



Toxics Cleanup Program

Implementation Memorandum No. 25: Identifying Likely Vulnerable Populations and Overburdened Communities under the Cleanup Regulations

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To: Interested Persons

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Purpose: This Implementation Memorandum provides Ecology staff and persons conducting cleanups of contaminated sites guidance on what actions are needed to determine whether the population threatened by a contaminated site includes a likely vulnerable population or overburdened community during an initial investigation and during a remedial investigation for the limited purposes specified in the cleanup regulations.

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1.0 Purpose and applicability

The Model Toxics Control Act (MTCA) Cleanup Regulations require a person to determine whether the population threatened by a contaminated site includes a likely vulnerable population or overburdened community during an initial investigation and during a remedial investigation for the limited purposes of site prioritization under WAC [173-340-340](https://app.leg.wa.gov/WAC/default.aspx?cite=173-340-340)¹ and making site cleanup decisions under WAC [173-340-350](https://app.leg.wa.gov/WAC/default.aspx?cite=173-340-350)² through [173-340-390](https://app.leg.wa.gov/WAC/default.aspx?cite=173-340-390)³ (WAC [173-340-310](https://app.leg.wa.gov/WAC/default.aspx?cite=173-340-310)⁴(1)(c) and 173-340-350(6)(h)(iii)). They also require Ecology to reflect the determinations, and its confidence in the determinations, in a site's hazard rankings (WAC [173-340-320](https://app.leg.wa.gov/WAC/default.aspx?cite=173-340-320)⁵(1)(e), (2)(a), and (3)(d)(i)).

The MTCA Cleanup Regulations define the terms “vulnerable population” and “overburdened community” to mean the same as under the Healthy Environmental for All (HEAL) Act, Chapter [70A.02](https://app.leg.wa.gov/RCW/default.aspx?cite=70A.02) RCW⁶ (WAC [173-340-200](https://app.leg.wa.gov/WAC/default.aspx?cite=173-340-200)⁷). Ecology acknowledges the inherent difficulty in determining whether a population is vulnerable or overburdened, and that state-wide guidelines are still being developed under the HEAL Act.

The purpose of this Implementation Memo is to provide Ecology staff and persons conducting cleanups guidance on what actions are needed to determine whether the population threatened by a contaminated site includes a likely vulnerable population or overburdened community during an initial investigation and during a remedial investigation for the limited purposes specified in the MTCA Cleanup Regulations.

2.0 Initial investigation procedures

2.1 What populations will Ecology assess?

During an initial investigation, Ecology will assess the following population based on whether site-specific information about the potentially exposed population is available in a remedial action report at the time of the initial investigation:

- If site-specific information is unavailable, Ecology will assess the population located in the census tract where the release occurred.
- If site-specific information is available, Ecology will assess the potentially exposed population identified in the remedial action report.

2.2 How will Ecology determine whether the potentially exposed population includes a likely vulnerable population or overburdened community?

To determine whether the potentially exposed population includes a likely vulnerable population or overburdened community, as required under WAC 173-

¹ <https://app.leg.wa.gov/WAC/default.aspx?cite=173-340-340>

² <https://app.leg.wa.gov/WAC/default.aspx?cite=173-340-350>

³ <https://app.leg.wa.gov/WAC/default.aspx?cite=173-340-390>

⁴ <https://app.leg.wa.gov/WAC/default.aspx?cite=173-340-310>

⁵ <https://app.leg.wa.gov/WAC/default.aspx?cite=173-340-320>

⁶ <https://app.leg.wa.gov/rcw/default.aspx?cite=70A.02>

⁷ <https://app.leg.wa.gov/WAC/default.aspx?cite=173-340-200>

340-310(1)(c), Ecology will use the criteria and sources of information specified in Section 4.0 of this Implementation Memo.

