

# Principles to Guide the Practice of Cumulative Impact Assessment

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### 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 4 of the report: [EPA should determine and communicate a set of principles to guide the practice of cumulative impact assessment](#).*

*For additional summaries, please visit [act.ucusa.org/NEJAC](https://act.ucusa.org/NEJAC). For the full report, please visit [act.ucsusa.org/NEJAC-report](https://act.ucsusa.org/NEJAC-report).*

Regulators must transparently articulate principles of cumulative impact assessment to guide the development, operationalization, and implementation of cumulative impacts guidelines, methods, and decisionmaking criteria. These principles will serve as guardrails around the overarching “what and how” of cumulative impact assessments.

### **Align cumulative impact assessments with the principles of equity and justice.**

Considering different types of justice and equity can frame and advance cumulative impacts work. For example:

- Distributional justice requires the use of cumulative impact assessments to reduce disproportionate impacts and burdens.
- To reduce historic harms, restorative justice requires that cumulative impact assessments have a bias for action.
- Substantive equity requires cumulative impact assessments to include and address such issues as discrimination, marginalization, and unequal access to rights, goods, and services (Barnard and Hepple 2001).
- Procedural equity requires cumulative impacts work to incorporate inclusive, accessible, and influential community representation in decisionmaking processes, while also limiting procedural burden.

## **Develop criteria for cumulative impact assessments and acknowledge where assessments and decisions fall short.**

In November 2024, the EPA released an Interim Framework for Advancing Consideration of Cumulative Impacts, laying out agencywide considerations for each phase of a cumulative impact assessment, including meaningful community engagement and fit-for-purpose practices (EPA 2024a). This document describes activities and program practices, including components of cumulative impacts, as well as guidance on overall framing.

Given the anticipated lack of continued federal guidance, states, local governments, and communities must determine criteria and standards for cumulative impact assessments (White House 2025). They must ensure the incorporation of such components as multiple pollutants, sources, environmental media, social adversity, and existing health conditions (Tishman Center for Environment and Design 2022; National Caucus of Environmental Legislators 2024). States and communities have historically been laboratories for these policies and method development, and they will continue to do so in moving this work forward (Lee 2021).

## **Ensure cumulative impact assessments inform regulatory decisionmaking.**

The EPA must continue to ensure that each assessment and decision is as comprehensive, or cumulative, as its regulatory authority allows and requires (EPA 2022; EPA 2023). US environmental policy and the purpose of foundational environmental laws arguably provide both explicit and implicit direction to assess and address cumulative impacts. These bases for direction include the National Environmental Policy Act, the Clean Air Act, the Clean Water Act, and the Solid Waste Disposal Act. While only a few federal regulatory decisions use cumulative impact assessments, decisions occasionally consider them (EPA 2024b; EPA 2024c). This area of work is growing in state and local governments, and such examples must continue increasing to facilitate longstanding reductions of stressors in overburdened communities.

## **Acknowledge community harm in cumulative impacts work.**

Pivoting to a more connected, more comprehensive regulatory system requires acknowledging that the current system has gaps, limitations, and inadequacies. Many people who enter the field of environmental protection do so with a sense of purpose, and they work long hours and navigate many competing priorities, although often without adequate leadership, funding, or staffing. Nonetheless, progress means figuring out what improvements must be made without overwhelming people in the field with the enormity of the task and without making them feel defensive.

Regulatory bodies, concerned with reducing the susceptibility of decisions to litigation, may view cumulative impact assessments—particularly the inclusion of qualitative data—with skepticism. However, when conducted robustly and with extensive community engagement, cumulative impact assessments can actually strengthen a regulator’s case for rulemaking that is more protective as well as for placing conditions on permits or denying them altogether. In such cases, the assessments add to the evidence of historic, current, and future harm to communities overburdened by chemical and nonchemical stressors.

## Build upon established processes and practices to develop cumulative impact assessments.

Decades of research, practice, and methods development in environmental impact assessments and public health practice have produced the process known as the Health Impact Assessment (HIA). An HIA identifies how a project, policy, or program might influence health. An HIA combines procedures, methods, and tools to systematically judge the potential effects (sometimes including unintended effects) of a proposed project on the health of a population and the distribution of those effects within the population. An HIA also yields recommendations to enhance a project’s health benefits and mitigate potential harms (Society of Practitioners of Health Impact Assessment n.d.).

The EPA’s draft cumulative impacts framework proposes that cumulative impact assessments follow phases that resemble those of HIAs, reducing it to four parts: initiation; scoping and problem formulation; assessment; and informing decisions. The NEJAC suggests an additional element: trust building. Cumulative impact assessment should be a deeper, more robust form of an HIA, and it is important to consider who benefits from the decisions and action plans and who bears most of the burdens and negative impacts (Table 1).

