

NEJAC RECOMMENDATIONS SUMMARY

A Road Map for Accelerating Innovative Approaches to Cumulative Impacts Implementation

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 3 of the report: **EPA should accelerate the progress of innovative approaches to cumulative impacts implementation.***

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

Public and transparent progress on cumulative impacts programs and strategies requires bold and expedited communication, development, and implementation. Regulators can institute certain activities immediately even as they embark on long-term actions that require culture change.

Short-Term Approaches

Incentivize the expansion of cumulative impact programs.

Regulators should develop and provide:

- Incentive programs for industrial proposals and activities that address disproportionate cumulative impacts by going beyond existing requirements;
- Funding opportunities beyond research that include cumulative impact assessments and results as eligible activities;
- Programs that incentivize community groups to share their innovations; and

- Professional awards to highlight especially useful work.

Expand and connect pollution monitoring to improve multisource assessments.

Because industrial activity clusters in overburdened communities, regional pollution monitoring and reporting schemes may miss local hotspots (Cushing et al. 2023; Tessum et al. 2021). To better operationalize cumulative impacts and integrate them into monitoring activities, the NEJAC recommends these actions:

- Increase investment in and “hyper-local” placement of regulatory-grade air monitors to identify local pollutant hotspots.
- Mandate the placement of some portion of network monitors to address cumulative impacts and issues related to environmental justice (EPA 2007).
- Consider direct and cross-media impacts from multiple pollutants and environmental media when assessing monitor placement.
- Couple ambient, source-focused, and release-point monitoring for polluting facilities (Goho 2023).

In addition to filling a necessary regulatory gap, monitors can serve community-led action..

Enhance polluter accountability and transparency.

Data on air emissions and effluent discharges should be provided to communities in real time via a mobile app, with information on source locations, compliance, and types of pollutants (EPA n.d.). To provide full accountability, this system should be coupled with automated “push notifications” when a facility is out of compliance, and it should include a public record of actions taken to remedy violations. Similar apps for environmental compliance and pollution reduction have been fully operational and successful outside the United States (Institute of Public and Environmental Affairs 2014).

Expand multisource standard attainment methods to incorporate multiple pollutants and advance cumulative impacts practice.

States implement processes to look at whole environmental systems to inform the management of pollutant levels, particularly to keep those levels within standards. Under the 1963 Clean Air Act and 1972 Clean Water Act, the EPA determines how states can maintain standards for water pollutants (Total Maximum Daily Load—TMDL) and air pollutants (State Implementation Plans—SIPs) using assessments of multiple sources generally for a single pollutant at a time. If a standard is not being met, the EPA or states must identify which pollutant sources need to be decreased.

To better protect health, governmental agencies should include components of cumulative impact assessments in these multisource assessments. For example:

- Standard-setting should address local risks instead of regional averages.
- When single-pollutant standards are required, standards should account for both past and current stressors and burdens.

- Standards should account for both point and non-point sources, including cross-media and multimedia contributions.
- Health endpoints should trigger standard attainment assessments. Just as aquatic-life impacts trigger TMDLs, elevated adverse health conditions (e.g., elevated asthma rates) could trigger updated SIPs.
- Non-chemical stressors that can increase pollutant levels and worsen health impacts (e.g., heat) should be used to inform the extent to which sources should be reduced or eliminated (EPA 2020).
- To account for preexisting health burdens, clean-up efforts should require pollutant reductions to a threshold rather than by percent reductions.
- A matrix approach, in which disparate data are summarized into columns and rows for comparisons, should be implemented for decisionmaking criteria (NEJAC 2024; CalEPA 2013; Saha, Bullard, and Powers 2024).

Apply the precautionary principle and presumptive approach to permitting.

With a presumptive approach to permitting, regulators should presume that if one facility requires a certain level of control, similar facilities will require the same level of control. Accordingly, pollution-control upgrades could be required more broadly rather than remain based on analyses of impacts for each individual source or facility. The EPA's air-permitting framework, Prevention of Significant Deterioration, is an example of a presumptive approach to permitting. It could be expanded to a multiple-pollutant and stressor approach that does not limit air regulatory agencies from carefully evaluating the impacts of multiple pollutants and sources in a permit decision (CFR 2024).

