Environmental Justice In California: How We Arrived Here

Shankar Prasad

Office of Environmental Health Hazard Assessment

July 10, 2017

Acknowledgment

- Walker Wieland
- Andrew Slocombe
- Laura August
- Anna Smith

FUJI
2
S-400
2A

BNSF

MASTER PLATING

History of EJ in CA

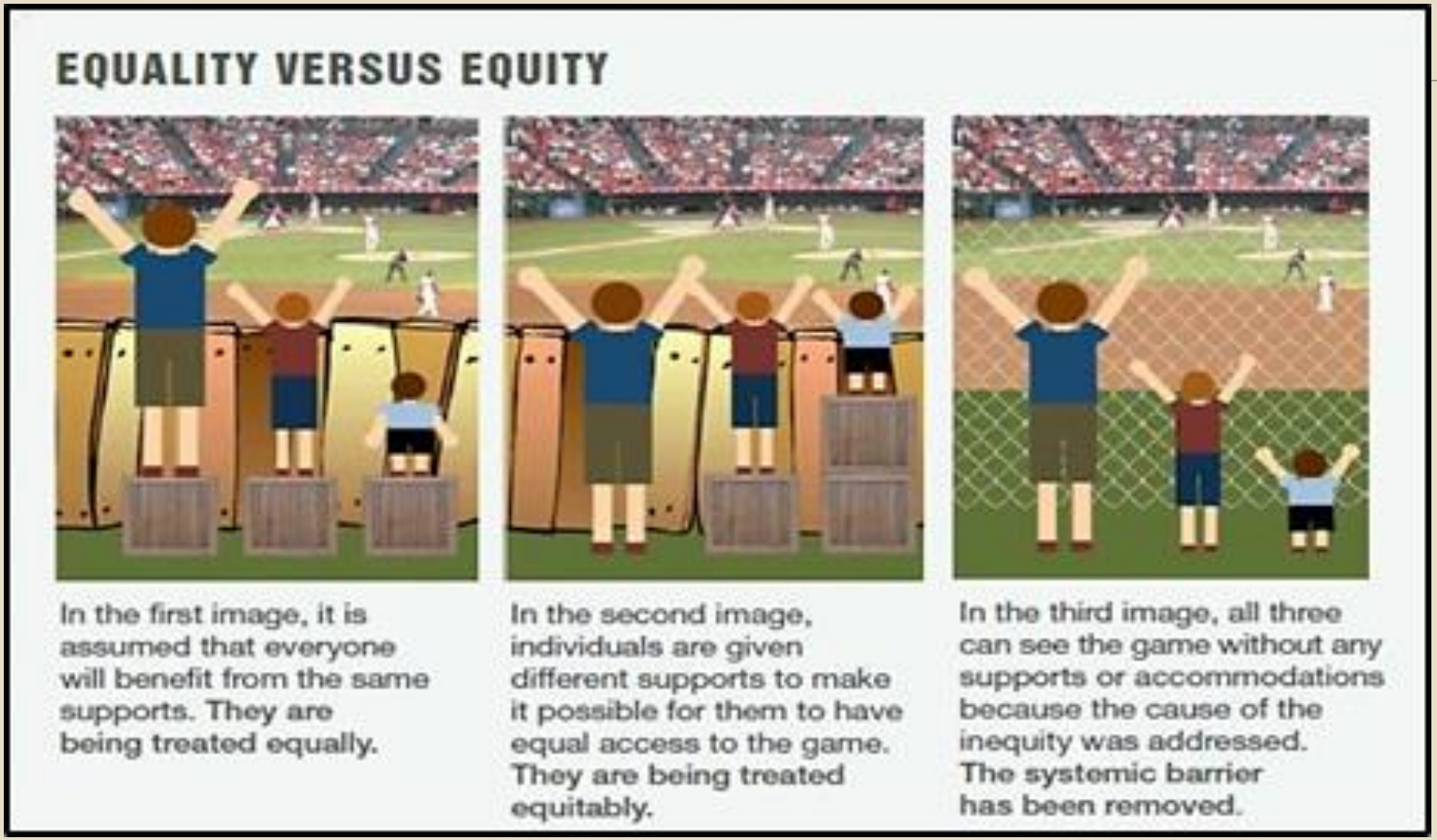
- Awareness – early – late 90s
- Initial Acknowledgment – early 2000
- EJ Policies and Actions ARB Dec 2001
- Cumulative Impacts – ARB / CalEPA 2004
- EJ Definition in Statute – 1999, First in US

Environmental Justice

Statutory definition of environmental justice

- "Environmental justice means the **fair** treatment of people of all races, cultures, and incomes with respect to the development, adoption, implementation and enforcement of environmental laws, regulations, and policies."
  - Gov. Code §65040.12(e)

- Question remains – What is Fair



Equality Fair/Equity Justice

Winning Battle Vs War -2001

"It shall be the ARB's policy to strengthen our outreach and education efforts in all communities, especially low-income and minority communities, so that all Californians can fully participate in our public processes and share in the air-quality benefits of our programs.“

