor category, HRS Section 5.1.1.3, *Targets*, instructs a scorer, in part, to:

> Evaluate the targets factor category for the resident population threat based on five factors: resident individual, resident population, workers, resources, and terrestrial sensitive environments.
>
> In evaluating the targets factor category for the resident population threat, count only the following as targets:
>
> - Resident individual – a person living or attending school or day care on a property with an area of observed contamination *and* whose residence, school, or day care center, respectively, is on or within 200 feet of the areas of observed contamination.
> - Worker – a person working on a property with an area of observed contamination *and* whose workplace area is on or within 200 feet of the area of observed contamination.…

In describing the scoring of the AOC, page 92 of the HRS documentation record at proposal stated:

> AOC A is defined by a polygon bounded by soil contamination meeting HRS observed contamination criteria (i.e., locations showing lead and arsenic at concentrations significantly above published background levels and collected from the top 2 feet of soil) … However, since EPA has conducted removal activities at many properties in the Northport area dating back to 2003 [see Site Summary section of this HRS documentation record], not all properties were included within the AOC polygon; for the purpose of determining the hazardous waste quantity area and resident population for the AOC, a conservative approach was taken and only contaminated properties from the 2021 RSE sampling event, that did not have soil removals, were included in the calculation….

EPA has identified 16 properties with dwellings that are affected by the AOC. Four of these properties are subject to Level I contamination of arsenic (based on sample results greater than the cancer risk screening concentration benchmark of 0.772 mg/kg); 12 properties are subject to Level II contamination of lead (no benchmark established).

Page 100 of the HRS documentation record at proposal presented properties with residents subject to Level I concentrations:

Summary of Site Contamination

Level I Samples

TABLE 21 - LEVEL I SAMPLES

Hazardous Substance	Property ID	Sample ID	Date	Depth (in. bgs)	Result mg/kg	Benchmark		References
						Cancer Risk	Non-Cancer Risk	
Arsenic (mg/kg)	5	JEAP6	9/26/21	11-12	40	0.772	39.1	2, p.10; 38, pp. 228-230, 249, 274-275, 353, 2,207, 2,241
	08	JEAK0	9/21/21	0-1	33			2, p. 30; 38, pp. 90-91, 177-179, 198, 280-281, 356, 986, 1,026
	21	JEAM5	9/24/21	0-1*	33			2, p. 10; 38, pp. 94, 200-202, 204, 306-307. 354, 1,618, 1,636
	23	JEAH8	9/20/21	6-7	60			2, p. 10; 38, pp. 88-89, 177-179, 187, 310, 311, 355, 983, 1,015
	53	JDHG2	9/27/21	0-1	38			2, p. 10; 38, pp. 96, 205-207, 220, 348-349, 357, 1,903, 1,931

mg/kg = milligrams per kilogram
in. = inches
bgs = below ground surface
* Reference 38 has conflicting information with regard to the depth of soil sample JEAM5; Pages 306-307 indicates a depth of 0-1 inch bgs; page 354 indicates a sample depth of 6-7 inches bgs. Reference 38, page 14 indicates that sampling depths for yards were typically 0-1 inch; therefore, since the sample was collected from a front yard, it is likely that the sample depth for Sample JEAM5 was 0-1 inch bgs.
Note: Background concentration for arsenic is evaluated as 11 mg/kg (Observed Contamination = 33 mg/kg or above) [Ref. 39, p. 51].

Note – Property 53 (which in included in AOC A [Sample JDHG2]) was noted to be a vacant lot during sampling; it was recently purchased and there are plans to build a house on the lot. Therefore, while the sample concentration exceeds the relevant benchmark, since no dwellings are known to currently exist on the property, resident populations are not scored below for Property 53 [Ref. 38, pp. 80, 96, 348-349].