Use all regulatory authority to address the cumulative impacts of risk drivers as a group.

In 2019, EPA's AirToxScreen indicated that risk drivers were ethylene oxide, formaldehyde, carbon tetrachloride, benzene, and acetaldehyde (EPA 2024). Similar estimations of risk drivers in water and land exist. Regulators should prioritize reducing or eliminating these risks as a group by:

- Prioritizing research on synergistic interactions of these chemicals.
- Incorporating any evidence of interactions of these chemicals into regulations.
- Ensuring rulemaking involving these chemicals is informed by multi-source assessments and is not limited to individual facilities and types of facilities.
- Ensuring decision-making thresholds include existing health burdens and impacts from past exposures to these risk drivers.

Use existing health condition data to inform assessments and cleanup requirements regardless of cause.

To remain credible, cumulative impact assessments and cleanup thresholds must consider existing health conditions, especially when there are disparities (Abrams et al. 2013). For example, while traditional risk assessment may report a probability of increased cancer risk in

a community, an existing elevated cancer risk indicates a past burden of exposure that should be factored into the assessment.

Likewise, existing health conditions must inform cleanup requirements. A traditional remediation approach may require reducing a pollutant to a level that would prevent greater-than-expected increases in cancer rates associated with exposure. However, if an area already has statistically elevated rates of the same cancer, these data must be incorporated into the calculation. A community experiencing elevated cancer rates at baseline cannot have a safe level of exposure to carcinogenic pollutants.

Incorporate a cumulative impacts modification factor into risk-based screening levels.

The EPA's Regional Screening Levels for Chemical Contaminants at Superfund Sites provide comparison values for residential, commercial, and industrial exposures to soil, air, and drinking water (EPA 2024b). These are calculated using the latest toxicity values, exposure assumptions, and physical/chemical properties. Some states also provide their own screening levels (e.g., the Texas Risk Reduction Rules). Because these tools provide early guidance to regulators and stakeholders, regulatory agencies should apply modification factors to account for exposures to intentional and unintentional mixtures (Treu et al. 2024).

Ensure that risk evaluations under the Toxics Substance Control Act (TSCA) truly reflect potentially exposed or susceptible subpopulations.

The EPA is required to identify and eliminate unreasonable risks to “potentially exposed or susceptible subpopulations” in TSCA risk evaluations. This means considering the aggregate and cumulative risks of chemicals across their lifecycles. The EPA must include factors that make people more susceptible to harm, such as existing health conditions, material hardship, racial discrimination, and lack of access to adequate healthcare, housing, or healthy foods. This is particularly important for chemicals that are highly persistent, bioaccumulative, and mobile in the environment (e.g., PFAS, PCBs, mercury, and dioxins).

Long-Term Approaches

Publicly integrate cumulative impacts across regulatory offices, programs, assessments, and decisionmaking.

Regulators should continue conducting cumulative impact assessments and integrating cumulative impacts into all aspects of their work, whether they are the lead implementers or are supporting and providing technical assistance. Environmental regulatory agencies also need to communicate publicly about their cumulative impact initiatives to increase understanding in communities that are not fully engaged with their work, allowing for valuable community feedback (Executive Office of the President 2024).

Use existing cumulative impacts mapping tools, and develop new ones, for regulatory decisionmaking, not only for information or prioritization.

Results from existing cumulative impacts mapping tools should be used to set relevant comparison groups and make decisions related to cumulative impacts magnitudes and disparities. When a tool indicates a community is overburdened, regulatory agencies should

have already stated the actions they would take to reduce the burden. In other words, cumulative impact assessments must be biased for action.

Develop training on cumulative impacts and cumulative impact assessment.

States and local governments must develop and implement training on cumulative impacts to instill a “cumulative impacts mindset” throughout regulatory bodies. Moreover, training should bring together federal, state, local, and tribal governments for shared learning and to build cross-government communities of practice. This should establish the conditions for more consistent, systematic, and sustainable whole-of-government action to address cumulative impacts in collaboration with community leaders and advocates. Brief annual progress reports and updates to the community of practice would help ensure sustained advancement. Annual workshops could facilitate learning, promote innovation, and address challenges.

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