

November 17, 2023

*Via Electronic Mail:* [epdcomments@dnr.ga.gov](mailto:epdcomments@dnr.ga.gov)

Steve Allison, Program Manager  
Stationary Source Permitting Program  
Air Protection Branch  
Environmental Protection Division  
4244 International Parkway, Suite 120  
Atlanta, GA 30354

**RE: Public Comments on Air Permit Application No. 29057 for Weyerhaeuser - Riceboro Log Yard**

Dear Mr. Allison:

Southern Environmental Law Center, on behalf of itself, One Hundred Miles, Ogeechee Riverkeeper, and Altamaha Riverkeeper (hereafter, the “Commenters”), hereby submits public comments on Air Permit Application No. 29057 for the proposed Weyerhaeuser Riceboro Log Yard (hereafter, “Weyerhaeuser” or “the facility”), which is currently out for public notice and comment with the Georgia Environmental Protection Division (EPD).

With this application, Weyerhaeuser intends to construct and operate a log fumigation yard that will utilize the pesticide methyl bromide, which is also a highly toxic Hazardous Air Pollutant (HAP). Weyerhaeuser intends to emit up to 20,000 pounds, or 10 tons, of methyl bromide per year. At this rate, the operation would be the third largest emitter of methyl bromide in the nation and by far the largest in Georgia.<sup>1</sup>

Methyl bromide is a known “development, neurological, and respiratory toxin,” with both “acute and chronic toxicity.”<sup>2</sup> Inhalation of methyl bromide can cause severe injury to the lungs, impairment of respiratory functions, and neurological symptoms.<sup>3</sup> The chemical is also banned for nearly all uses in the United States and more than 150 other nations because it depletes the ozone layer.

Additionally, the location of the proposed fumigation operation raises significant environmental justice concerns. The facility would be located less than two miles from the Geechee Kunda Cultural Arts Center and Museum,<sup>4</sup> and the population living within three miles of the proposed operation is 76% Black, 48% low-income, and already faces disproportionate health outcomes:

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<sup>1</sup> As compared to EPA’s most recent National Emissions Inventory. See EPA, 2020 National Emissions Inventory, Online 2020 Data Retrieval Tool, Facility Data tab, <https://www.epa.gov/air-emissions-inventories/2020-national-emissions-inventory-nei-data>.

<sup>2</sup> Lygia T. Budnik, et al., Prostate Cancer and Toxicity from Critical Use Exemptions for Methyl Bromide: Environmental Protection Helps Protect Against Human Health Risks, 11 *Envtl. Health* 5, at 3 (2012), <https://ehjournal.biomedcentral.com/track/pdf/10.1186/1476-069X-11-5>.

<sup>3</sup> EPA, Methyl Bromide (Bromomethane) 1-2 (Apr. 1992, updated Jan. 2000) <https://www.epa.gov/sites/default/files/2016-09/documents/methyl-bromide.pdf>

<sup>4</sup> <https://www.geecheekunda.org/>.

residents are in the 91<sup>st</sup> percentile for asthma, 89<sup>th</sup> percentile for heart disease, and 75<sup>th</sup> percentile for low life expectancy nationally.<sup>5</sup>

Due to the particularly toxic nature of methyl bromide, the impacts on the ozone layer, and nature of the impacted community, we strongly urge EPD to reject Weyerhaeuser's application for an air permit. Weyerhaeuser should instead utilize alternative methods to treat logs prior to export; for instance, heat and vacuum treatment has been demonstrated as a viable alternative to methyl bromide, and the treatment is accepted by US trading partners.<sup>6</sup>

At a minimum, however, EPD must take steps to significantly reduce the emissions of methyl bromide from this operation. As demonstrated below, Weyerhaeuser's own Toxic Impacts Assessment shows that **this operation would cause massive exceedances of health-based ambient standards for methyl bromide implemented in other southern US states**, and EPD should not allow Georgians to bear the brunt of toxic emissions due to a lax and outdated air toxics standard for methyl bromide.

## I. The Health Impacts of Methyl Bromide Emissions.

Methyl bromide, also called Bromomethane, is a known "development, neurological, and respiratory toxin," with both "acute and chronic toxicity."<sup>7</sup> Exposure to methyl bromide occurs primarily through inhalation and dermal absorption (i.e., contact with skin).<sup>8</sup> Acute inhalation of methyl bromide can cause severe injury to the lungs, impairment of respiratory functions, and neurological symptoms, including headaches, dizziness, fainting, weakness, confusion, speech impairment, visual effects, numbness, twitching, seizures, and tremors.<sup>9</sup> Methyl bromide exposure can also irritate the eyes and skin, causing itching, redness, and blisters.<sup>10</sup> In cases of severe exposure, methyl bromide can cause paralysis, convulsions, kidney damage, and death from respiratory or cardiovascular failure.<sup>11</sup> More recent data has also demonstrated a link between methyl bromide exposure, both on- and off-site of the fumigation activity, and

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<sup>5</sup> Attachment A: EPA EJ Screen Report, 3-Mile Radius.

<sup>6</sup> See, e.g., <https://phytovac.com/>.

<sup>7</sup> Lygia T. Budnik, et al., *Prostate Cancer and Toxicity from Critical Use Exemptions for Methyl Bromide: Environmental Protection Helps Protect Against Human Health Risks*, 11 *Env'tl. Health* 5, at 3 (2012), <https://ehjournal.biomedcentral.com/track/pdf/10.1186/1476-069X-11-5>.

<sup>8</sup> *Id.* at 2.

<sup>9</sup> See EPA, *Methyl Bromide (Bromomethane)* 1-2 (Apr. 1992, updated Jan. 2000), <https://www.epa.gov/sites/production/files/2016-09/documents/methyl-bromide.pdf>; Robert B. Gunier, et al. *Residential Proximity to Agricultural Fumigant Use and IQ, Attention and Hyperactivity in 7-Year Old Children*, 158 *Env'tl. Res.* 358, 358 (2017), <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5557382/pdf/nihms890764.pdf>; Nat'l Res. Council, *Methyl Bromide Risk Characterization in California* 2, 8, 12-32 (2000) ("Methyl bromide also appears to be a developmental and possibly a reproductive toxicant."), <https://www.ncbi.nlm.nih.gov/books/NBK225624/>; Budnik, *supra* note 7, at 4 (Table 1: Toxic effects of methyl bromide (data 1990-2011)).

<sup>10</sup> EPA, *Methyl Bromide (Bromomethane)*, *supra* note 9, at 2; Budnik, *supra* note 7, at 3.

