



# **DRAFT: Identifying Overburdened Communities Highly Impacted by Air Pollution**

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## **General Overview**

### **Air Quality Program**

Washington State Department of Ecology  
Olympia, Washington

August 2022, Publication 22-02-043

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<sup>1</sup> <https://ecology.wa.gov/contact>

# Department of Ecology's Regional Offices

## Map of Counties Served



<b>Southwest Region</b> 360-407-6300	<b>Northwest Region</b> 206-594-0000	<b>Central Region</b> 509-575-2490	<b>Eastern Region</b> 509-329-3400
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Region	Counties served	Mailing Address	Phone
<b>Southwest</b>	Clallam, Clark, Cowlitz, Grays Harbor, Jefferson, Mason, Lewis, Pacific, Pierce, Skamania, Thurston, Wahkiakum	P.O. Box 47775 Olympia, WA 98504	360-407-6300
<b>Northwest</b>	Island, King, Kitsap, San Juan, Skagit, Snohomish, Whatcom	P.O. Box 330316 Shoreline, WA 98133	206-594-0000
<b>Central</b>	Benton, Chelan, Douglas, Kittitas, Klickitat, Okanogan, Yakima	1250 West Alder Street Union Gap, WA 98903	509-575-2490
<b>Eastern</b>	Adams, Asotin, Columbia, Ferry, Franklin, Garfield, Grant, Lincoln, Pend Oreille, Spokane, Stevens, Walla Walla, Whitman	4601 North Monroe Spokane, WA 99205	509-329-3400
<b>Headquarters</b>	Statewide	P.O. Box 46700 Olympia, WA 98504	360-407-6000

# Washington Clean Air Agencies

Ecology works in partnership with local clean air agencies and tribes to make sure we all have clean, healthy air to breathe.<sup>2</sup> Local clean air agencies manage most of the air quality in Washington, within their jurisdictions. Tribal governments protect air quality within their tribal reservations, with technical assistance from EPA. Ecology is the primary air regulator in all other areas of Washington.

## Map of Counties Served



- [Benton Clean Air Agency](#)<sup>3</sup> – Benton County
- [Ecology Central Regional Office](#)<sup>4</sup> – Chelan, Douglas, Kittitas, Klickitat, Okanogan Counties
- [Ecology Eastern Regional Office](#)<sup>5</sup> – Adams, Asotin, Columbia, Ferry, Franklin, Garfield, Grant, Lincoln, Pend Oreille, Stevens, Walla Walla, Whitman Counties
- [Ecology Industrial Section](#)<sup>6</sup> – Pulp mills, aluminum smelters
- [Ecology Northwest Regional Office](#)<sup>7</sup> – San Juan County
- [EPA Region 10](#)<sup>8</sup> – Tribal lands

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<sup>2</sup> <https://ecology.wa.gov/About-us/Accountability-transparency/Partnerships-committees/Clean-air-agencies>

<sup>3</sup> <http://bentoncleanair.org/>

<sup>4</sup> [agburnteamcro@ecy.wa.gov](mailto:agburnteamcro@ecy.wa.gov)

<sup>5</sup> [agburnteamero@ecy.wa.gov](mailto:agburnteamero@ecy.wa.gov)

<sup>6</sup> <https://ecology.wa.gov/Regulations-Permits/Permits-certifications/Industrial-facilities-permits>

<sup>7</sup> [sean.lundblad@ecy.wa.gov](mailto:sean.lundblad@ecy.wa.gov)

<sup>8</sup> <https://www.epa.gov/tribal-air>

- [Northwest Clean Air Agency](https://nwcleanairwa.gov/)<sup>9</sup> – Island, Skagit, Whatcom Counties
- [Olympic Region Clean Air Agency](https://www.orcaa.org/)<sup>10</sup> – Clallam, Grays Harbor, Jefferson, Mason, Pacific, Thurston Counties
- [Puget Sound Clean Air Agency](https://www.pscleanair.gov/)<sup>11</sup> – King, Kitsap, Pierce, Snohomish Counties
- [Southwest Clean Air Agency](https://www.swcleanair.gov/)<sup>12</sup> – Clark, Cowlitz, Lewis, Skamania, Wahkiakum Counties
- [Spokane Regional Clean Air Agency](https://www.spokanecleanair.org/)<sup>13</sup> – Spokane County
- [Yakima Regional Clean Air Agency](https://www.yakimacleanair.org/)<sup>14</sup> – Yakima County

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<sup>9</sup> <https://nwcleanairwa.gov/>

