

**WAC 173-204-561 Sediment cleanup levels based on protection of human health.** (1) **Applicability.** This section defines sediment cleanup objectives and cleanup screening levels for contaminants based on protection of human health. They are used to:

(a) Identify and assess the hazard of sites under WAC 173-204-510 and 173-204-520; and

(b) Establish sediment cleanup levels for sites and sediment cleanup units under WAC 173-204-560.

(2) **Sediment cleanup objectives.** Sediment cleanup objectives based on protection of human health shall be calculated using the following:

(a) Target risk levels. Sediment cleanup objectives based on protection of human health shall be at least as protective as the following sediment concentrations:

(i) Noncarcinogens. For noncarcinogens, sediment concentrations that are estimated to result in no acute or chronic toxic effects to human health as determined using a hazard quotient of one. If there are multiple noncarcinogens and/or exposure pathways at the site and the hazard index for the site exceeds one, then the sediment cleanup objectives shall be adjusted downward in accordance with WAC 173-340-708 or other methods approved by the department; and

(ii) Carcinogens. For known or suspected carcinogens, sediment concentrations for which the upper bound on the estimated lifetime excess cancer risk for individual carcinogens is less than or equal to one in one million ( $1 \times 10^{-6}$ ). If there are multiple carcinogens and/or exposure pathways at the site and the total lifetime excess cancer risk for the site exceeds one in one hundred thousand ( $1 \times 10^{-5}$ ), then the sediment cleanup objectives shall be adjusted downward in accordance with WAC 173-340-708 or other methods approved by the department;

(b) Reasonable maximum exposure. Sediment cleanup objectives and cleanup screening levels for contaminants based on protection of human health shall be calculated using reasonable maximum exposure scenarios that reflect the highest exposure that is reasonably expected to occur under current and potential future site use conditions;

(i) Default scenario. Except as provided under (b)(ii) of this subsection, the reasonable maximum exposure scenario for a site shall be tribal consumption of fish and shellfish. The department shall consider, as appropriate, the following information on a site-specific basis when selecting or approving the exposure parameters used to represent the reasonable maximum exposure scenario:

(A) Historic, current, and potential future tribal use of fish and shellfish from the general vicinity of the site;

(B) Relevant studies and best available science related to fish consumption rates;

(C) The total fish and shellfish in an individual's diet that is obtained, or has the potential to be obtained, from the general vicinity of the site. This value depends on the ability of the aquatic habitat within the general vicinity of the site to support a department approved fish and shellfish consumption rate under current and potential future site use conditions;

(D) The fish and shellfish contaminant body burden acquired, or potentially acquired, from the general vicinity of the site; and

(E) Other information determined by the department to be relevant;

(ii) Site-specific scenario. The department may approve an alternate reasonable maximum exposure scenario for the site in accordance with WAC 173-340-708 (3) and (10) and 173-340-702 (14) through (16);

(c) Toxicity parameters. For toxicological parameters, values established by the United States Environmental Protection Agency (USEPA) and available through the Integrated Risk Information System (IRIS) database shall be used. If the value for a toxicological parameter is not available through IRIS, other sources shall be used. When evaluating the appropriateness of using other sources, the department may use the hierarchy in the following document: USEPA, Office of Solid Waste and Emergency Response, Directive 9285.7-53, "Human Health Toxicity Values in Superfund Risk Assessments."

**(3) Cleanup screening levels.**

(a) General. Cleanup screening levels based on protection of human health shall be calculated using the factors in (b) of this subsection and in subsection (2)(b) through (c) of this section.

(b) Target risk levels. Cleanup screening levels based on protection of human health shall be at least as protective as the following sediment concentrations:

(i) Noncarcinogens. For noncarcinogens, sediment concentrations that are estimated to result in no acute or chronic toxic effects to human health as determined using a hazard quotient of one. If there are multiple noncarcinogens and/or exposure pathways at the site and the hazard index for the site exceeds one, then the cleanup screening levels shall be adjusted downward in accordance with WAC 173-340-708 or other methods approved by the department; and

(ii) Carcinogens. For known or suspected carcinogens, sediment concentrations for which the upper bound on the estimated lifetime excess cancer risk for individual carcinogens is less than or equal to one in one hundred thousand ( $1 \times 10^{-5}$ ). If there are multiple carcinogens and/or exposure pathways at the site and the total lifetime excess cancer risk for the site exceeds one in one hundred thousand ( $1 \times 10^{-5}$ ), then the cleanup screening levels shall be adjusted downward in accordance with WAC 173-340-708 or other methods approved by the department.

[Statutory Authority: Chapter 70.105D RCW. WSR 13-06-014 (Order 08-07), § 173-204-561, filed 2/25/13, effective 9/1/13.]