2.3 How will Ecology track this information?

Ecology will track whether the potentially exposed population includes a likely vulnerable population or overburdened community and the socioeconomic indexes and indicators used to make that determination in the [Site Hazard Assessment and Ranking Process](#)⁸ (SHARP) Tool required under WAC 173-340-320. Specifically, the SHARP Tool tracks the following information:

- The Environmental Health Disparities (EHD) Index from the [EHD Map](#)⁹ maintained by the Washington State Department of Health under RCW [43.70.815](#).¹⁰
- The Demographic Index from [EJScreen](#) maintained by the U.S. Environmental Protection Agency. This index is based on the average of the following two socioeconomic indicators:
 - Low income
 - People of color
- The Supplemental Demographic Index from EJScreen maintained by the U.S. Environmental Protection Agency. This index is based on the average of the following five socioeconomic indicators:
 - Low income
 - Unemployment
 - Lack of English proficiency
 - Less than high school education
 - Low life expectancy
- The following eight socioeconomic indicators from EJScreen maintained by the U.S. Environmental Protection Agency:
 - People of color
 - Low income
 - Unemployment
 - Less than high school education
 - Lack of English proficiency
 - Age less than 5 years
 - Age greater than 64 years
 - Low life expectancy

⁸ <https://ecology.wa.gov/Spills-Cleanup/Contamination-cleanup/Cleanup-process/Ranking-contaminated-sites>

⁹ <https://doh.wa.gov/data-and-statistical-reports/washington-tracking-network-wtn/washington-environmental-health-disparities-map>

¹⁰ <https://app.leg.wa.gov/rcw/default.aspx?cite=43.70.815>

Ecology will include this information in a site's hazard rankings, which Ecology will make publicly available on its website under WAC 173-340-320(3)(d)(i).

2.4 How will Ecology use this information?

Ecology will use this information when prioritizing remedial actions and allocating agency resources among and within sites as part of its strategic plan under WAC 173-340-340 (WAC 173-340-320(1)(b)). The strategic plan must prioritize contaminated sites that threaten likely vulnerable populations and overburdened communities, and consider the other specified resource allocation factors, including the threats posed by a site and the land reuse potential and planning for the site (WAC 173-340-340(1) and (2)).

3.0 Remedial investigation procedures

3.1 What populations do I need to assess?

During a remedial investigation, the person conducting the investigation must assess all populations threatened by the site. This includes all populations residing either on-site or off-site who are reasonably likely to be exposed or potentially exposed to hazardous substances based on their land and resource uses at the site (WAC 173-340-350(6)(h)(i)).

3.2 How do I determine whether the potentially exposed population includes a likely vulnerable population or overburdened community?

To determine whether the potentially exposed population includes a likely vulnerable population or overburdened community, as required under WAC 173-340-350(6)(h)(iii), the person conducting the investigation needs to use the criteria and sources of information specified in Section 4.0 of this Implementation Memo.

For Ecology-conducted or Ecology-supervised remedial investigations, Ecology may conduct or require further site-specific assessments to determine whether the potentially exposed population includes a likely vulnerable population or overburdened community.

3.3 What do I need to do differently if the potentially exposed population includes a likely vulnerable population or overburdened community?

For sites where the potentially exposed population includes a likely vulnerable population or overburdened community, a person needs to separately document consideration of such populations when conducting a remedial investigation and feasibility study and when selecting the cleanup action (WAC 173-340-350(5)(g)(iii), [173-340-351](https://app.leg.wa.gov/WAC/default.aspx?cite=173-340-351)¹¹(6)(f)(vii), and [173-340-380](https://app.leg.wa.gov/WAC/default.aspx?cite=173-340-380)¹²(5)(c)).

¹¹ <https://app.leg.wa.gov/WAC/default.aspx?cite=173-340-351>

¹² <https://app.leg.wa.gov/WAC/default.aspx?cite=173-340-380>

4.0 Criteria and information sources

4.1 Applicability

As discussed in Sections 3.0 and 4.0 of this Implementation Memo, unless otherwise required by Ecology, the following criteria and sources of information may be used during an initial investigation or remedial investigation under the MTCA Cleanup Regulations to determine whether the potentially exposed population includes a likely vulnerable population or overburdened community.