<sup>10</sup> <https://www.orcaa.org/>

<sup>11</sup> <https://www.pscleanair.gov/>

<sup>12</sup> <https://www.swcleanair.gov/>

<sup>13</sup> <https://www.spokanecleanair.org/>

<sup>14</sup> <https://www.yakimacleanair.org/>

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DEPARTMENT OF  
**ECOLOGY**  
State of Washington

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## Introduction

The Climate Commitment Act<sup>15</sup> requires Ecology to create a cap and invest program to lower greenhouse gas emissions across Washington. Additionally, the Climate Commitment Act requires us to identify “overburdened communities highly impacted by air pollution,” and make sure that this program reduces a class of pollutants called “criteria” air pollutants, as well as greenhouse gas emissions, in these communities. Criteria air pollutants are six common air pollutants that can harm your health and the environment. Ecology, local clean air agencies, and Tribes monitor these pollutants and take action to control and reduce pollution. These criteria pollutants are as follows:

- Carbon monoxide (CO)
- Lead (Pb)
- Ozone (O<sub>3</sub>)
- Nitrogen dioxide (NO<sub>2</sub>)
- Particulate matter:
  - Fine particulate matter (PM<sub>2.5</sub>)
  - Coarse particulate matter (PM<sub>10</sub>)
- Sulfur dioxide (SO<sub>2</sub>)

Once we have identified the overburdened communities highly impacted by air pollution, we will expand Ecology’s statewide air monitoring network in these identified communities. New emissions standards to improve air quality for overburdened communities will be developed through future processes.

## Overview of Draft Process to Identify Communities

To identify overburdened communities highly impacted by air pollution, we evaluated several indicators that show where “vulnerable populations face combined, multiple environmental harms and health impacts or risks due to exposure to environmental pollutants or contaminants through multiple pathways, which may result in significant disparate adverse health outcomes or effects.”<sup>16</sup> To guide this process, we held two tribal listening sessions, eight public and community group listening sessions, as well as a survey and a comment map over a three-month period from January through March of 2022. For more information on the public input from the first public comment period, see [our web page](#).<sup>17</sup>

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<sup>15</sup> <https://apps.leg.wa.gov/rcw/default.aspx?cite=70A.45>

<sup>16</sup> Definition of “overburdened communities” for the Climate Commitment Act, as per RCW 70A.65.010 (54)

<sup>17</sup> <https://ecology.wa.gov/Air-Climate/Climate-change/Climate-Commitment-Act/Overburdened-communities>

With guidance from the Climate Commitment Act and initial public engagement, we developed a set of draft indicators to identify overburdened communities highly impacted by air pollution (Figure 1). To be considered overburdened, an area must meet the following:

- Community Indicators: Either have a high rank on the Washington Environmental Health Disparities (EHD) map, have a high Environmental Justice Screening Tool (EJScreen) Demographic Index (combination of race and income), or be Tribal land; and
- Air Pollution Indicators:
  - Have an elevated level of one or more criteria air pollutants; and
  - Meet the threshold for one or more of the eight indicators related to air pollution exposure, health impact, or vulnerability.

These indicators (further described below) are based on data available statewide. After these statewide indicators are applied, we will apply regional data to refine the boundaries of the overburdened communities highly impacted by air pollution (see “Draft Factors to Identify Community Boundaries” below).