<sup>11</sup> EPA, *Methyl Bromide (Bromomethane)*, *supra* note 9, at 2; Budnik, *supra* note 7, at 3 ("Throat irritation, chest pain and shortness of breath are the most likely first respiratory symptoms with inflammation of the bronchi or lung edema after severe acute exposure. Death may result from respiratory or cardiovascular failure."); U.S. GAO, *Pesticides: The Phaseout of Methyl Bromide in the United States* 5 (Dec. 1995) ("In severe cases [exposure to methyl bromide] can cause central nervous system and respiratory systems to fail. Gross permanent disabilities or death may result."), <https://www.gao.gov/assets/230/222046.pdf>.

developmental and reproductive issues and risk of prostate cancer.<sup>12</sup> For instance, a 2013 study found that mothers living within five kilometers of methyl bromide fumigation sites gave birth to newborns with significantly reduced birth weights, birth length, and head circumference.<sup>13</sup>

Numerous studies also demonstrate public health concerns from chronic, low-level exposure to methyl bromide that has drifted from the fumigation site.<sup>14</sup> “Since [methyl bromide] is three times heavier than air, it diffuses outward and downward readily,”<sup>15</sup> causing potential exposure problems for the surrounding community. Specifically, Gunier (2017) found a “direct relationship between nearby agricultural use [of methyl bromide] and potential community exposure” within a five-mile radius of the fumigation site.<sup>16</sup>

The health impacts of methyl bromide exposure are particularly problematic for sensitive subpopulations, including infants, children, the elderly, those with pre-existing health issues, and people with a genetic predisposition. In particular, methyl bromide use has been known to impact prenatal, postnatal, and childhood development for pregnant women and children living within five miles of fumigation sites.<sup>17</sup> Additionally, research shows that a significant portion of the

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<sup>12</sup> Nat’l Res. Council, *supra* note 9, at 1 (“Methyl bromide also appears to be a developmental and possibly a reproductive toxicant.”); Budnik, *supra* note 5, at 1 (“Both the epidemiological evidence and toxicology data suggest a possible link between methyl bromide exposure and serious health problems, including prostate cancer risk from occupational and community exposure.”); see Julia R. Barret, *Getting the Drift: Methyl Bromide Application and Adverse Birth Outcomes in an Agricultural Area*, 121 *Envtl. Health Perspectives* A198 (2013), <https://www.semanticscholar.org/paper/Getting-the-Drift-Methyl-Bromide-Application-and-in-Barrett/17b3f9a19366f2c55228b57f11132eb1f180beb2>.

<sup>13</sup> Alison Gemmil, et al., *Residential Proximity to Methyl Bromide Use and Birth Outcomes in an Agricultural Population in California*, 121(6) *Environ Health Perspect.* 737 (2013), [https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3672911/#:~:text=After%20adjusting%20for%20confounders%2C%20associations,%2C%20E2%80%930.01\)%20decrease%20in%20head](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3672911/#:~:text=After%20adjusting%20for%20confounders%2C%20associations,%2C%20E2%80%930.01)%20decrease%20in%20head).

<sup>14</sup> Budnik, *supra* note 7, at 9 (“The exposure assessment data and epidemiological analysis indicate a health risk concern for both workers and the general public.”); Nat’l Res. Council, *supra* note 9, at 8 (noting that “inhalation exposure to agricultural workers and the general public” of methyl bromide “is of considerable concern”); Gunier, *supra* note 9, at 1 (“Fumigants are more likely than other pesticides to drift from application sites due to their high vapor pressure.”).

<sup>15</sup> USDA APHIS, *Treatment Manual* 2-3-2 (2013), [https://www.aphis.usda.gov/import\\_export/plants/manuals/ports/downloads/treatment.pdf](https://www.aphis.usda.gov/import_export/plants/manuals/ports/downloads/treatment.pdf).

<sup>16</sup> Gunier, *supra* note 9, at 1-2. Although this report focused on the use of methyl bromide in agricultural fumigation, the results are also applicable to its use for log fumigation as both processes involve the eventual release of methyl bromide emissions into the air. If anything, log fumigation operations have an increased potential for human exposure because, as the Division has stated, they are more like an industrial point source of pollution than agricultural uses of the fumigant.

<sup>17</sup> See generally *id.* (examining the relationship between residential proximity to agricultural fumigation, including methyl bromide, and neurodevelopment in 7-year old children); Alison Gemmill, et al., *Residential Proximity to Methyl Bromide Use and Birth Outcomes in an Agricultural Population in California*, 121 *Envtl. Health Perspectives* 737 (2013) (concluding that “[r]esidential proximity to methyl bromide use during the second trimester was associated with markers of restricted fetal growth”), <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3672911/>. Specifically, prenatal exposure has also been associated with decreased birth weight and postnatal and childhood exposure has been linked to decreased IQ. Gunier, *supra* note 9, at 2 (“We previously found that living within 5 km of methyl bromide use in the second trimester of pregnancy was associated with decreased birth weight, length, and head circumference.”), 364 (“We observed decreases in Full-Scale intelligence quotient with increased methyl bromide . . . use within 8 km of residences during the child’s lifetime.”).

population—60 to 70 percent—has a genetic variation that makes them particularly sensitive to the neurotoxic effects of methyl bromide exposure.<sup>18</sup>

Finally, methyl bromide is also toxic to wildlife and aquatic organisms.<sup>19</sup> Accordingly, Commenters are also concerned about impacts to wildlife and water quality, including through spills and potential deposition from air emissions. If EPD proceeds with this permit, it must also quantify any potential impacts to wildlife and water quality.

## **II. Weyerhaeuser's Toxic Impact Assessment Does Not Demonstrate a Safe Level of Methyl Bromide Exposure.**

As part of this application, Weyerhaeuser was required to conduct air dispersion modeling for methyl bromide to satisfy Georgia's Toxic Impact Assessment requirements. Georgia's methyl bromide standards, however, are outdated and significantly more lenient than those in other states, and the company's modeling results show substantial exceedances of health-based standards implemented in nearby states, including Virginia, South Carolina, and Texas.

Even with regard to Georgia's standards, Weyerhaeuser's modeling results showed a maximum short-term concentration of 7,883  $\mu\text{g}/\text{m}^3$ , while Georgia's 15-minute standard, known as an Acceptable Ambient Concentration (AAC), is 8,000  $\mu\text{g}/\text{m}^3$ , meaning that Weyerhaeuser's emissions cause concentrations in the surrounding air that are within 98.5% of the standard.<sup>20</sup>

EPD's 15-minute standard is apparently based on OSHA's Personal Exposure Level—Ceiling (PEL-C) standard for methyl bromide, which is a maximum exposure limit without an averaging component, i.e. the most a worker should be exposed to in a single instance. It is unclear how EPD developed its 15-minute standard from the OSHA standard. Regardless, OSHA standards are meant to protect workers and not residents in the broader community, and, worse yet, even OSHA admits that its PELs are often “outdated and inadequate for ensuring protection of worker health,” and that most PELs were promulgated in the early 1970s, based on even earlier scientific data, and most have “not been updated since that time.”<sup>21</sup> OSHA has also explained that “[i]ndustrial experience, new developments in technology, and scientific data clearly indicate that in many instances these [PELs] are not sufficiently protective of worker health.”<sup>22</sup> Especially in light of the lower health-based standards for ambient concentrations in neighboring states, discussed herein, demonstrating compliance with EPD's OSHA-based standard does not ensure protection for the community around the operation.

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<sup>18</sup> North Carolina DAQ, *Risk Analysis & Acceptable Ambient Level (AAL) Recommendation for Methyl Bromide* at DAQ's Charge (Apr. 12, 2019) at 5-6. This genetic variation is not present in rodent populations and is therefore not accounted for in rodent-based methyl bromide exposure studies. This genetic variation is also one of the reasons that the Division chose to set the methyl bromide AAL at a 24-hour averaging time, along with the fact that methyl bromide is colorless and odorless, can produce a delayed onset of symptoms, is rapidly absorbed and distributed throughout the body, and has a steep exposure-effect curve. *Id.* at DAQ's Charge.