Missed opportunity to get Penalty money

Cumulative Impacts

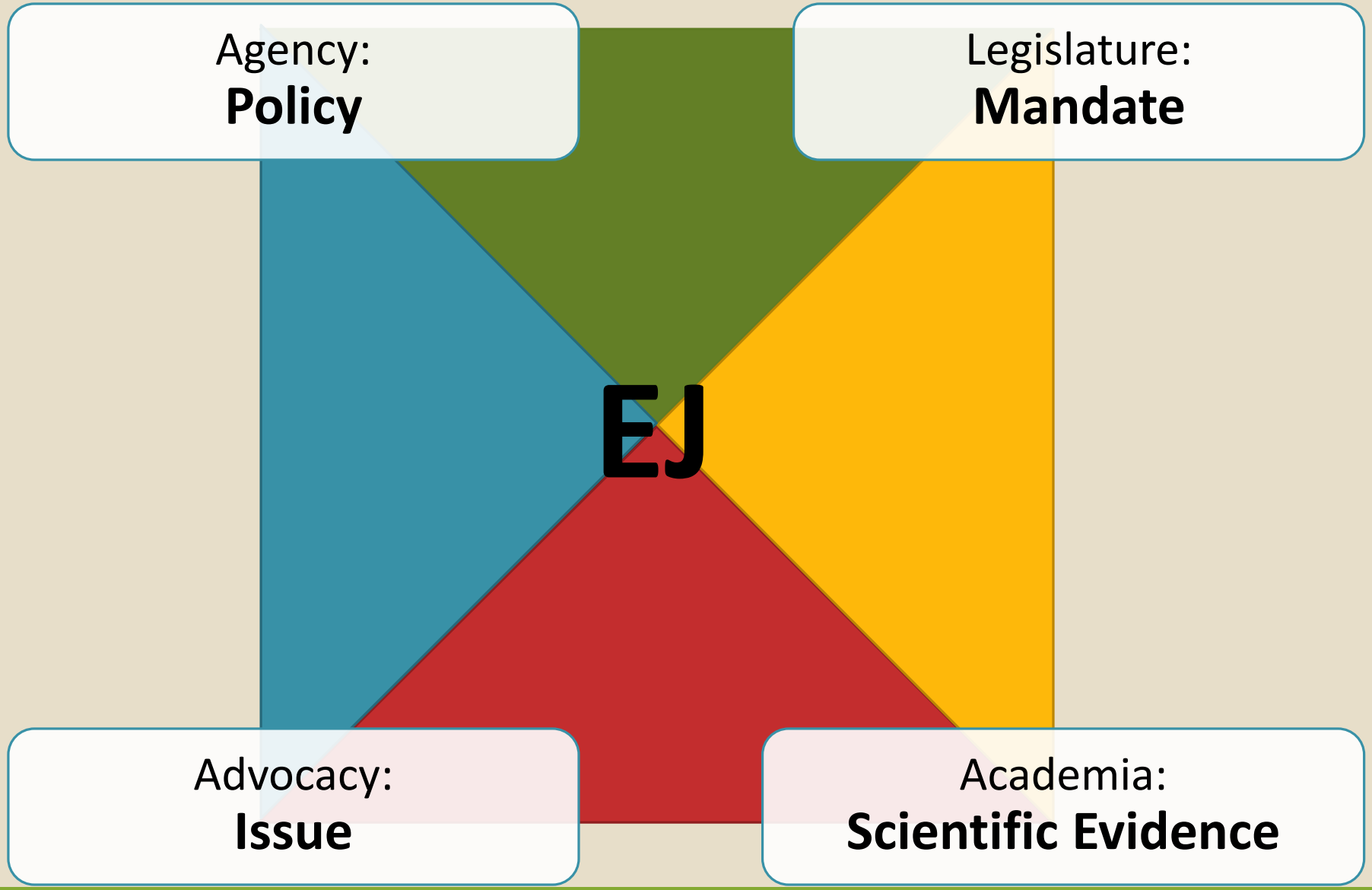
It shall be the ARB's policy to assess, consider, and reduce cumulative emissions, exposures, and health risks when developing and implementing our programs. (2001)

After 3 years, CalEPA (2004)

Cumulative impacts means exposures, public health or environmental effects from the combined emissions and discharges, in a geographic area ……

Critical Step: Risk to Impact Paradigm

EJ Progress under New Paradigm



Policy Vs. Mandate

- Leadership Intent & Action – Requirement
- Short-term – Long-term
- Easy to modify or cancel – not easy
- Accountability & Enforcement ??
- Challenge in the court ??
- > 25 laws related to EJ, not all explicit
- Bureaucracy – 2 Ms

