



Environmental Justice and Health Equity: Can Cumulative Impact Laws Help Address Environmental Health Disparities?

Can Cumulative Impact Laws Address Health Disparities?

Environmental Justice, Health Equity, and the
Methodological Choices That Determine Protection

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A 40-Year Mismatch Between Harm and Legal Tools

“For four decades, environmental justice advocates have confronted a fundamental mismatch between the nature of environmental injustice and the legal tools available to remedy it. The systematic concentration of pollution, hazardous facilities, and environmental health burdens in communities of color results cumulatively — through multiple polluting sources, inadequate infrastructure, historical disinvestment, chronic health vulnerabilities, and compounding social marginalization. Yet the legal frameworks advocates turned to conceptualized harm differently...” Sheila R. Foster, *After Retreat*, *Harvard Environmental Law Review* (forthcoming)

Three prior legal frameworks each fell short:

Single-pollutant regulation

Structurally incapable of addressing cumulative, interacting stressors; regulated each chemical in isolation.

NEPA cumulative effects

Required analysis but no substantive duty to deny — agencies could document harm without remedying it.

Title VI civil rights enforcement

Sandoval (2001) closed federal courts to disparate impact claims; administrative complaints went unresolved for years.

Sheila R. Foster, After Retreat: Environmental Justice's Legal and Methodological Evolution, Harvard Environmental Law Review (forthcoming)

Sheila R Foster & Chisom Onukwugha, Environmental and Climate Justice Through State Cumulative Impact Laws, DePaul Law Review (forthcoming)

An Unprecedented Wave: Eight States Have Codified Cumulative Impact Laws

8

states
enacted

2015	California	CalEnviroScreen — advisory only; no binding rule
2020	New Jersey	Mandatory permit denial (rules adopted 2023)
2021	Colorado	Law enacted 2021; ColoScreen tool adopted 2022
2022	Vermont	6% POC threshold included — discretionary authority
2023	New York	45 indicators; redlining history; mandatory denial (rules pending)
2023	Connecticut	Composite screening tool — discretionary
2024	Massachusetts	Air permits only — conditional denial at set thresholds
2023	Minnesota	Mandatory for specific high-polluting facility types

11 additional states have proposed legislation — federal enforcement retreat has accelerated state action

How These Laws Work: Two Distinct Functions

① Identification Function

Who qualifies as an overburdened community?

- Mapping tools & screening indices (CalEnviroScreen, EJMAP, NY DAC tool)
- 21–49 indicators across pollution, health, socioeconomic, and climate stressors
- Race / ethnicity as one qualifying criterion alongside income and language isolation (some tools race-neutral)
- Designates communities for enhanced regulatory review

② Decision-Making Function

What happens when a permit is sought in that community?

- Cumulative stressor comparison — not just the new facility evaluated in isolation
- Would this permit cause or increase cumulative burden beyond a defined threshold?
- NJ & NY: Mandatory permit denial if yes
- Remaining 6 states: Discretionary or advisory only

Race plays different roles in each function — this distinction drives the central methodological debate in these frameworks.

What Gets Measured: Stressor Categories Across State Frameworks

Pollution Burden



PM2.5, ozone, diesel, air toxics, traffic volume

Socioeconomic Factors



Poverty, income, housing burden, linguistic isolation

Environmental Effects



Proximity to Superfund, landfills, hazardous waste facilities

Climate Stressors



Urban heat, flood risk, wildfire smoke, sea level rise

Public Health Outcomes



Asthma ED rates, low birth weight, lead poisoning, cancer incidence

Energy Burden



% income on energy costs; proximity to fossil fuel infrastructure

Demographics / Race



% non-white; explicit qualifying threshold in NJ, VT, MN

The Central Methodological Question

What role should race play in identifying overburdened communities — and what are the public health consequences when it is removed?

Explicit Racial Threshold

NJ · NY · VT

- Race as a standalone qualifying criterion, alongside income and language
- Disjunctive 'or' structure: either dimension independently qualifies a community
- Higher epidemiological sensitivity — captures communities shaped by structural racism
- More accurately traces redlining legacies and historical discriminatory siting
- Greater legal exposure in post-SFFA environment

Race-Neutral Proxy Approach

CA · CO · CT · MA · MN

- Race inferred through correlated proxies: poverty, asthma rates, housing burden, economically distressed area
- Composite scoring aggregates stressors without naming race explicitly
- Lower sensitivity — may generate false negatives in communities whose burdens arise from structural racism
- Misses communities burdened through mechanisms income data cannot reconstruct
- More legally defensible — but may be less health-protective in practice

Eight Enacted Laws: Key Design Variations

State	Race in Identification?	Permit Authority	Indicators
New Jersey	Yes — 40% minority threshold (disjunctive)	Mandatory denial	26
New York	Yes — race, redlining, housing vacancy	Mandatory denial	45
Vermont	Yes — 6% POC threshold (disjunctive)	Discretionary	—
Minnesota	Yes — POC included in trigger radius	Mandatory (limited types)	26
Massachusetts	Included; no explicit percentage	Conditional (air only)	33
Colorado	Included as demographic modifier	Discretionary	35
Connecticut	Indirect via proxies only	Discretionary	—
California	Indirect via proxies only	Advisory — no binding rule	21

The Central Paradox

The design choices that make these frameworks more legally defensible — removing explicit racial thresholds — may make them less protective in practice. The communities most likely to fall through the gaps are exactly the ones these laws were built to serve.

Attribution advances faster than protection

- 1 Methodological capacity to document cumulative harm has consistently outpaced the legal mechanisms to remedy it — from NEPA through EJ mapping tools to state permitting frameworks.

False negatives in the most overburdened communities

- 2 Race-neutral proxy frameworks may miss communities whose burdens arise through race-specific historical land use patterns — redlining, discriminatory siting, selective environmental enforcement — that income data cannot reconstruct.

No epidemiological substitute for what is lost

- 3 Expanding stressor categories or improving data granularity may not fully compensate for reduced sensitivity in community identification when race is removed.

What Durable Protection Actually Requires

1 **Comparative, distributionally-oriented methodologies**

1

Not 'does this community exceed a health benchmark' but 'does it already bear more than comparable communities, and would this permit increase that disparity?' NJ and NY's stressor comparison models are the standard.

2 **Binding permit denial authority**

2

Without legal authority to deny, even the most sophisticated mapping (identification) tools underprotect. Only NJ and NY currently mandate denial. Attribution without enforcement is documentation without remedy.

3 **Health data infrastructure that captures actual vulnerabilities**

3

Most frameworks rely on available but lagging data. Maternal and child health, chronic conditions managed outside hospitals, and developmental indicators are often missing — exactly where environmental injustice manifests.

Complicating factor: Students for Fair Admissions (2023)



Post-SFFA pressure drives states toward race-neutral proxies when race-inclusive identification might be epidemiologically necessary. The constitutional constraint and the public health need are in direct tension.

State cumulative impact laws represent the most consequential development in environmental justice governance in decades.

But their protective capacity depends almost entirely on what the methodology can see.

In too many states, the communities who need the most protection are the ones most likely to fall through the gaps.

Sheila R. Foster | Columbia Climate School Columbia Law School

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