<sup>19</sup> Toxipedia, Methyl Bromide Overview, at 3 (2011), <https://www.healthandenvironment.org/docs/ToxipediaMethylBromideArchive.pdf>.

<sup>20</sup> Weyerhaeuser Georgia State Implementation Plant Permit Application, at 5-9 (Oct. 4, 2023) (Hereafter, the “Weyerhaeuser Application.”).

<sup>21</sup> OSHA, Permissible Exposure Limits – Annotated Tables, <https://www.osha.gov/annotated-pels>.

<sup>22</sup> *Id.*

Further, as discussed below, in addition to exceeding standards in other states, Weyerhaeuser's modeling is itself deficient in several respects, and the company has not appropriately demonstrated compliance even with Georgia's outdated methyl bromide standards.

#### **A. Weyerhaeuser's Own Modeling Shows Exceedances of Standards Established in South Carolina, Virginia, and Texas.**

At least three southern U.S. states have established significantly more protective health-based ambient standards for methyl bromide. Weyerhaeuser's own modeling results show that the facility would cause massive exceedances of each standard.

First, Virginia has established an hourly standard, known as a "Significant Ambient Air Concentration," or "SAAC," for methyl bromide of  $950 \mu\text{g}/\text{m}^3$ .<sup>23</sup> As Virginia DEQ has explained, the "SAAC is the concentration of a toxic pollutant in the ambient air that, if exceeded, may have an adverse effect to human health."<sup>24</sup> Here, Weyerhaeuser's modeling results show concentrations on a one-hour basis of  $5,440 \mu\text{g}/\text{m}^3$  to  $5,972 \mu\text{g}/\text{m}^3$ .<sup>25</sup> These rates are **six times higher** than Virginia's SAAC for methyl bromide.

Next, Texas has established an even lower standard for methyl bromide, known as an Effects Screening Level ("ESL"), of  $120 \mu\text{g}/\text{m}^3$  (one-hour basis).<sup>26</sup> Weyerhaeuser's hourly modeling results—again, between  $5,440$  and  $5,972 \mu\text{g}/\text{m}^3$ —are a **whopping 50 times higher than Texas' ESL**.

South Carolina, meanwhile, has established a 24-hour standard for methyl bromide of  $100 \mu\text{g}/\text{m}^3$ .<sup>27</sup> Weyerhaeuser's short term modeling results show that the facility would exceed this 24-hour standard several times over in any of the operating scenarios the company modeled—we calculate in an extremely conservative manner that 24-hour average concentrations from the operation would be at least  $226 \mu\text{g}/\text{m}^3$  (and likely far higher),<sup>28</sup> well over twice South Carolina's 24-hour standard.

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<sup>23</sup> Virginia Department of Environmental Quality (VADEQ), Calculated Exemption Levels and SAACs for Each Toxic Air Pollutant, Excel Spreadsheet available at:

<https://www.deq.virginia.gov/home/showpublisheddocument/5546/638247666624370000>.

<sup>24</sup> VADEQ, Air Permitting Webpage, at Air Toxics Tab, <https://www.deq.virginia.gov/permits/air>.

<sup>25</sup> Although Weyerhaeuser's application modeled compliance with EPA's 15-minute standard, the company actually modeled one-hour concentrations and then applied a conversion factor to assess 15-minute concentrations. Specifically, as the application notes, the modeling results were "based on the maximum 1-hour predicted concentration scaled by factor 1.32." Weyerhaeuser Application at 5-10. We therefore calculated the one-hour concentrations by removing the 1.32 scaling factor.

<sup>26</sup> Texas Commission on Environmental Quality, Effects Screening Levels, Excel Spreadsheet available at: [https://www.tceq.texas.gov/toxicology/esl/list\\_main.html](https://www.tceq.texas.gov/toxicology/esl/list_main.html).

<sup>27</sup> S.C. Code Ann. Regs. 61-62.5, Standard 8: Toxic Air Pollutants, <https://www.law.cornell.edu/regulations/south-carolina/chapter-61-62/subchapter-61-62.5/STANDARD-NO.8>.

<sup>28</sup> Weyerhaeuser's 15-minute modeling results were "based on the maximum 1-hour predicted concentration scaled by factor 1.32." Weyerhaeuser Application at 5-10. This means Weyerhaeuser lowest one-hour maximum concentration was  $5,440 \mu\text{g}/\text{m}^3$  (see, *supra*, note 25). For the sake of conservatively comparing this 1-hour result with South Carolina's 24-hour standard, we assumed a concentration of zero methyl bromide for 23 hours and then  $5,440 \mu\text{g}/\text{m}^3$  for one hour, resulting in a 24-hour average concentration of  $226 \mu\text{g}/\text{m}^3$ . This method is unrealistically low because concentrations in the other 23 hours would be significantly higher than zero.

In sum, Weyerhaeuser's operations will result in methyl bromide concentrations that are within 98.5% of EPD's very lenient and outdated standard, and, critically, will cause substantial exceedances of health-based standards in other southern states. In other words, this facility would quite likely not be permitted as proposed in these neighboring states. Although we first and foremost urge EPD to protect the surrounding community by rejecting Weyerhaeuser's operations outright, at a minimum EPD must curtail Weyerhaeuser's operation to reduce emissions such that the facility will not cause exceedances of any health-based standards identified above or elsewhere.

Finally, we note that Georgia's regulations empower EPD to deny Weyerhaeuser's permit application outright or to impose facility-specific limits to safeguard public health. Specifically, Ga. Comp. R. & Regs. 391-3-1-.02(2)(a)(3) states that "[n]otwithstanding any other emission limitation or other requirement provided in the regulations, more stringent emission limitations or other requirements may be required of a facility as deemed necessary by the Director to . . . safeguard the public health, safety and welfare of the people of the State of Georgia." With this provision, EPD may (and should) set a limit for methyl bromide emissions as low as zero (effectively denying the permit application), or at least low enough to ensure the facility does not cause exceedances of any health-based methyl bromide ambient standards.

#### **B. Weyerhaeuser's Toxic Impact Assessment is Itself Deficient.**

As discussed above, Weyerhaeuser's modeling shows that short term impacts from the facility's methyl bromide emissions are within 98.5% of Georgia's 15-minute methyl bromide standard. Again, this standard is outdated and far less protective than standards established in other states, including just across the border in South Carolina. Yet it appears that Weyerhaeuser's has not even demonstrated compliance with the Georgia standard.