Major Push for EJ in CA

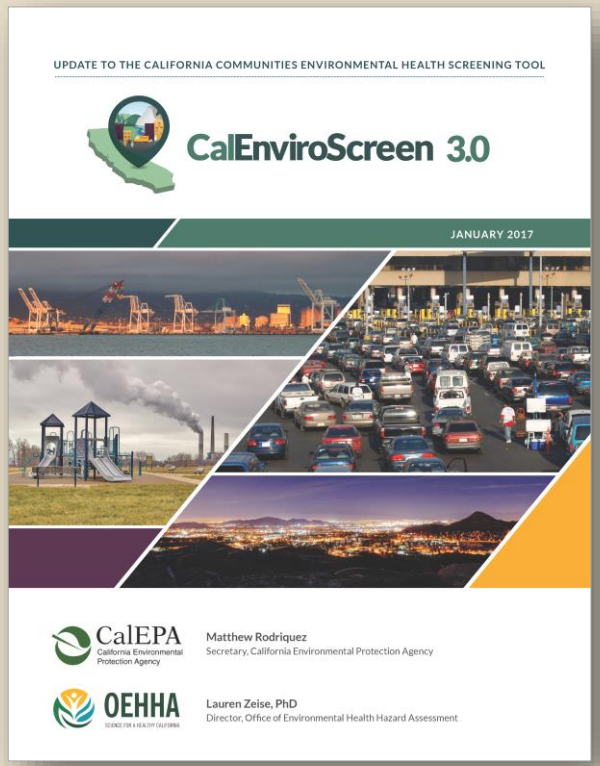
- AB -32 Global Warming Solutions Act 2006
- Cumulative Impacts
- Benefit Disadvantaged Communities
- No definition or directive
- Community Benefits Fund – 2007
- AB 1405 – 2008, Vetoed in 2009

Major Push for EJ in CA

- SB 535 – definition and directive
- Ambiguity – benefits
- Implementation & Accountability
- EJSM by USC - funded by ARB & CEC
- CalEnviroScreen – Dr. George Alexeeff
- Disadvantaged Communities - CalEPA
- DACs prioritization and funding from multiple agencies

CalEnviroScreen 3.0

Released January 2017



- Place based approach or Spatial analysis of California Communities resulting from Pollution Burden and Population Vulnerability.
- Relative Scale
- 20 indicators combined into a single ranked score.
- Census tract scale (~8,000).

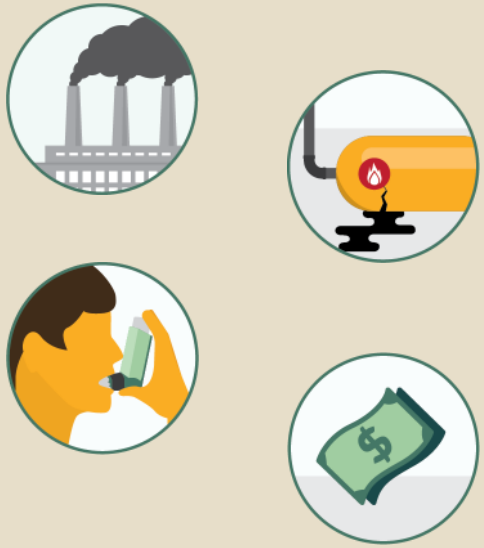
Available at: http://oehha.ca.gov/calenviroscreen/report/calenviroscreen-30

CalEnviroScreen Components

Exposures	*People have contact with pollution*
Environmental Effects	*Adverse environmental conditions caused by pollutants or sources*
Sensitive Populations	*Populations with biological traits (including health status) that may magnify the effects of pollutant exposures*
Socioeconomic Factors	*Community characteristics that result in increased vulnerability to pollutants*

Criteria for Indicator Selection

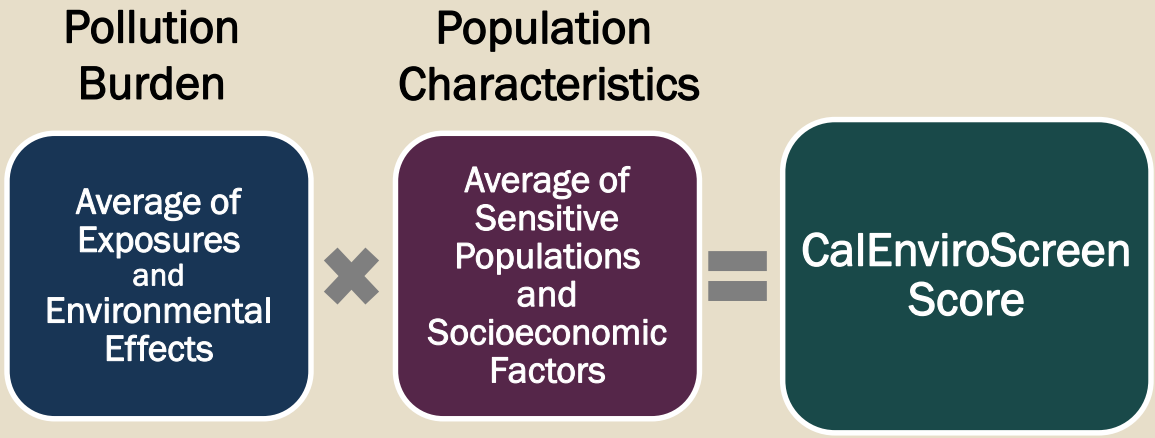
1. Contributes to understanding the component
   - Pollution indicators - health-relevant, widespread
   - Population indicators - linked to vulnerability to pollution
2. Publicly available
3. Location-based and detailed
4. Good scientific quality
   - e.g., covers the state, accurate, current



