

Overarching Recommendations for Cumulative Impact Assessments

ABOUT THIS SUMMARY

In October 2024, the National Environmental Justice Advisory Council Cumulative Impacts Workgroup published a report of recommendations to the EPA, [Reducing Cumulative and Disproportionate Impacts and Burdens in Environmental Justice Communities](#). To improve environmental health protections by reaching a larger audience, the Union of Concerned Scientists prepared eight fact sheets summarizing the workgroup’s recommendations. Natalie Gehred, a doctoral student in molecular biology at the University of California, Los Angeles, and Dr. Kristie Ellickson, a senior scientist at the Union of Concerned Scientists, prepared the summaries.

This document summarizes Theme 1 of the report: [The EPA should use cumulative impact assessments to reduce disproportionate exposures and impacts in overburdened communities](#).

For additional summaries, please visit act.ucsusa.org/NEJAC. For the full report, please visit act.ucsusa.org/NEJAC-report.

The National Environmental Justice Advisory Council (NEJAC) recommends four principles for employing disproportionate cumulative impact assessments.

1. Decrease disproportionate cumulative burdens.

According to the principles of distributive justice (the fair distribution of burdens and benefits) and restorative justice (repairing harm), no group should bear a disproportionate burden of the cumulative impacts of environmental pollution. Therefore, regulators should assess how decisions regarding chemicals, pollutants, proposed projects, and programs affect the spatial or demographic distribution of cumulative environmental health impacts.

Doing so is supported by an established body of scholarship on the science of differential burden (NASEM 2024). Indeed, in the Biden administration, the Environmental Protection Agency (EPA) acknowledged this in its 2022–2026 Strategic Plan by adding a fourth guiding principle—“advance justice and equity”—to the agency’s existing guiding principles of “follow the science,” “follow the law,” and “be transparent” (EPA 2022a).

Legal precedents for environmental regulations to address disproportionate cumulative impacts at the federal level include:

- The Civil Rights Act;
- Presidential Executive Orders 12898 (1994), 13985 (2021), and 14091 (2023); and
- Documents of the EPA’s Office of General Council detailing the agency’s authority to consider and address disproportionate and cumulative impacts (EPA 2022b; EPA 2023a).

Justice requires marshaling all authority—including the Civil Rights Act and any other applicable anti-discriminatory laws—to redress cumulative, disproportionate impacts as contextually appropriate and in a manner consistent with applicable legal requirements. Because communities experiencing disproportionate burdens overwhelmingly comprise people of color, Indigenous people, and low-income households, delaying such efforts means that environmental harm will continue (Center for Sustainable Systems 2024). Moreover, regulators must not treat cumulative impact assessments, however rigorous, as a substitute for robust compliance and enforcement, which some agencies have done when faced with legal challenges (Cullinane 2024; EPA 2023b). Cumulative impact assessments are a means, not an end, and they certainly do not replace the pursuit of civil rights violations.

2. Expand regulatory frameworks, analyses, and decisionmaking beyond traditional risk assessments.

Environmental regulation currently relies on traditional risk assessment, a science-based method for understanding the potential human health impacts of releasing a single chemical or pollutant. However, traditional risk assessment is based on controlled exposures to healthy animals or a working population, an approach that embeds a bias toward protecting healthy adults who experience no other stressors or burdens (Kuzmach and McGaughy 1975; EPA 2024a). Many environmental health and justice researchers and advocates find that risk assessment is overly narrow in scope, unreflective of overburdened communities of color and low-income communities, and not protective of human health (Prasad and Murphy 2016). Nor does traditional risk assessment account for the physical, social, and emotional burdens from cumulative impacts or for disproportionate burdens among communities.

The EPA’s 2003 Framework for Cumulative Risk Assessment sought to identify and rectify some of the limitations of traditional risk assessment, proposing ways to integrate chemical and nonchemical stressors using qualitative and quantitative data (EPA 2003). However, this framework emphasized biological sensitivity and toxicology; it did not address how people’s susceptibility is shaped by social determinants of health, the damaging and complex impacts of racism and colonialism, and disproportionate effects on certain communities. In 2024, the EPA’s Interim Framework on Cumulative Impacts outlined gaps in the environmental regulatory process and laid out key goals and concepts that largely align with the NEJAC recommendations (EPA 2024b; NEJAC 2024).

3. Take historic burdens seriously by assessing the cumulative impacts of past projects and programs.

Examining only current or proposed future exposures does not acknowledge that communities of color and low-income communities have experienced historical and ongoing disproportionate exposures and impacts. Justice requires that regulators evaluate the repercussions of past projects and programs when considering the full, cumulative array of hazards and social determinants of health that contribute to health disparities.

To fully assess cumulative impacts, regulators need to look anew at the uncertainty factors currently used for assessments and modify their practice to protect historically disadvantaged populations. Additionally, it will be necessary to adopt methods that factor in qualitative data, including lived experience, local community science, existing health conditions, and other data that traditional risk assessment often dismisses.

4. To reduce harm, prioritize precaution over a high burden of proof.

In the face of scientific uncertainty, justice requires actions and programs to protect human health and the environment. Traditional risk assessment places the burden on regulators to prove that there will be human exposure and that a chemical or project is harmful. When evaluating cumulative impact assessments, the NEJAC recommends a precaution-based approach that instead places the burden of proof on the regulated actor to determine that the cumulative impacts of a chemical or project are safe before the chemical or project can be approved. This approach dictates that when there is uncertainty—which is always—regulators should act with precaution to provide the highest levels of protection possible for human health and the environment. It is important to take a less timid approach to uncertainty, one that is less biased toward the status quo and that does not privilege the economic interests of polluting companies over the collective well-being.

Cumulative impact assessments must be developed and used to inform regulations; they should not be conducted solely for research purposes. In some instances, such as the development of National Ambient Air Quality Standards, the Clean Air Act of 1963 already requires the EPA to use precaution in setting regulatory standards, as evidenced by the phrase “an ample or adequate margin of safety.” To address this requirement, the agency should explore how cumulative impact assessments might integrate precaution more fully. If there is no possibility that permitting conditions or denials will stem from a cumulative impact assessments, communities will be reluctant to devote scarce time and resources to participating in them, and community trust in regulatory bodies may erode.

The point of disproportionate and cumulative impact assessment is to make regulatory decisions that improve material conditions in overburdened and vulnerable communities and reduce inequalities across communities. A first step in this process is to incorporate cumulative impacts mapping and screening tools into decisionmaking and to act with precaution using all existing authority and tools.

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