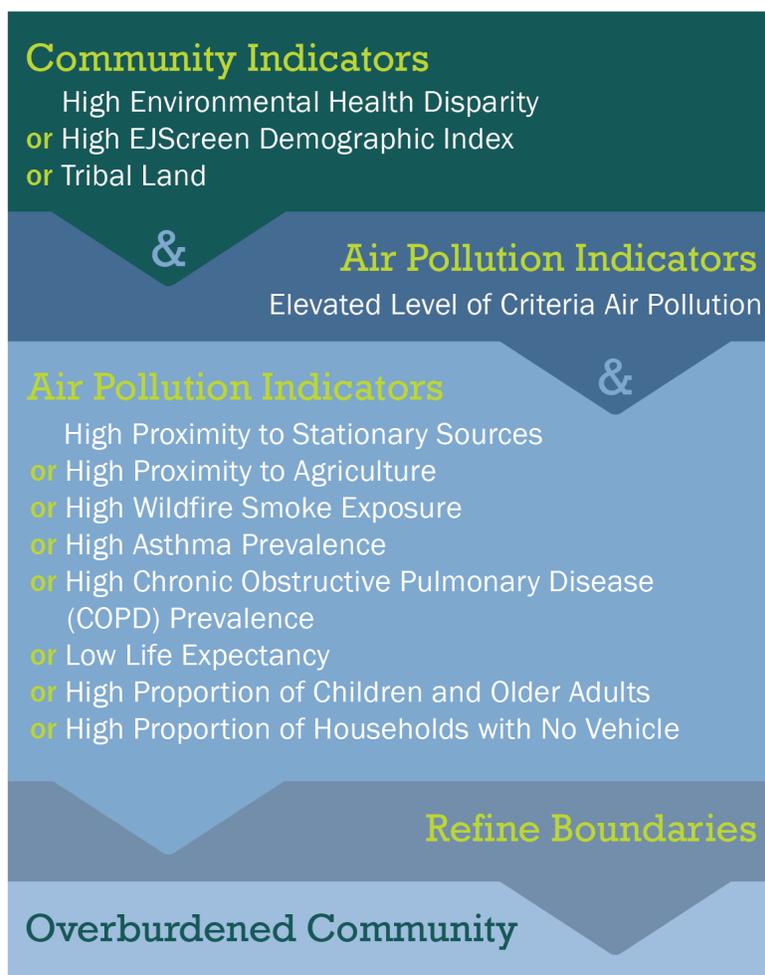


Figure 1. Flowchart of the draft process to identify overburdened communities highly impacted by air pollution.

# Draft Indicator Descriptions

This section gives short descriptions of the draft indicators we are proposing to identify overburdened communities highly impacted by air pollution. For a full technical description of each of the draft indicators, see the technical support document available on [our website](#).<sup>18</sup>

## Community Indicators

**Environmental Health Disparity Map** – The [Environmental Health Disparities Map](#)<sup>19</sup> is an interactive mapping tool that compares communities across our state for disparities in environmental health. It combines multiple indicators of environmental threats, such as proximity to heavy traffic roadways and toxic releases from facilities with indicators of vulnerability, like socioeconomic status and health outcomes into one final rank. This rank indicates where vulnerable populations face multiple, combined environmental harms and risks, including from air pollution.

**Race/Income** – This indicator is measured using the Demographic Index, an average of the proportions of low-income populations and people of color, used in the [Environmental Justice Screening Tool \(EJScreen\)](#).<sup>20</sup>

**Tribal Land** – Tribal lands in Washington, including:

- Reservation land - Federally recognized tribal reservation lands.
- Disputed land - Lands designated as being part of a reservation but title is disputed by other parties.
- Off-reservation tribal land - lands outside of a reservation acquired by or held in trust for tribal use.

We are inviting government-to-government consultation with Tribal nations and organizations affiliated with Washington Tribes on the areas included in “Tribal land.” Tribal land is not limited to the listed bullets and we look forward to input from Tribal nations. For more information, see the “Tribal Consultation” section below.

## Air Pollution Indicators

**Elevated Level of Criteria Air Pollution** – Areas with elevated level(s) of one or more criteria pollutants (CO, NO<sub>2</sub>, O<sub>3</sub>, Pb, PM<sub>2.5</sub>, PM<sub>10</sub>, or SO<sub>2</sub>) or the highest cumulative level of criteria pollutants. Elevated levels of these pollutants are linked with negative health effects, particularly for individuals with increased risk, such as people of color, children, older adults,

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<sup>18</sup> <https://ecology.wa.gov/Air-Climate/Climate-Commitment-Act/Overburdened-communities>

<sup>19</sup> <https://doh.wa.gov/data-statistical-reports/washington-tracking-network-wtn/washington-environmental-health-disparities-map>

<sup>20</sup> <https://www.epa.gov/ejscreen>

and people with underlying health conditions. We either measure or estimate pollution levels across the state for each pollutant using a combination of monitoring, modeling, and/or emissions data reported to Ecology.

**Proximity to Stationary Sources** – The quantity of emissions from a major stationary source of pollution, divided by the distance from that source. Sources include power plants, oil refineries, manufacturing facilities, landfills, airports, railyards, and more. This indicator represents areas nearby to one or multiple stationary sources of criteria air pollution.

**Proximity to Agriculture** – Average of proximity to land designated for cultivating crops and proximity to dairies (adjusted for the number of mature animals).

**Wildfire Smoke Exposure** – Estimated exposure to particulate matter pollution from wildfire smoke over a 4-year average (2015-2018).

**Asthma Prevalence** – Current rate of asthma among adults aged 18 years or over.

**Chronic Obstructive Pulmonary Disease Prevalence** – Rate of Chronic Obstructive Pulmonary Disease (including emphysema and chronic bronchitis) among adults aged 18 years or older.