Indicators

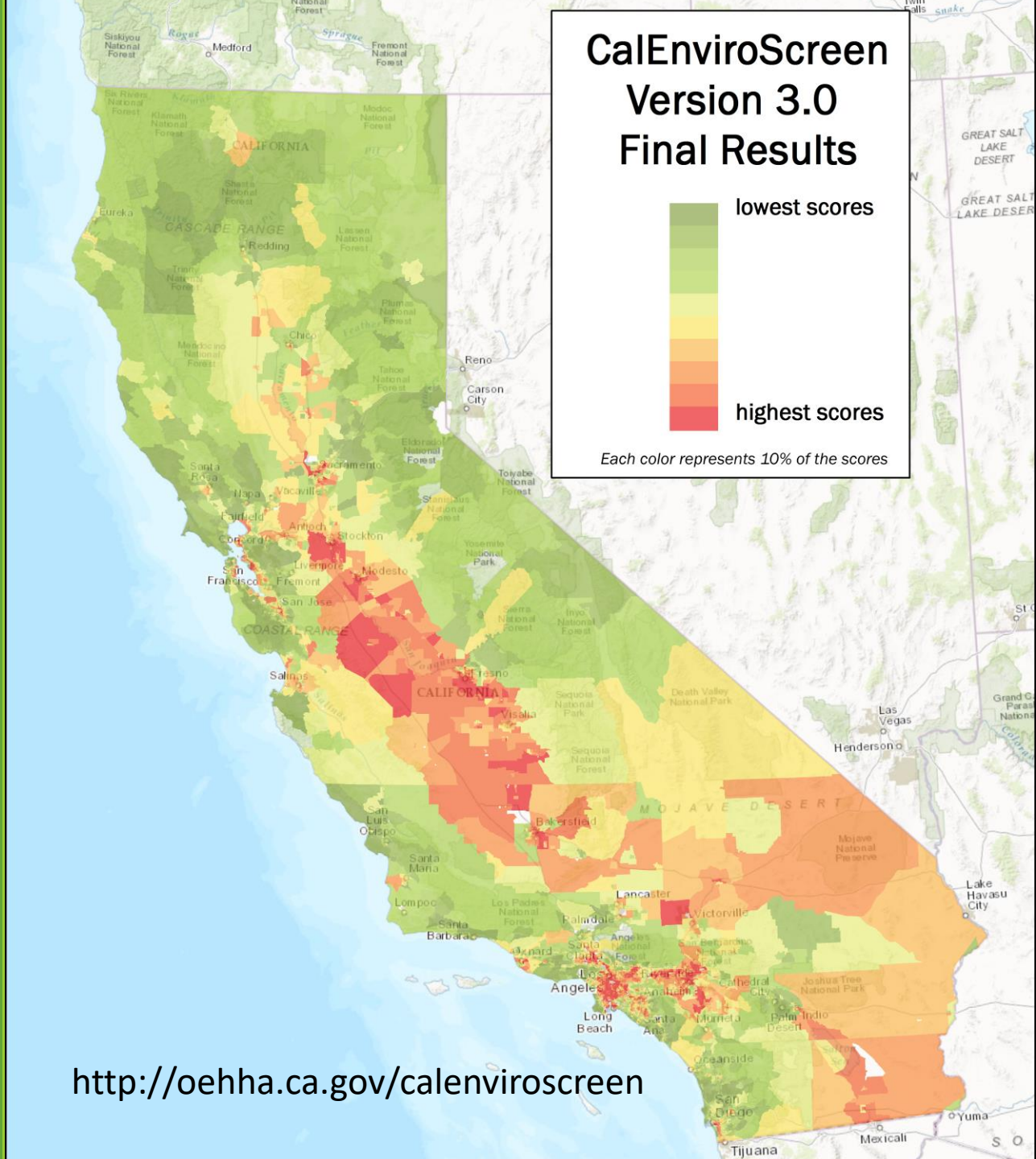
Pollution Burden		*Population Characteristics*	
Exposures	**Environmental Effects**	**Sensitive Populations**	**Socioeconomic Factors**
• PM 2.5 Concentrations • Ozone Concentrations • Diesel PM Emissions • Drinking water Contaminants • Pesticide Use • Toxic Releases from Facilities • Traffic Density	• Cleanup Sites • Groundwater Threats • Hazardous Waste Facilities and Generators • Impaired Water Bodies • Solid Waste Sites and Facilities	• Asthma • Cardiovascular Disease (NEW) • Low Birth Weight Infants	• Educational Attainment • Housing Burdened Low Income Households (NEW) • Linguistic Isolation • Poverty (2x) • Unemployment

Calculating CalEnviroScreen Scores



- CalEnviroScreen score is calculated by combining all indicator scores; allows for comparison of different areas
- Higher scores mean greater pollution burdens and population vulnerability.