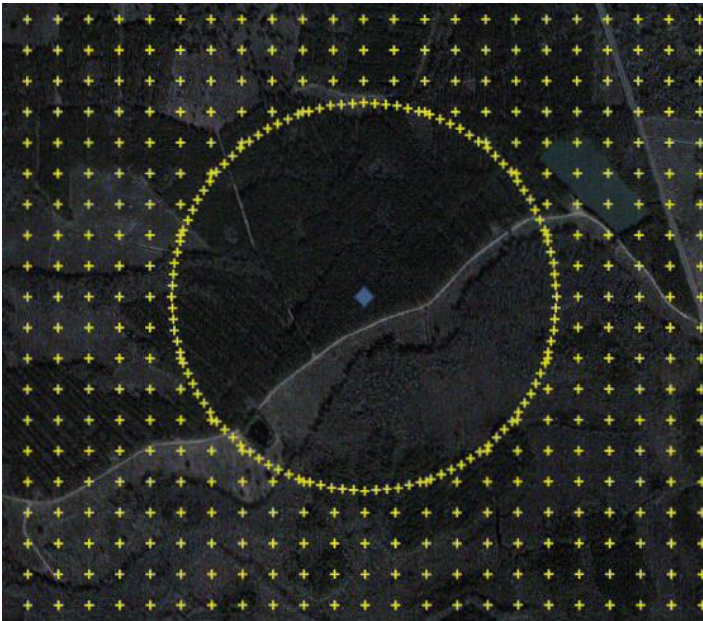
In particular, when Weyerhaeuser conducted its ambient air modeling, it did not place receptors within a circular area closest to the operation and extending about 2,000 feet in all directions. In other words, Weyerhaeuser did not assess concentrations of methyl bromide within the area closest to the fumigation site. This appears improper. A publicly accessible road passes through the center of this area, and per EPD's modeling guidelines and generally accepted modeling practices, this area should have been included in the modeling as it is not within a fenced-off facility site. Specifically, EPD states that "[r]eceptors should be placed on the facility boundary and in the ambient area outside the facility provided that the general public does not have ready access to any portion of the property."<sup>29</sup>

Here, however, Weyerhaeuser did not model concentrations beyond its fence line, but rather beyond an apparently arbitrary circular area with a radius extending 2,000 feet from the fumigation site. The images below provide a scale for the size of the excluded area, with the left image from Weyerhaeuser's application and the right image from Google Maps:

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<sup>29</sup> EPD, Guideline for Ambient Impact Assessment of Toxic Air Pollutant Emissions, at 17 (May 2017).





In sum, Weyerhaeuser improperly excluded a large, publicly accessible area closest to the site from its assessment of methyl bromide concentrations. If EPD does move forward with this permit, it must at least require the company to model methyl bromide impacts in all publicly accessible areas in accordance with Georgia’s own modeling guideline.

### **III. Weyerhaeuser Should Utilize Viable Alternatives to Methyl Bromide Log Fumigation that Will Protect the Community and Environment.**

In recent years, researchers from Virginia Tech, with funding from USDA, studied alternatives to methyl bromide fumigation and developed effective and economically viable solutions to treating logs prior to export using heat and vacuum treatment.<sup>30</sup> These methods do not degrade log quality, and the technique is accepted by all or nearly all US trading partners.<sup>31</sup>

Although heat and vacuum treating may involve additional up-front capital expenditure on the part of Weyerhaeuser, in the long-term researchers indicate the technology will actually be cheaper because the treatment process itself costs significantly less than methyl bromide treatment. But regardless of economic factors, heat treatment or other non-pesticide treatments will have a vastly lower environmental and public health impact.

<sup>30</sup> Phytovac, Timeline, <https://phytovac.com/>. See also, Wood Products, “An Alternative to Methyl Bromide Log Fumigation (Aug. 16, 2019), <https://wood-products.extension.org/an-alternative-to-methyl-bromide-log-fumigation/#:~:text=Sulfuryl%20Flouride%20and%20Phosphine%20are,insects%20or%20pest%20to%20survive.>

<sup>31</sup> Phytovac, *supra*, note 30.

#### **IV. EPD Must Account for Environmental Justice and Should Deny This Permit Accordingly**

##### **A. EPD has an Obligation to Consider the Disparate Impacts Its Permitting May Have.**

Georgia EPD must ensure that its permitting actions are safeguarding “the public health, safety, and welfare of the people of the State of Georgia.” *See, e.g.*, Ga. Comp. R. & Regs. 391-3-1-.02(2)(a)(2). It furthermore is responsible for ensuring that its permitting programs are not causing disproportionate harm to protected classes of Georgians.

By accepting federal funding from EPA, EPD accepts its obligation to comply with EPA’s regulations for non-discrimination. 40 CFR Chap. 1 Sec. 7.80(a). EPD must determine whether its permitting actions “have the *effect* of discrimination on the basis of race, color, or national origin,” even if that was not EPD’s intent.<sup>32</sup> In determining whether an action has a potential disparate adverse impact, a state agency must consider cumulative impacts, including the consideration of heightened health risks resulting from the community’s “[t]otal exposure to multiple environmental stressors . . . , including exposures originating from multiple sources, and traveling via multiple pathways over a period of time.”<sup>33</sup>

In addition, EPA’s guidance encourages EPD to conduct an environmental justice analysis to encourage fair treatment and meaningful community involvement when—like here—a permitting action “may result in disproportionately high and adverse human health or environmental effects on a community.”<sup>34</sup>

An environmental justice analysis accomplishes two important policy objectives: (1) it addresses the principle of fair treatment by further evaluating adverse and disproportionate impacts and identifying ways to prevent or mitigate such impacts; and (2) it addresses the principle of meaningful involvement by fostering enhanced community engagement in the permitting decision.<sup>35</sup>

##### **B. Weyerhaeuser’s Application Requires Special Consideration for Potential Environmental Discrimination Arising from this Permitting Process**

As explained above, if this permit application is approved, the Weyerhaeuser fumigation operation would be the third largest emitter of toxic methyl bromide in the United States and by

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<sup>32</sup> U.S. Dep’t of Justice, Title VI of the Civil Rights Act of 1964 42 U.S.C. § 2000D et seq., <https://www.justice.gov/crt/fcs/TitleVI-Overview> (emphasis added). *See Guardians Ass’n v. Civil Serv. Comm’n*, 463 U.S. 582, 593 (1983) (“Title VI reaches unintentional, disparate-impact discrimination as well as deliberate racial discrimination.”).

<sup>33</sup> Draft Title VI Guidance, 65 Fed. Reg. at 39,684; *see also id.* at 39,678 (explaining that “cumulative impacts of regulated and unregulated sources can be considered to determine the cumulative level of potential adverse impacts”).

<sup>34</sup> EPA, Principles for Addressing Environmental Justice Concerns in Air Permitting, at 2 (Dec. 2022), *available at* <https://www.epa.gov/system/files/documents/2022-12/Attachment%20-%20EJ%20in%20Air%20Permitting%20Principles%20.pdf>.

<sup>35</sup> EPA’s EJ in Air Permitting, Principles for Addressing Environmental Justice Concerns in Air Permitting (Dec. 2022), *available at* <https://www.epa.gov/system/files/documents/2022-12/Attachment%20-%20EJ%20in%20Air%20Permitting%20Principles%20.pdf>.



far the largest in Georgia. EPD’s public health and non-discrimination mandates require EPD to account for the particular vulnerabilities and susceptibilities of the communities that will breathe the methyl bromide that EPD allows to be emitted. It is well-accepted that certain characteristics make individuals either more vulnerable or susceptible to health impacts from air pollution, including proximity, race/ethnicity, age, and socioeconomic status.<sup>36</sup>

Factors Affecting Susceptibility	
Intrinsic Factors (Biological)	Extrinsic Factors (Exposure-Related)
<ul style="list-style-type: none"> <li>• Age and lifestage</li> <li>• Gender</li> <li>• Race/ethnicity</li> <li>• Genetic polymorphisms</li> </ul>	<ul style="list-style-type: none"> <li>• Disease status</li> <li>• Socioeconomic status</li> <li>• Nutrition status</li> <li>• Geographic proximity</li> <li>• Lifestyle</li> </ul>