Pages 101-102 of the HRS documentation record at proposal presented properties with residents subject to Level II concentrations:

Level II Samples

TABLE 22 - LEVEL II SAMPLES								
Hazardous Substance	**Property ID**	**Sample ID**	**Date**	**Depth (in. bgs)**	**Result mg/kg**	**Benchmark**		**References**
						Cancer Risk	**Non-Cancer Risk**	
Lead (mg/kg)	01	JEAH0	9/19/21	0-1	530	NE	NE	2, p. 30; 38, pp. 87, 177-179, 182, 266-267, 353, 983, 1,010
	6	JEAN7	9/26/21	0-1	380			2, p. 30; 38, pp. 95, 228-230, 240, 276-277, 353, 2,206, 2,232
	17	JEAM6	9/24/21	0-1	310			2, p. 30; 38, pp. 94, 228-231, 298, 299, 354, 2,206, 2,223
	19	JEAQ2	9/26/21	6-7	600			2, p. 30; 38, pp. 95, 251-253, 258, 302-303, 354, 2,477, 2,529
	19	JEAQ1	9/26/21	0-1	370			2, p. 30; 38, pp. 95, 251-253, 257, 302, 303, 354, 2,477, 2,528
	20	JEAJ7	9/21/21	0-1	580			2, p. 30; 38, pp. 90-91, 177-179, 195, 304-305, 354, 986, 1,023
	22	JEAJ6	9/21/21	6-7	540			2, p. 30; 38, pp. 90-91, 177-179, 194, 308-309, 355, 986, 1,022
	22	JEAJ5	9/21/21	0-1	420			2, p. 30; 38, pp. 90-91, 177-179, 193, 308-309, 355, 986, 1,021
	29	JEAQ7	9/27/21	0-1	520			2, p. 30; 38, pp. 96, 251-253, 262, 320-321, 355, 2,477, 2,533
	33	JEAP9	9/26/21	0-1	320			2, p. 30; 38, pp. 95, 251-253, 255, 328-329, 356, 2,477, 2,526
	43	JEAK9	9/22/21	0-1	460			2, p. 30; 38, pp. 91-92, 131-133, 140, 338-339, 356, 1,305, 1,330

TABLE 22 - LEVEL II SAMPLES								
Hazardous Substance	**Property ID**	**Sample ID**	**Date**	**Depth (in. bgs)**	**Result mg/kg**	**Benchmark**		**References**
						Cancer Risk	**Non-Cancer Risk**	
	45	JDHF0	9/27/21	6-7	490	NE	NE	2, p. 30; 38, pp. 96, 205-208, 340-341, 356, 1,902, 1,919
	51	JDHF6	9/27/21	0-1	610			2, p. 30; 38, pp. 205-207, 214, 344-345, 356, 1,902, 1,925
	51	JDHF5	9/27/21	0-1	340			2, p. 30; 38, pp. 96, 205-207, 213, 344-345, 357, 1,902, 1,924
	54	JDHG5	9/28/21	0-1	370			2, p. 30, 38, pp. 97-98, 205-207, 222, 350-351, 357, 1,902, 1,933

mg/kg = milligrams per kilogram
NE = Not Established

Although Property 25 qualified for inclusion in AOC A, resident populations are not scored for Property 25 since portions of the composite sampling area (for composite soil sample JEAJ2) are located greater than 200 feet from the property dwelling [Ref. 38, pp. 58, 314-315].

In explaining the scoring of the resident individual factor value, page 107 of the HRS documentation record at proposal stated:

> Since there is at least one documented resident individual living on a property within an AOC and within 200 feet of contamination subject to Level I actual contamination, a Resident Individual Factor value of 50 is applicable

In discussing the scoring of the Level I and Level II concentrations factors, page 108 of the HRS documentation record at proposal stated:

> 5.1.1.3.2.1 Level I Concentrations
>
> Observed contamination has been observed at residences in AOC A [see **Section 5.1.0** of this HRS documentation record]. The population of the residences was obtained by multiplying the number of residences by the U.S. Census (2017-2021) average persons per dwelling in Stevens County, Washington [Ref. 45, p. 2]. Based on residential sampling conducted by EPA in 2021, a total of 4 homes are subject to Level I concentrations….
>
> 5.1.1.3.2.2 Level II Concentrations
>
> Observed contamination has been documented at residences in AOC A [see **Section 5.1.0** of this HRS documentation record]. The population of the residences was obtained by multiplying the number of residences by the U.S. Census (2017-2021) average persons per dwelling in Stevens County, Washington [Ref. 45, p. 2]. Based on residential sampling conducted by EPA in 2021, a total of 12 homes are subject to Level II concentrations…