3.0 Results


CalEnviroScreen
Version 3.0
Final Results
lowest scores
highest scores
Each color represents 10% of the scores
http://oehha.ca.gov/calenviroscreen

Analyses of CalEnviroScreen Data

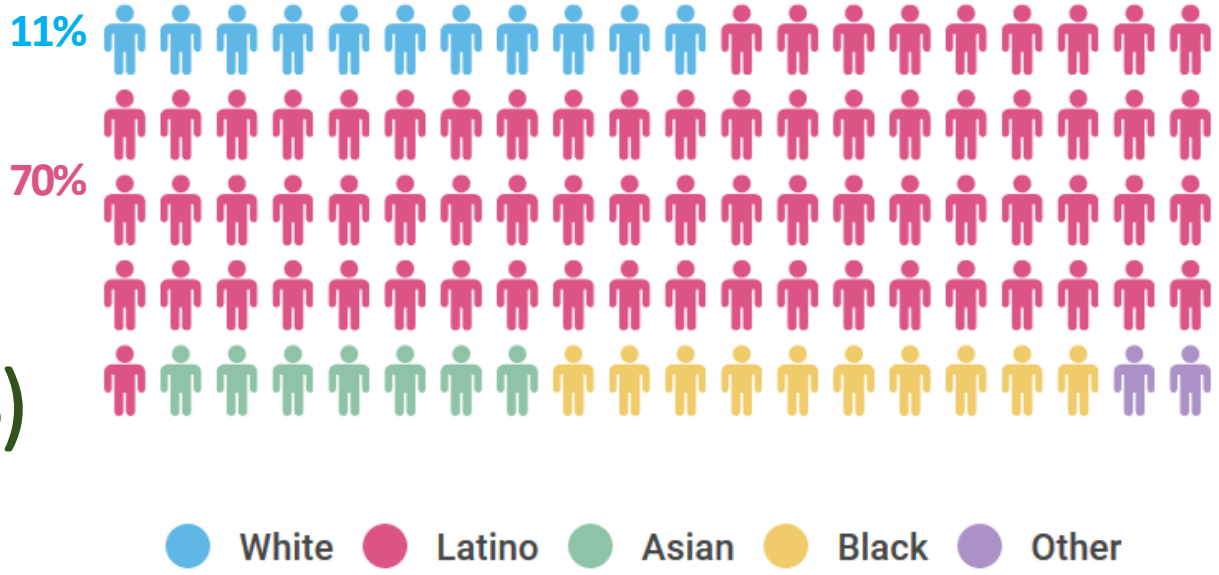
California Demographics

White 40%
Latino 38%
Asian 13%
Black 6%
Other 3%

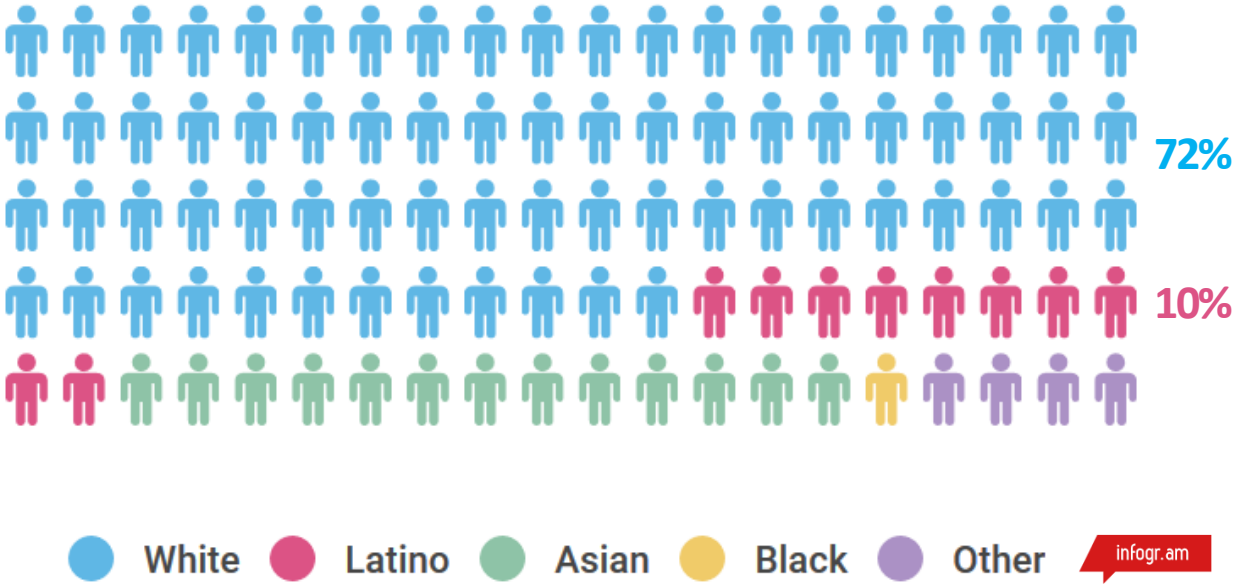
infogr.am

*From 2010 Census

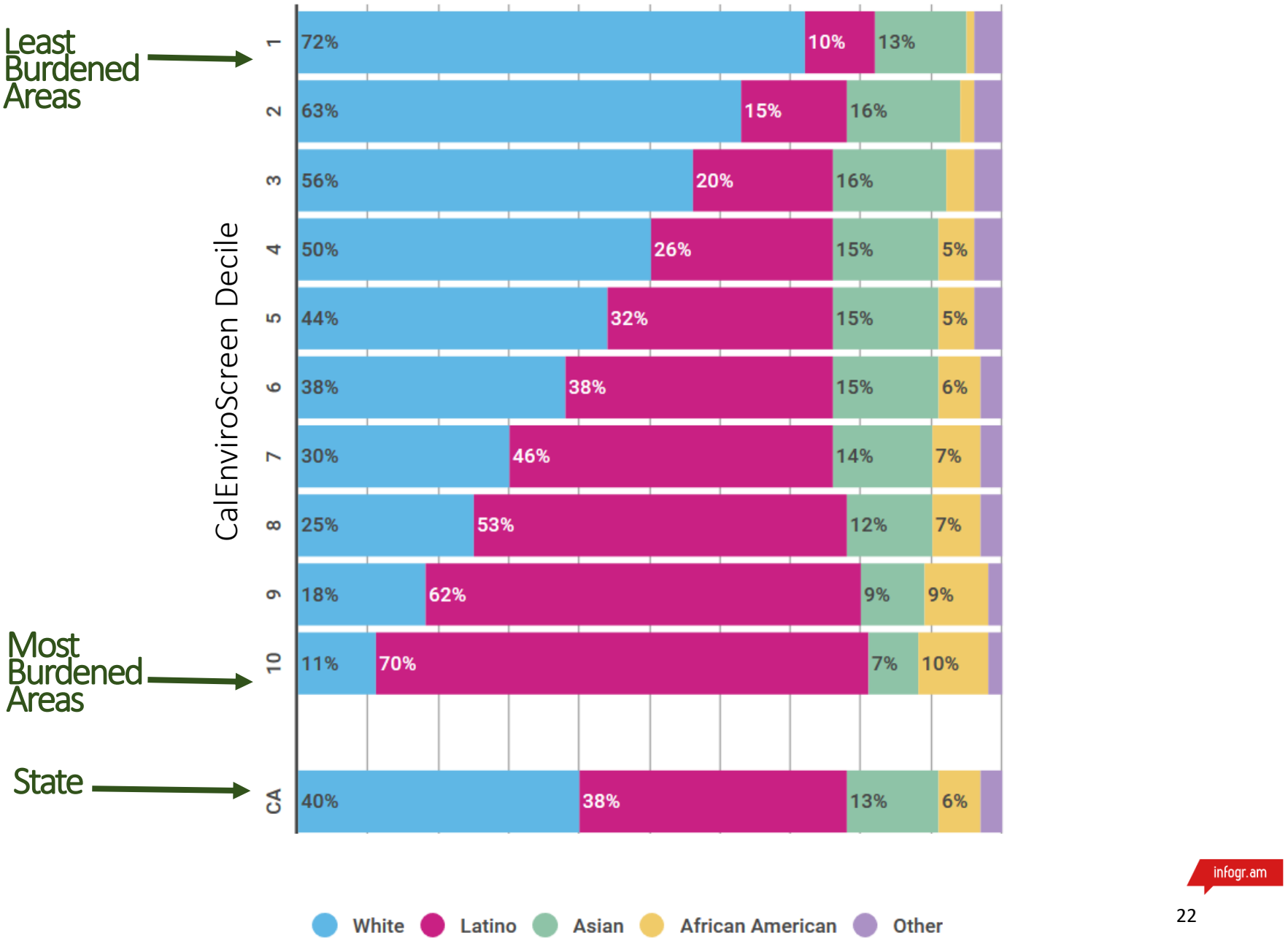
CA Most Burdened Areas (Top 10% CES)



CA Least Burdened Areas (Lowest 10% CES)



CA Race/ethnicity for each decile of CalEnviroScreen 3.0



infogr.am

Michigan Analysis

- Feasibility demonstration
- Readily available EJSCREEN data – Applied CalEnviroScreen Method
- Exposure: 6 Indicators
- Env. Effects: 5 indicators (1/2 weighted)
- SES: 3 indicators
- No Sensitive Population Component