*Figure 1: Graph from EPA’s Guidelines for Exposure Assessment*

As discussed above, scientific studies have demonstrated health impacts from methyl bromide fumigation at least up to five miles from the fumigation site. Here, the population in the five-mile radius surrounding the proposed site is 63% Black and 43% low-income households, with about a third of all residents older than 65 years old.<sup>37</sup> The area is also already exposed to a disproportionately high level of air toxics: the five-mile radius is in the 85<sup>th</sup> percentile nationally for exposure to cancer risks from air toxics, and the 88<sup>th</sup> percentile for respiratory air toxics impacts.<sup>38</sup>

And although negative health impacts of methyl bromide may extend to at least five miles, if not further, the population within three miles of the proposed location is even more susceptible to pollution impacts. That area is 74% Black and 77% people of color (which is in the 75<sup>th</sup> percentile for Georgia and 82<sup>nd</sup> percentile nationally) and 47% of residents are low-income individuals (71<sup>st</sup> percentile in Georgia and 77<sup>th</sup> percentile nationally).<sup>39</sup> Additionally, these residents already face disproportionately high health risks: residents there are in the 91<sup>st</sup> percentile for asthma, 89<sup>th</sup> percentile for heart disease, and 75<sup>th</sup> percentile for low life expectancy nationally.

Simply put, Weyerhaeuser wants to construct and operate a facility that will be the nation’s third largest emitter of a highly toxic pollutant, and it wants to do so in a community where three quarters of residents are Black and nearly half of residents are low-income. Worse yet, the company’s own modeling demonstrates that these emissions would cause exceedances of health-based standards utilized in other nearby states. EPD must stop this absurd outcome by denying Weyerhaeuser’s air permit application.

<sup>36</sup> See EPA, *Exposure Assessment Tools by Lifestages and Populations – Highly Exposed or Other Susceptible Population Groups*, <https://www.epa.gov/expobox/exposure-assessment-tools-lifestages-and-populations-highly-exposed-or-other-susceptible>.

<sup>37</sup> Attachment B: EPA EJ Screen Report, 5-Mile Radius.

<sup>38</sup> *Id.*

<sup>39</sup> Attachment A: EPA EJ Screen Report, 3-Mile Radius.

## Conclusion

We appreciate the opportunity to provide comments on Weyerhaeuser's air permit application. However, as discussed above, EPD should exercise its authority to reject Weyerhaeuser's application for an air permit to emit more toxic methyl bromide than almost any other facility in the nation. At a minimum, however, EPD must significantly limit emissions to assure that the facility will not cause exceedances of any health-based ambient standards for methyl bromide.

Respectfully submitted,

/s/ Patrick Anderson

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*On behalf itself, One Hundred Miles, Ogeechee  
Riverkeeper, and Altamaha Riverkeeper.*

Attachments A and B: EPA EJ Screen Reports for three- and five-mile radii.

## **Attachment A**

# EJScreen Community Report

This report provides environmental and socioeconomic information for user-defined areas, and combines that data into environmental justice and supplemental indexes.

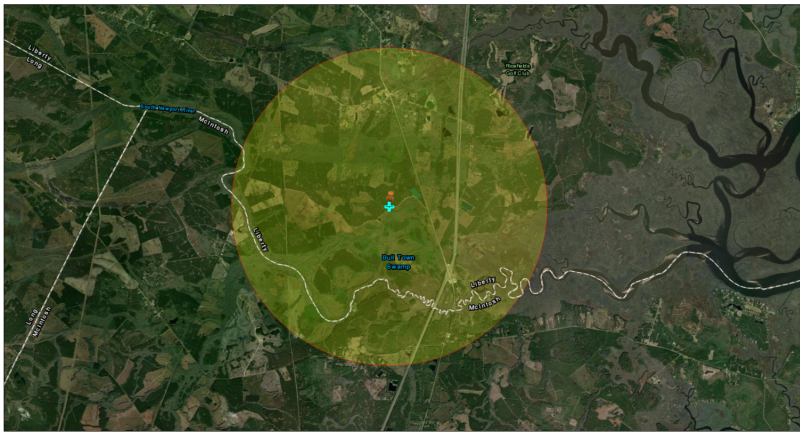
## Liberty County, GA

3 miles Ring Centered at 31.672094,-81.414054

Population: 156

Area in square miles: 28.27

A3 Landscape



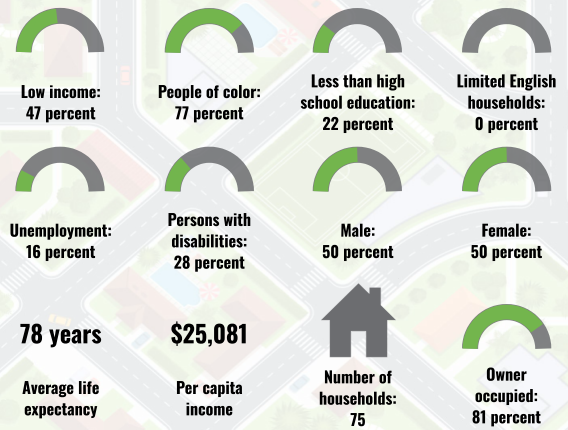
November 17, 2023

Project 1

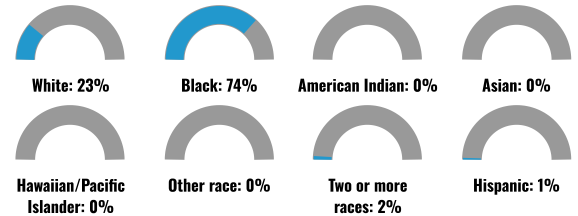
1:72,224  
0 0.75 1.5 3 mi  
0 1.25 2.5 5 km

Esri, HERE, Garmin, Earthstar Geographics

### COMMUNITY INFORMATION



### BREAKDOWN BY RACE



### BREAKDOWN BY AGE



### LIMITED ENGLISH SPEAKING BREAKDOWN



### LANGUAGES SPOKEN AT HOME

LANGUAGE	PERCENT
English	98%
Spanish	1%
Other Asian and Pacific Island	1%
Total Non-English	2%

Notes: Numbers may not sum to totals due to rounding. Hispanic population can be of any race. Source: U.S. Census Bureau, American Community Survey (ACS) 2017-2021. Life expectancy data comes from the Centers for Disease Control.