Sum of individuals subject to Level II concentrations: 30.12

The HRS documentation record at proposal properly identified eligible samples to establish an AOC for HRS scoring and correctly identified the population associated with eligible residences. The AOC was determined based on soil samples meeting observed contamination criteria for lead and/or arsenic as specified in HRS Section 5.1.0. The commenter has not challenged the evaluation of whether particular samples used to delineate the AOC met observed contamination criteria. In accordance with the instructions in HRS Sections 5.1.0, 5.1.1, and 5.1.1.3, and as presented on pages 92, 100, 102, 103, 107, and 108 of the HRS documentation record at proposal, quoted above, eligible residents were determined based on either inferred contamination on residences being located within the AOC or samples meeting observed contamination criteria that were collected on the property and within 200 feet of a residence. Thus, the HRS documentation record at proposal identified eligible residents during the evaluation of the population associated with eligible residences consistent with the HRS requirements.

The HRS does not require that an individual pathway independently achieve an NPL eligible HRS site score. The HRS site score, which takes into account the soil exposure and subsurface intrusion pathway score, is greater than the NPL placement threshold of 28.50 making this Site eligible for placement on the NPL. The soil exposure and subsurface intrusion pathway score of 21.66 does not independently achieve an NPL eligible HRS site score; however, per HRS Section 2.1.1, *Calculation of HRS site score*, an HRS site score is calculated using the pathway scores from all four pathways for the Site. At this Site, the surface water migration pathway was also evaluated and received a pathway score of 100.00. Following the HRS methodology and accounting for the scores from the two pathways scored, the resulting HRS site score is 51.15 making the Site eligible for NPL placement. The rationale for placing the Site on the NPL is in part due to the Site achieving an NPL eligible HRS site score based on the evaluation of both the surface water migration and the soil exposure and subsurface intrusion pathways consistent with the HRS requirements for scoring a site.

Regarding the consideration of the action level in determining eligible samples and residents, as explained above in section 3.16, Regulatory Limits and Screening Levels, of this support document, contamination below an action level or other screening level may still be eligible for consideration in documenting observed contamination. The HRS uses the criteria for observed contamination as specified in HRS Section 5.1.0, quoted above, to evaluate the soil exposure component. As explained above, the HRS documentation record at proposal properly determined which soil samples met observed contamination criteria, which is not challenged by the commenter. Residences and associated residents were also correctly calculated as explained above.

This comment results in no change to the HRS score and no change in the decision to place the Site on the NPL.

4. Conclusion

The original HRS score for this site was 51.15. Based on the above responses to public comments, the score remains unchanged. The final scores for the Upper Columbia River site are:

Ground Water:	Not Scored
Surface Water:	100.00
Soil Exposure and Subsurface Intrusion:	21.66
Air Pathway:	Not Scored
HRS Score:	51.15

Attachment A
Letter from Jarred Michael Erickson, Chairman, the Confederated Tribes of the Colville Reservation to Casey Sixkiller, EPA Region 10 Administrator. December 6, 2023

The Confederated Tribes of the Colville Reservation
Post Office Box 150 – 21 Colville St.
Nespelem, WA 99155 Phone: 509-634-2381 Fax: 509-634-2387

12/6/2023

Casey Sixkiller
Region 10 Administrator
United States Environmental Protection Agency
Seattle, WA 98101
Espiritu.Vicki@epa.gov

Re: concurrence on Superfund listing of the Upper Columbia River Site

Dear Administrator Sixkiller:

I received your letter dated November 30, 2023 in regard to the proposed addition of the Upper Columbia River ("UCR") Site to the Superfund National Priorities List ("NPL"). The Colville Tribes supports placement of the UCR Site on the NPL.

The UCR Site includes areas within the traditional homeland, and current Reservation, of the Colville Tribes. Historical disposal and discharges of wastes and emissions from smelter operations have contaminated the UCR Site and pose a risk to human health as well as to the sovereignty and economic security of the Colville Tribes.

As you correctly note in your letter, the Colville Tribes has worked for at least two decades to address the legacy of contamination at the UCR Site, including litigation with our partners in the federal government, the State of Washington, and the Spokane Tribe of Indians. An NPL listing will allow access to resources that are much needed for remediation of the UCR Site.

The Colville Tribes appreciates and accepts your offer to coordinate with our staff as the NPL listing process proceeds. Thank you for this effort to bring maximum resources to this remediation as quickly as possible.

Sincerely,

Jarred-Michael Erickson
Chairman
Confederated Tribes of the Colville Reservation