Table 1. Cumulative Impact Phases and Recommendations Summary

HIA Phase	Similar Proposed CIA Phase	NEJAC Recommendations for Inclusion
	Trust building	<ul style="list-style-type: none"> <li>Trust happens at the speed of relationships.</li> <li>Work with individuals and organizations who have already built trust in their communities.</li> <li>Communities should choose their own representatives.</li> <li>Follow up assessment with reporting back to the community.</li> <li>Communicate with plain language.</li> </ul>
Screening	Initiation	<ul style="list-style-type: none"> <li>Be data-driven following scientific integrity policy.</li> <li>Use indices and tools that prioritize overburdened communities.</li> <li>Include off-ramps only when they are data-driven and transparent.</li> <li>Resources may be better spent on assessment and resulting action than on the process of “screening out.”</li> </ul>
Scoping	Scoping and Problem Formulation	<ul style="list-style-type: none"> <li>Complete the work in a transparent and publicly engaged process.</li> </ul>

		<ul style="list-style-type: none"> <li>• Do not allow case-by-case negotiation with permit applicants on which stressors and burdens to include.</li> <li>• Apply evaluation of the same stressors and burdens to each permit applicant.</li> <li>• Consider scope using common health endpoints or other ways of connecting data and impacts.</li> </ul>
Assessment	Assessment	<ul style="list-style-type: none"> <li>• The work must be integrated, comprehensive to the extent of the law and related decisions, and reflect those most impacted by the decision.</li> <li>• Clearly define each expected element or step.</li> <li>• Consider: <ul style="list-style-type: none"> <li>○ Multiple pollutants or harmful chemicals;</li> <li>○ Multiple pathways of exposure;</li> <li>○ Multiple sources of stressors;</li> <li>○ Intergenerational impacts;</li> <li>○ Combined impacts across non-chemical stressors;</li> <li>○ External and systemic factors that make a community more susceptible to harm;</li> <li>○ Intrinsic susceptibility (age, existing disease, genetics); and</li> <li>○ Existing pollution and health conditions and burdens, including mental health.</li> <li>○ Include community members in the interpretation of the assessment.</li> </ul> </li> </ul>
Recommendations	Informing Decisions	<ul style="list-style-type: none"> <li>• Be biased toward action.</li> <li>• Influence decisions about pollution cleanup.</li> <li>• Determine the need for pollution control, limits, conditions, and denials.</li> </ul>
Reporting and Monitoring		<ul style="list-style-type: none"> <li>• Follow up with an evaluation and a cycle of continuous improvement.</li> <li>• Make monitoring processes and results transparent.</li> <li>• Engage those impacted by the decision in evaluation.</li> </ul>

## References

- Barnard, Catherine, and Bob Hepple. 2001. "Substantive Equity." *Cambridge Law Journal* 59 (3). <https://doi.org/10.1017/S0008197300000246>
- Clean Air Act. 42 U.S.C. §7401 et seq. (1963).
- Clean Water Act. 33 U.S.C. §1251 et seq. (1972).
- EPA (Environmental Protection Agency). 2022. "Environmental Justice Legal Tools." <https://www.epa.gov/ogc/epa-legal-tools-advance-environmental-justice>
- EPA (Environmental Protection Agency). 2023. EPA Legal Tools to Advance Environmental Justice: Cumulative Impacts Addendum. Washington, DC: EPA Office of General Counsel. <https://www.epa.gov/system/files/documents/2022-12/bh508-Cumulative%20Impacts%20Addendum%20Final%202022-11-28.pdf>
- EPA (Environmental Protection Agency). 2024a. "Interim Framework for Advancing Consideration of Cumulative Impacts." Washington, DC: EPA. November. <https://www.epa.gov/cumulative-impacts/interim-framework-advancing-consideration-cumulative-impacts>
- EPA (Environmental Protection Agency). 2024b. Risk Management Program Rule. 42 U.S.C. 7412(r), 7601(a)(1), 7661-7661f. amended 2024.
- EPA (Environmental Protection Agency). 2024c. Underground Injection Control Program. Aquifer Exemption Record of Decision. <https://www.epa.gov/system/files/documents/2024-04/marlin-aerod-final.pdf>
- Lee, Charles. 2021. "Another Game Changer in the Making? Lessons from States Advancing Environmental Justice Through Mapping and Cumulative Impact Strategies." Washington, DC: Environmental Law Institute. <https://www.elr.info/sites/default/files/article/2021/07/51.10676.pdf>
- National Caucus of Environmental Legislators. 2024. "Cumulative Impacts." <https://www.ncelenviro.org/issue/cumulative-impacts/#:~:text=Cumulative%20impacts%20occur%20when%20multiple,environmental%2C%20and%20public%20health%20factors>
- National Environmental Policy Act. 42 U.S.C. §4321 et seq. (1969).
- Resource Conservation and Recovery Act. 42 U.S.C §6901 et seq. (1976).
- Society of Practitioners of Health Impact Assessment. n.d. "What are HIA and HIAP?" Accessed January 20, 2025. <https://hiasociety.org/What-are-HIA-HiAP>
- Tishman Center for Environment and Design. 2022. "New Research: Understanding the Evolution of 'Cumulative Impacts: Definitions and Policies in the U.S.'" <https://www.tishmancenter.org/blog/new-research-understanding-the-evolution-of-cumulative-impacts-definitions-and-policies-in-the-us>
- White House. 2025. "Initial Rescissions of Harmful Executive Orders and Actions." Presidential Actions. <https://www.whitehouse.gov/presidential-actions/2025/01/initial-rescissions-of-harmful-executive-orders-and-actions>