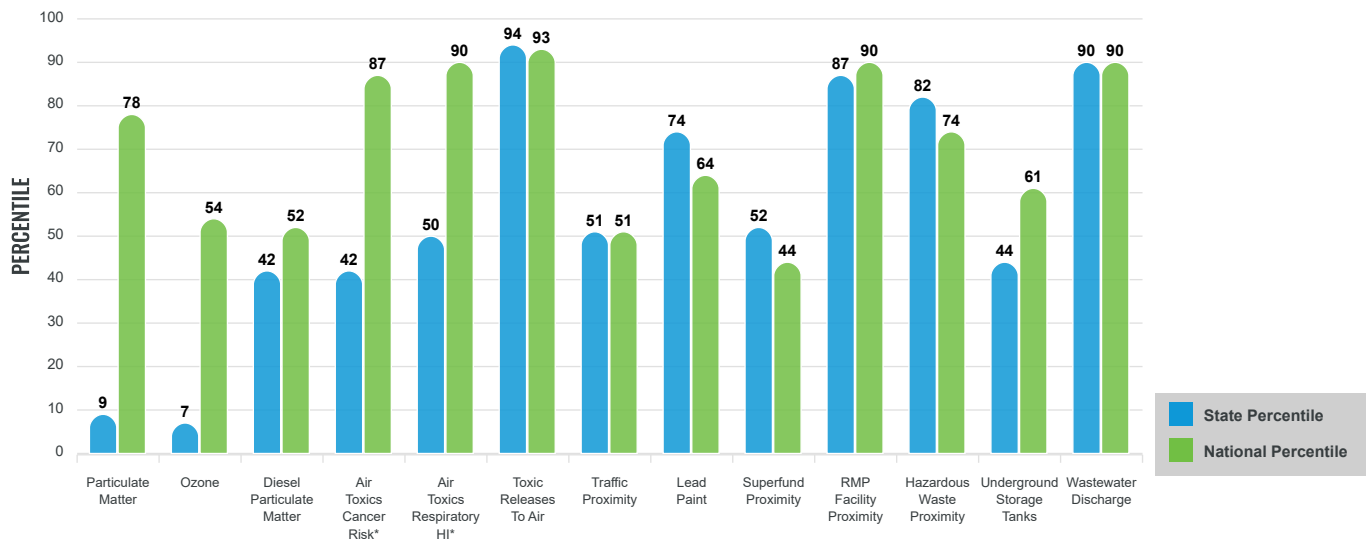
# Environmental Justice & Supplemental Indexes

The environmental justice and supplemental indexes are a combination of environmental and socioeconomic information. There are thirteen EJ indexes and supplemental indexes in EJScreen reflecting the 13 environmental indicators. The indexes for a selected area are compared to those for all other locations in the state or nation. For more information and calculation details on the EJ and supplemental indexes, please visit the [EJScreen website](#).

## EJ INDEXES

The EJ indexes help users screen for potential EJ concerns. To do this, the EJ index combines data on low income and people of color populations with a single environmental indicator.

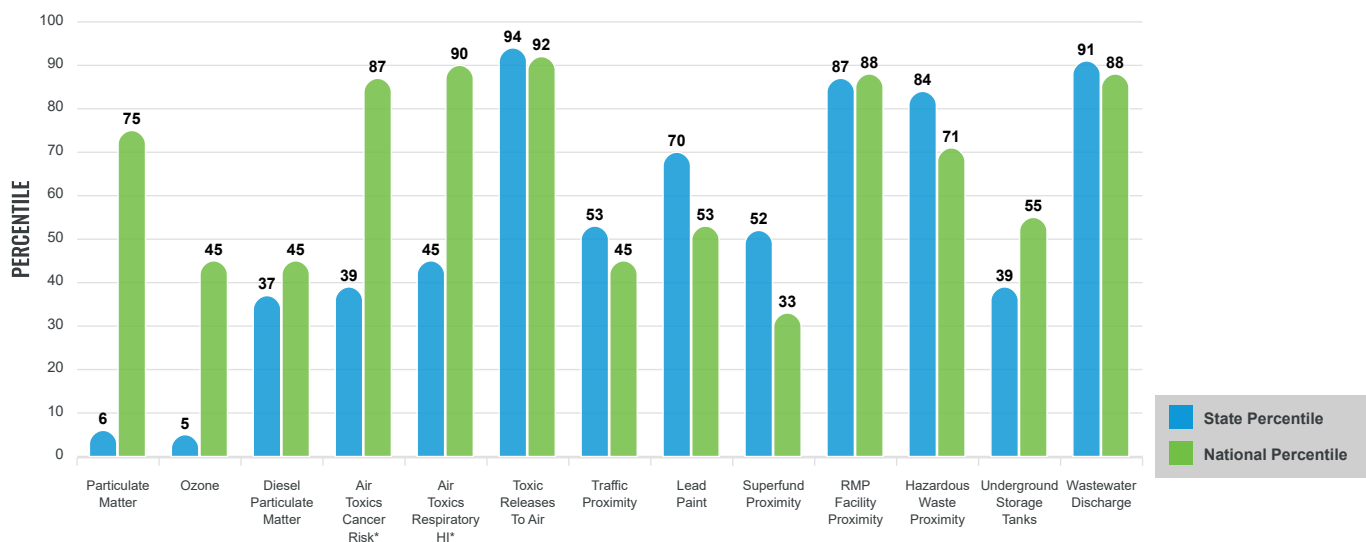
### EJ INDEXES FOR THE SELECTED LOCATION



## SUPPLEMENTAL INDEXES

The supplemental indexes offer a different perspective on community-level vulnerability. They combine data on percent low-income, percent linguistically isolated, percent less than high school education, percent unemployed, and low life expectancy with a single environmental indicator.

### SUPPLEMENTAL INDEXES FOR THE SELECTED LOCATION



These percentiles provide perspective on how the selected block group or buffer area compares to the entire state or nation.

Report for 3 miles Ring Centered at 31.672094,-81.414054



# EJScreen Environmental and Socioeconomic Indicators Data

SELECTED VARIABLES	VALUE	STATE AVERAGE	PERCENTILE IN STATE	USA AVERAGE	PERCENTILE IN USA
<b>POLLUTION AND SOURCES</b>					
Particulate Matter ( $\mu\text{g}/\text{m}^3$ )	8.12	9.61	4	8.08	47
Ozone (ppb)	57.7	64	3	61.6	22
Diesel Particulate Matter ( $\mu\text{g}/\text{m}^3$ )	0.117	0.277	18	0.261	21
Air Toxics Cancer Risk* (lifetime risk per million)	30	35	2	25	52
Air Toxics Respiratory HI*	0.39	0.44	0	0.31	31
Toxic Releases to Air	4,600	1,600	96	4,600	85
Traffic Proximity (daily traffic count/distance to road)	17	110	28	210	22
Lead Paint (% Pre-1960 Housing)	0.073	0.14	52	0.3	30
Superfund Proximity (site count/km distance)	0.019	0.066	28	0.13	16
RMP Facility Proximity (facility count/km distance)	0.6	0.38	82	0.43	80
Hazardous Waste Proximity (facility count/km distance)	0.37	0.45	70	1.9	45
Underground Storage Tanks (count/km <sup>2</sup> )	0.092	2.3	20	3.9	28
Wastewater Discharge (toxicity-weighted concentration/m distance)	0.021	0.18	87	22	73
<b>SOCIOECONOMIC INDICATORS</b>					
Demographic Index	62%	41%	78	35%	84
Supplemental Demographic Index	22%	15%	80	14%	82
People of Color	77%	48%	75	39%	82
Low Income	47%	34%	71	31%	77
Unemployment Rate	16%	6%	91	6%	92
Limited English Speaking Households	0%	3%	0	5%	0
Less Than High School Education	22%	12%	82	12%	84
Under Age 5	2%	6%	28	6%	26
Over Age 64	31%	15%	92	17%	90
Low Life Expectancy	22%	21%	61	20%	75

\*Diesel particulate matter, air toxics cancer risk, and air toxics respiratory hazard index are from the EPA's Air Toxics Data Update, which is the Agency's ongoing, comprehensive evaluation of air toxics in the United States. This effort aims to prioritize air toxics, emission sources, and locations of interest for further study. It is important to remember that the air toxics data presented here provide broad estimates of health risks over geographic areas of the country, not definitive risks to specific individuals or locations. Cancer risks and hazard indices from the Air Toxics Data Update are reported to one significant figure and any additional significant figures here are due to rounding. More information on the Air Toxics Data Update can be found at: <https://www.epa.gov/haps/air-toxics-data-update>.