Michigan Demographics

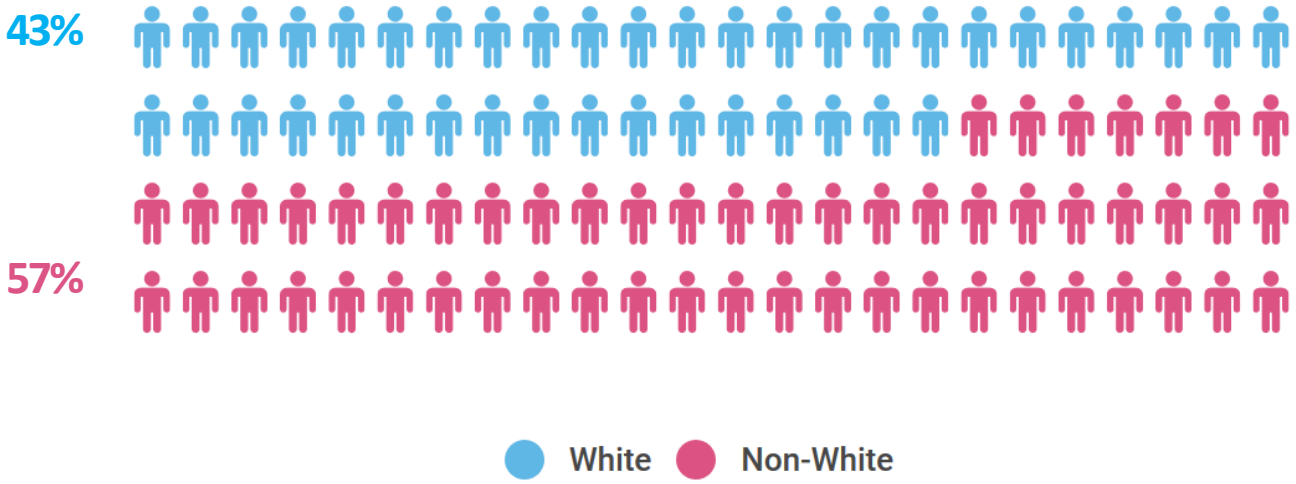
White 76%

Non-White 24%

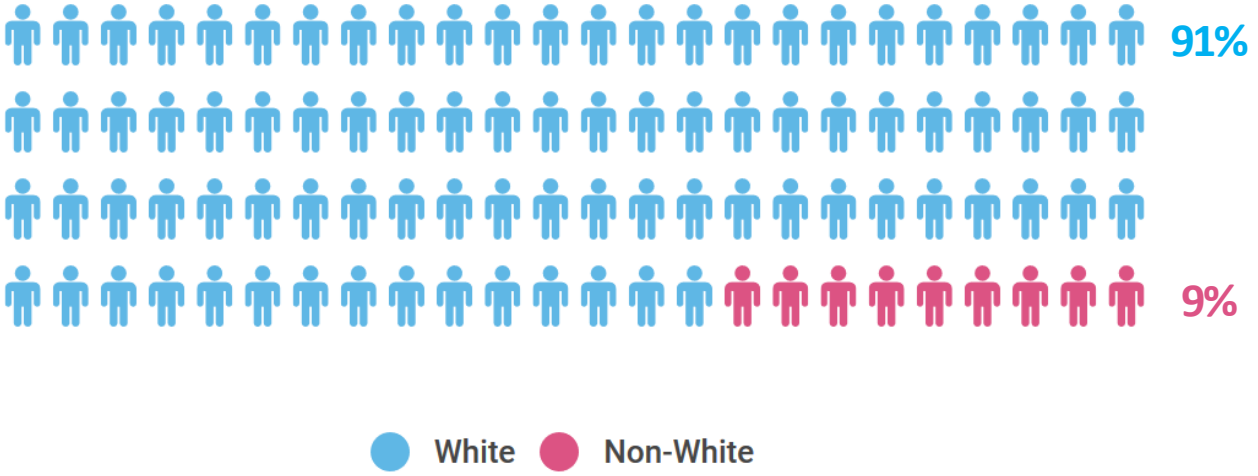
infogr.am

*From 2010 Census

Michigan Most Burdened Areas (Top 10%)