**Life Expectancy** – The number of years a newborn can expect to live based on geographic area in which they reside.

**Children and Older Adults** – Percent of people under age 18 and over age 65.

**Households with No Vehicle** – Percent of household units with no vehicle. Used here to represent areas where individuals may be more likely to get around by walking, biking, or taking public transit. People in this category face greater exposure to outdoor air pollution during transit.

## Draft Factors to Identify Community Boundaries

After statewide indicators are applied, Ecology proposes using the following additional factors to identify the boundaries of the overburdened communities highly impacted by air pollution.

**Existing community boundaries** – Geographic boundaries used to distinguish communities. For example, city or neighborhood limits.

**Locations of sensitive receptors** – Locations where occupants are at the greatest risk to the harmful effects of exposure to air pollution, including:

- K-12 schools
- Childcare facilities
- Hospitals and health clinics
- Long-term care facilities (e.g., assisted living facilities, nursing homes, etc.)
- Prisons, jails, and detention centers

**Regional data** – Many studies or additional data on air pollution, health, or environmental justice are available at the regional scale. We can use these in addition to the statewide indicators to define an overburdened community highly impacted by air pollution more accurately.

**Size** – Large populated areas may be broken up into several neighboring overburdened communities.

**Public input** – Input from public comment will inform how we will determine overburdened community boundaries.

## Indicators under Exploration

Several indicators were not included in the draft process due to data limitations. The following indicators are still under exploration, and may be added in the future if the limitations with the data are resolved:

- **Outdoor workers** – People who mainly work outdoors (agricultural workers, construction workers, etc.) have higher exposure to outdoor air pollution.
- **Homelessness** – Unhoused people face high exposure to outdoor air pollution.
- **Childhood asthma** – Children are at greater health risk from exposure to air pollution. Rate of asthma in adults only is included in the draft indicators due to data limitations.
- **Proximity to concentrated animal feeding operations** – Currently, the “proximity to agriculture” indicator includes cultivated crops and dairies, but not other types of concentrated animal feeding operations (CAFOs) such as beef feedlots and poultry farms due to limited data availability.

## Tribal Consultation

We are inviting government-to-government consultation with Tribal nations throughout the entire process. We invited government-to-government consultation in December 2021 and conducted two Tribal meetings in January 2022, the week prior to the public listening sessions. We will continue to consult with Tribal nations and organizations affiliated with Washington Tribes throughout the process to identify overburdened communities highly impacted by air pollution.

## Opportunities to Provide Feedback

Getting feedback from partner agencies, stakeholders, and the broader community is important to help make sure that the process to identify overburdened communities highly impacted by

air pollution is reflective of the concerns from communities across Washington. Specifically, we would like feedback on:

- Draft indicators to identify overburdened communities highly impacted by air pollution
- Draft factors for boundaries
- Data sources

You can provide feedback on any of these topics in multiple ways during our public comment period **September 19, 2022 – November 4, 2022**:

- Online public hearings (interpretation available)
- Submit comments:
  - [Online](#)<sup>21</sup>
  - Mail to:

Erin Torrone  
Washington Department of Ecology  
Air Quality Program  
P.O. Box 47600  
Olympia, WA 98504-7600

## Next Steps

We will consider all the input received from the Environmental Justice Council, Tribal consultation, and the public before finalizing the indicators for identifying overburdened communities highly impacted by air pollution. We will release a final version of the process, an updated technical support document, and a final list and map of overburdened communities the following winter.

Once overburdened communities are identified, we will begin the process of placing air monitors in the identified communities, as well as providing additional public outreach to provide information about monitoring.

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<sup>21</sup> <https://aq.ecology.commentinput.com/?id=MaBWc>

## Find Out More

Visit [our web page](https://ecology.wa.gov/Air-Climate/Climate-change/Reducing-greenhouse-gases/Climate-Commitment-Act/Overburdened-communities)<sup>22</sup> for more information about this initiative, a draft map of areas that meet the initial draft indicator thresholds, up-to date-information about public input opportunities, as well as translated materials available in Spanish, Chinese, Korean, Vietnamese, and Russian: <https://ecology.wa.gov/Air-Climate/Climate-change/Reducing-greenhouse-gases/Climate-Commitment-Act/Overburdened-communities>

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<sup>22</sup> <https://ecology.wa.gov/Air-Climate/Climate-change/Reducing-greenhouse-gases/Climate-Commitment-Act/Overburdened-communities>