## Sites reporting to EPA within defined area:

Superfund .....	0
Hazardous Waste, Treatment, Storage, and Disposal Facilities .....	0
Water Dischargers .....	2
Air Pollution .....	0
Brownfields .....	0
Toxic Release Inventory .....	0

## Other community features within defined area:

Schools .....	0
Hospitals .....	0
Places of Worship .....	3

## Other environmental data:

Air Non-attainment .....	No
Impaired Waters .....	Yes

Selected location contains American Indian Reservation Lands* .....	No
Selected location contains a "Justice40 (CEJST)" disadvantaged community .....	Yes
Selected location contains an EPA IRA disadvantaged community .....	Yes

Report for 3 miles Ring Centered at 31.672094, -81.414054

# EJScreen Environmental and Socioeconomic Indicators Data

HEALTH INDICATORS					
INDICATOR	HEALTH VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Low Life Expectancy	22%	21%	61	20%	75
Heart Disease	8.5	6.1	89	6.1	89
Asthma	12.1	10	91	10	91
Cancer	6.1	5.5	62	6.1	45
Persons with Disabilities	26.9%	13.1%	97	13.4%	96

CLIMATE INDICATORS					
INDICATOR	HEALTH VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Flood Risk	25%	9%	96	12%	88
Wildfire Risk	8%	4%	91	14%	81

CRITICAL SERVICE GAPS					
INDICATOR	HEALTH VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Broadband Internet	36%	15%	89	14%	93
Lack of Health Insurance	14%	13%	60	9%	83
Housing Burden	No	N/A	N/A	N/A	N/A
Transportation Access	Yes	N/A	N/A	N/A	N/A
Food Desert	No	N/A	N/A	N/A	N/A

Footnotes

Report for 3 miles Ring Centered at 31.672094,-81.414054

## **Attachment B**

# EJScreen Community Report

This report provides environmental and socioeconomic information for user-defined areas, and combines that data into environmental justice and supplemental indexes.

## Liberty County, GA

5 miles Ring Centered at 31.672094,-81.414054

Population: 790

Area in square miles: 78.53

A3 Landscape



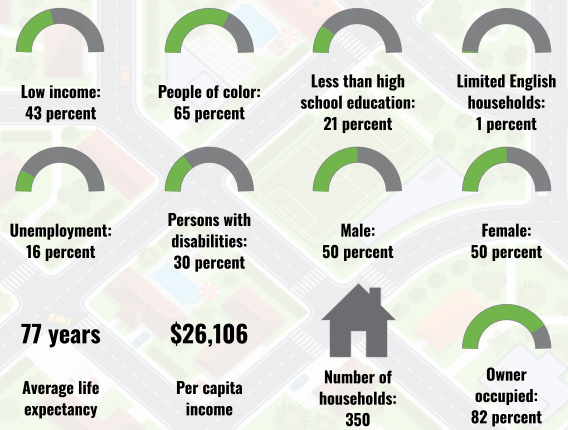
November 17, 2023

Project 1

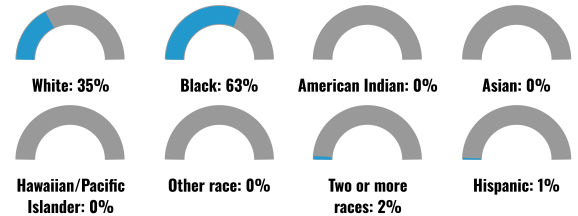
1:72,224  
0 0.75 1.5 3 mi  
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Esri, HERE, Garmin, Earthstar Geographics

### COMMUNITY INFORMATION



### BREAKDOWN BY RACE



### BREAKDOWN BY AGE



### LIMITED ENGLISH SPEAKING BREAKDOWN



### LANGUAGES SPOKEN AT HOME

LANGUAGE	PERCENT
English	98%
Spanish	1%
Other Asian and Pacific Island	1%
Total Non-English	2%

Notes: Numbers may not sum to totals due to rounding. Hispanic population can be of any race. Source: U.S. Census Bureau, American Community Survey (ACS) 2017-2021. Life expectancy data comes from the Centers for Disease Control.

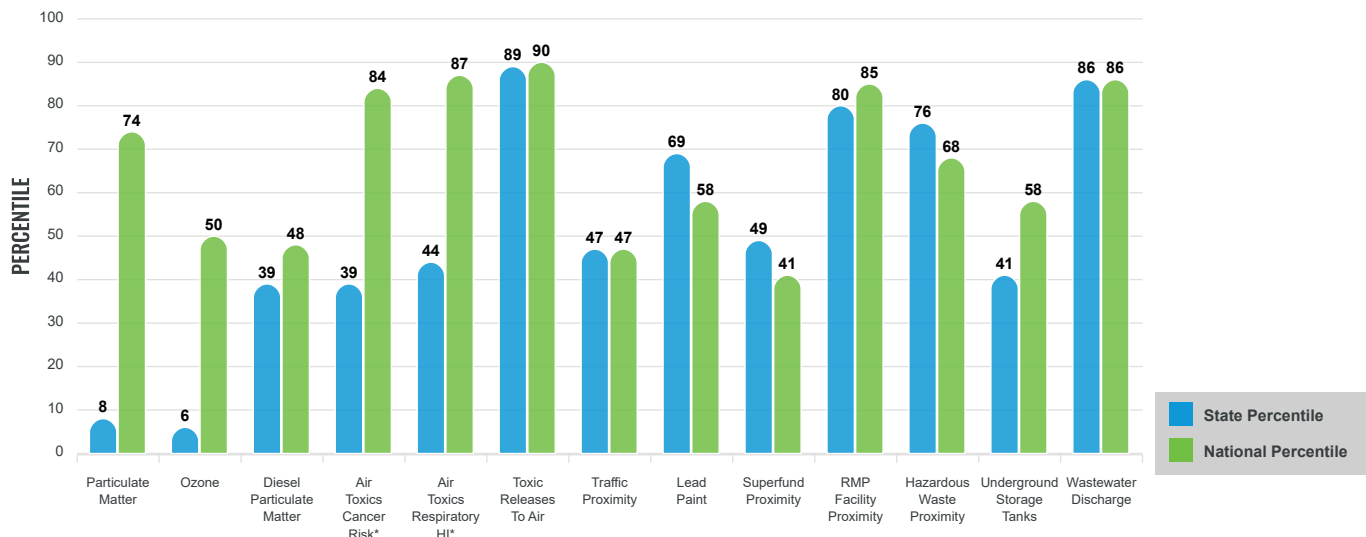
# Environmental Justice & Supplemental Indexes

The environmental justice and supplemental indexes are a combination of environmental and socioeconomic information. There are thirteen EJ indexes and supplemental indexes in EJScreen reflecting the 13 environmental indicators. The indexes for a selected area are compared to those for all other locations in the state or nation. For more information and calculation details on the EJ and supplemental indexes, please visit the [EJScreen website](#).

## EJ INDEXES

The EJ indexes help users screen for potential EJ concerns. To do this, the EJ index combines data on low income and people of color populations with a single environmental indicator.