4.2 Test

The potentially exposed population includes a likely vulnerable population or overburdened community if the population meets any one of the following three criteria:

1. The potentially exposed population is located in a census tract that ranks a 9 or 10 on the Environmental Health Disparities Index from the Washington State Department of Health's EHD Map;
2. The potentially exposed population is located in a census tract that is at or above the 80th Washington state percentile of the Demographic Index from the U.S. Environmental Protection Agency's EJScreen; or
3. The potentially exposed population is located in a census tract that is at or above the 80th Washington state percentile of the Supplemental Demographic Index from the U.S. Environmental Protection Agency's EJScreen.

5.0 Confidence levels

Ecology expects that the level of information and confidence about what populations are potentially exposed by a site, and whether those populations include a likely vulnerable population or overburdened community, will be limited when Ecology initially identifies a site (after completing an initial investigation) and will increase over the course of the cleanup process as site-specific information is collected (particularly after completing a remedial investigation). To reflect this, Ecology has included a confidence score in the SHARP Tool (low, medium, and high) based on whether site-specific information is used to make one or both of these determinations.

5.1 Low confidence

Confidence in the data is low if site-specific information is **not** used either to:

- Identify the potentially exposed population; or
- Determine whether the population includes a likely vulnerable population or overburdened community.

As discussed in Section 2.0 of this Implementation Memo, when conducting an initial investigation, Ecology may rely on assumptions about the potentially

exposed population and statistical information about the socioeconomic characteristics of that population in the absence of site-specific information.

A low confidence level is sufficient for Ecology to make site prioritization decisions under WAC 173-340-340, but not site cleanup decisions under WAC 173-340-350 through 173-340-390.

5.2 Medium confidence

Confidence in the data is medium if site-specific information is used to identify the potentially exposed population, but not to determine whether the population includes a likely vulnerable population or overburdened community.

As discussed in Section 3.0 of this Implementation Memo, when conducting a remedial investigation, a person must use site-specific information to identify the potentially exposed population. However, a person may use statistical information about the socioeconomic characteristics of the population in the absence of site-specific information to determine whether the population includes a likely vulnerable population or overburdened community.

A medium confidence level is necessary for a person to make site cleanup decisions under WAC 173-340-350 through 173-340-390.

5.3 High confidence

Confidence in the data is high if site-specific information is used both to:

- Identify the potentially exposed population; and
- Determine whether the population includes a likely vulnerable population or overburdened community.

As discussed in Section 3.0 of this Implementation Memo, for Ecology-conducted or supervised remedial investigations, Ecology may conduct or require site-specific assessments to determine whether the potentially exposed population includes a likely vulnerable population or overburdened community.

Except as specified by Ecology, a high confidence level is not necessary for a person to make site cleanup decisions under WAC 173-340-350 through 173-340-390.

6.0 References

EJScreen: Environmental Justice Screening and Mapping Tool. (2024). Retrieved from: <https://www.epa.gov/ejscreen>.

Environmental Health Disparities Map. (2024). Retrieved from: <https://doh.wa.gov/data-and-statistical-reports/washington-tracking-network-wtn/washington-environmental-health-disparities-map>.

Environmental Justice. WASH. REV. CODE § Chapter 70A.02.RCW. (2024). Retrieved from: <https://app.leg.wa.gov/rcw/default.aspx?cite=70A.02>.

Model Toxics Control Act Cleanup Regulations. WASH. ADMIN CODE § Chapter 173-340 WAC. (2024). Retrieved from: <http://apps.leg.wa.gov/wac/default.aspx?cite=173-340>.

Site Hazard Assessment and Ranking Process (SHARP). (2024). Retrieved from: <https://ecology.wa.gov/Spills-Cleanup/Contamination-cleanup/Cleanup-process/Ranking-contaminated-sites>.