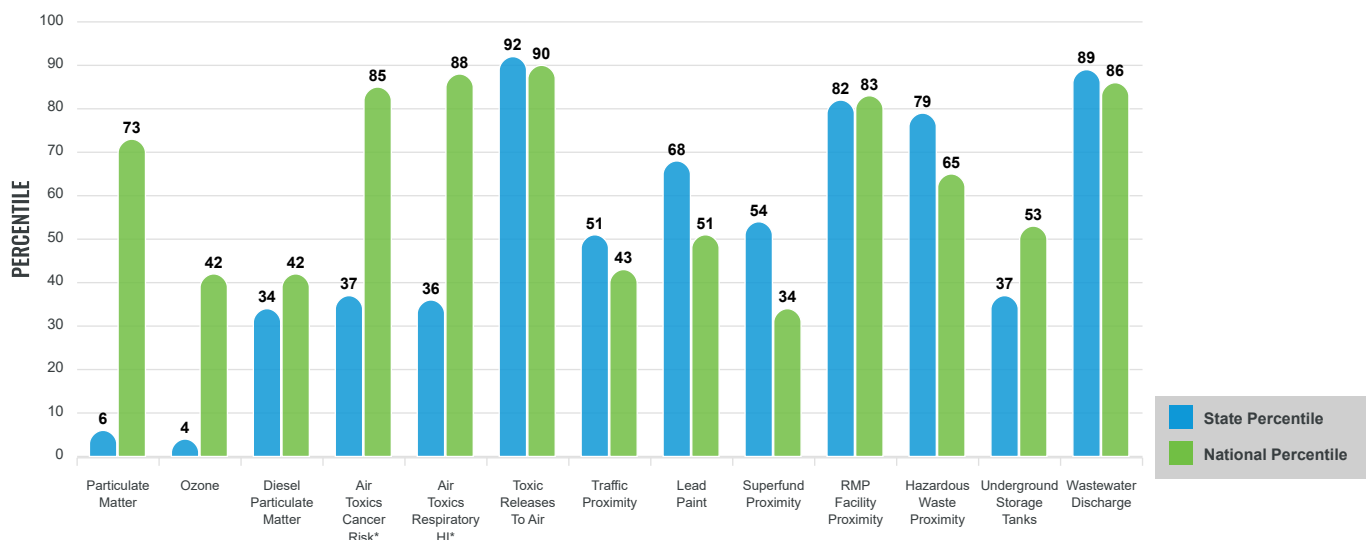
### EJ INDEXES FOR THE SELECTED LOCATION



## SUPPLEMENTAL INDEXES

The supplemental indexes offer a different perspective on community-level vulnerability. They combine data on percent low-income, percent linguistically isolated, percent less than high school education, percent unemployed, and low life expectancy with a single environmental indicator.

### SUPPLEMENTAL INDEXES FOR THE SELECTED LOCATION



These percentiles provide perspective on how the selected block group or buffer area compares to the entire state or nation.

Report for 5 miles Ring Centered at 31.672094,-81.414054



# EJScreen Environmental and Socioeconomic Indicators Data

SELECTED VARIABLES	VALUE	STATE AVERAGE	PERCENTILE IN STATE	USA AVERAGE	PERCENTILE IN USA
<b>POLLUTION AND SOURCES</b>					
Particulate Matter ( $\mu\text{g}/\text{m}^3$ )	8.09	9.61	3	8.08	47
Ozone (ppb)	57.7	64	3	61.6	22
Diesel Particulate Matter ( $\mu\text{g}/\text{m}^3$ )	0.115	0.277	18	0.261	21
Air Toxics Cancer Risk* (lifetime risk per million)	30	35	2	25	52
Air Toxics Respiratory HI*	0.37	0.44	0	0.31	31
Toxic Releases to Air	4,000	1,600	95	4,600	83
Traffic Proximity (daily traffic count/distance to road)	17	110	28	210	22
Lead Paint (% Pre-1960 Housing)	0.078	0.14	54	0.3	31
Superfund Proximity (site count/km distance)	0.02	0.066	32	0.13	18
RMP Facility Proximity (facility count/km distance)	0.5	0.38	79	0.43	76
Hazardous Waste Proximity (facility count/km distance)	0.31	0.45	67	1.9	43
Underground Storage Tanks (count/km <sup>2</sup> )	0.096	2.3	20	3.9	28
Wastewater Discharge (toxicity-weighted concentration/m distance)	0.018	0.18	87	22	72
<b>SOCIOECONOMIC INDICATORS</b>					
Demographic Index	54%	41%	69	35%	78
Supplemental Demographic Index	20%	15%	77	14%	79
People of Color	65%	48%	67	39%	75
Low Income	43%	34%	66	31%	73
Unemployment Rate	16%	6%	91	6%	92
Limited English Speaking Households	0%	3%	70	5%	57
Less Than High School Education	21%	12%	80	12%	82
Under Age 5	2%	6%	26	6%	24
Over Age 64	31%	15%	92	17%	90
Low Life Expectancy	21%	21%	54	20%	70

\*Diesel particulate matter, air toxics cancer risk, and air toxics respiratory hazard index are from the EPA's Air Toxics Data Update, which is the Agency's ongoing, comprehensive evaluation of air toxics in the United States. This effort aims to prioritize air toxics, emission sources, and locations of interest for further study. It is important to remember that the air toxics data presented here provide broad estimates of health risks over geographic areas of the country, not definitive risks to specific individuals or locations. Cancer risks and hazard indices from the Air Toxics Data Update are reported to one significant figure and any additional significant figures here are due to rounding. More information on the Air Toxics Data Update can be found at: <https://www.epa.gov/haps/air-toxics-data-update>.

## Sites reporting to EPA within defined area:

Superfund .....	0
Hazardous Waste, Treatment, Storage, and Disposal Facilities .....	0
Water Dischargers .....	12
Air Pollution .....	3
Brownfields .....	0
Toxic Release Inventory .....	1

## Other community features within defined area:

Schools .....	0
Hospitals .....	0
Places of Worship .....	9

## Other environmental data:

Air Non-attainment .....	No
Impaired Waters .....	Yes

Selected location contains American Indian Reservation Lands* .....	No
Selected location contains a "Justice40 (CEJST)" disadvantaged community .....	Yes
Selected location contains an EPA IRA disadvantaged community .....	Yes

Report for 5 miles Ring Centered at 31.672094, -81.414054

# EJScreen Environmental and Socioeconomic Indicators Data

HEALTH INDICATORS					
INDICATOR	HEALTH VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Low Life Expectancy	21%	21%	54	20%	70
Heart Disease	8.4	6.1	88	6.1	88
Asthma	11.6	10	85	10	86
Cancer	6.4	5.5	75	6.1	54
Persons with Disabilities	27.6%	13.1%	98	13.4%	97

CLIMATE INDICATORS					
INDICATOR	HEALTH VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Flood Risk	26%	9%	96	12%	89
Wildfire Risk	15%	4%	93	14%	82

CRITICAL SERVICE GAPS					
INDICATOR	HEALTH VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Broadband Internet	33%	15%	87	14%	91
Lack of Health Insurance	15%	13%	62	9%	84
Housing Burden	No	N/A	N/A	N/A	N/A
Transportation Access	Yes	N/A	N/A	N/A	N/A
Food Desert	No	N/A	N/A	N/A	N/A

Footnotes

Report for 5 miles Ring Centered at 31.672094,-81.414054