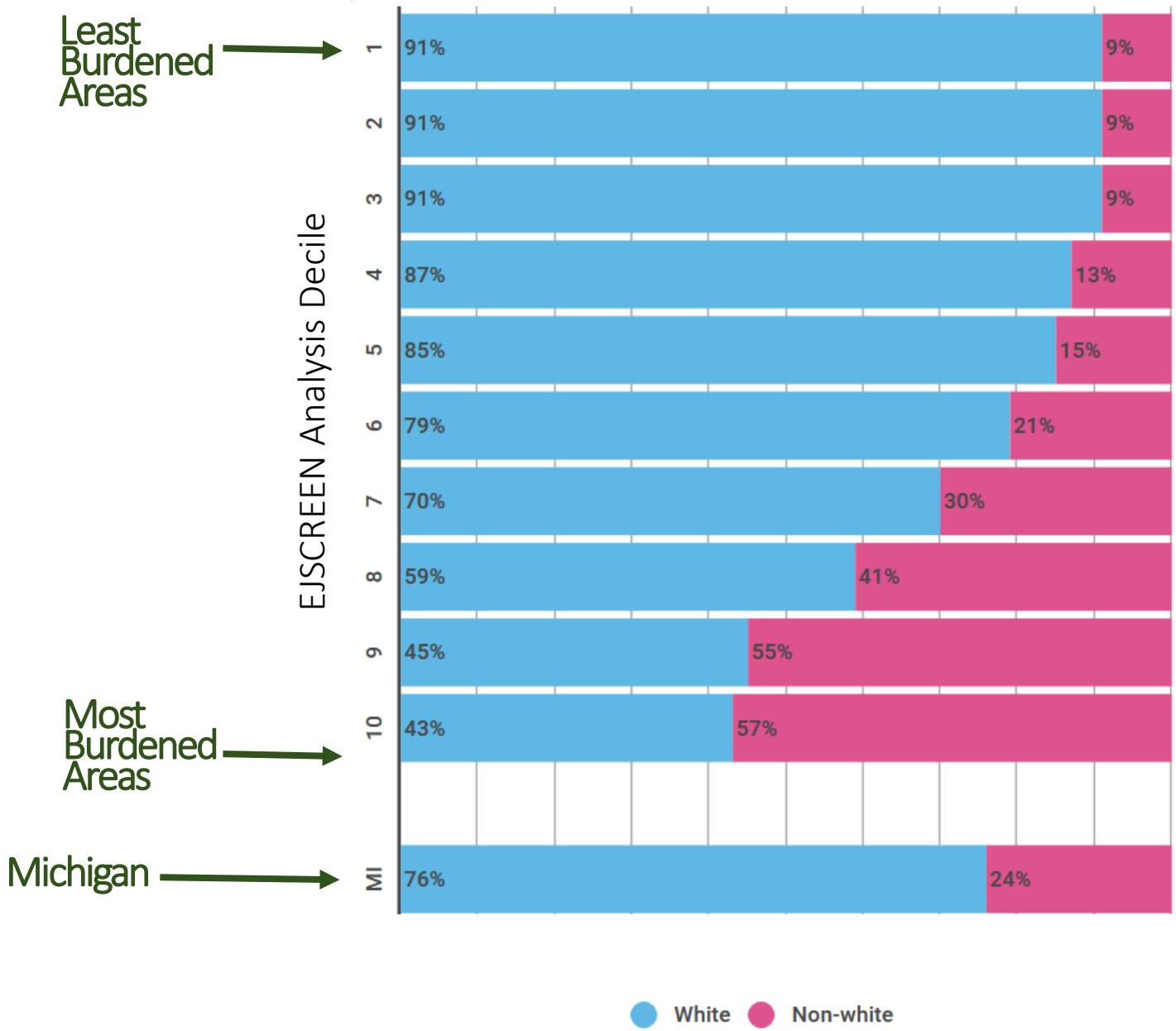
Michigan Least Burdened Areas (Lowest 10%)



by EJSCREEN Analysis

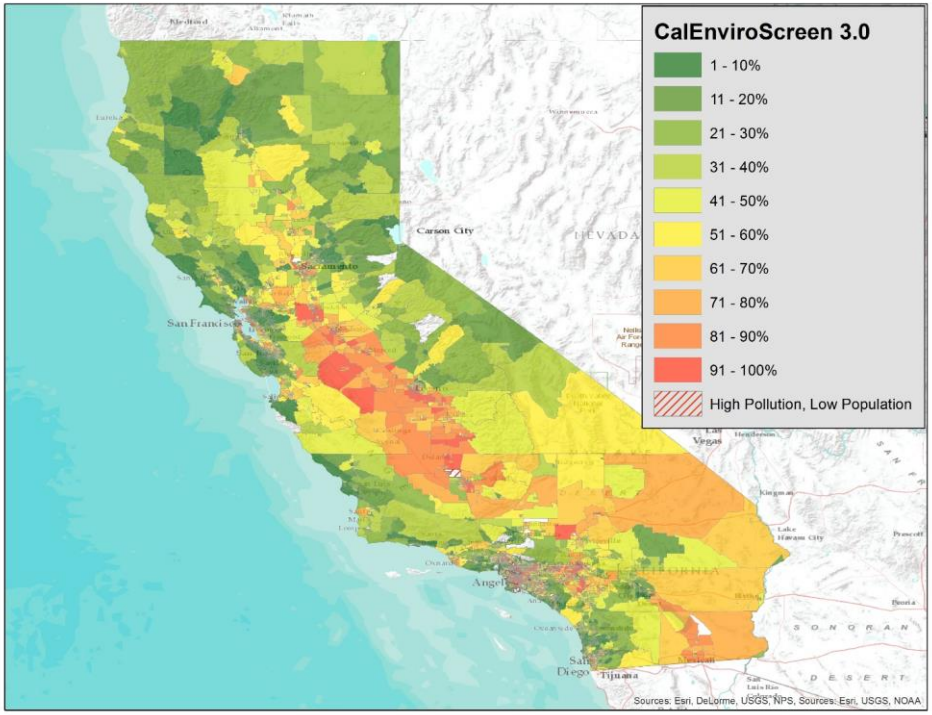
infogr.am

Michigan ethnicity for each decile of EJSCREEN Analysis

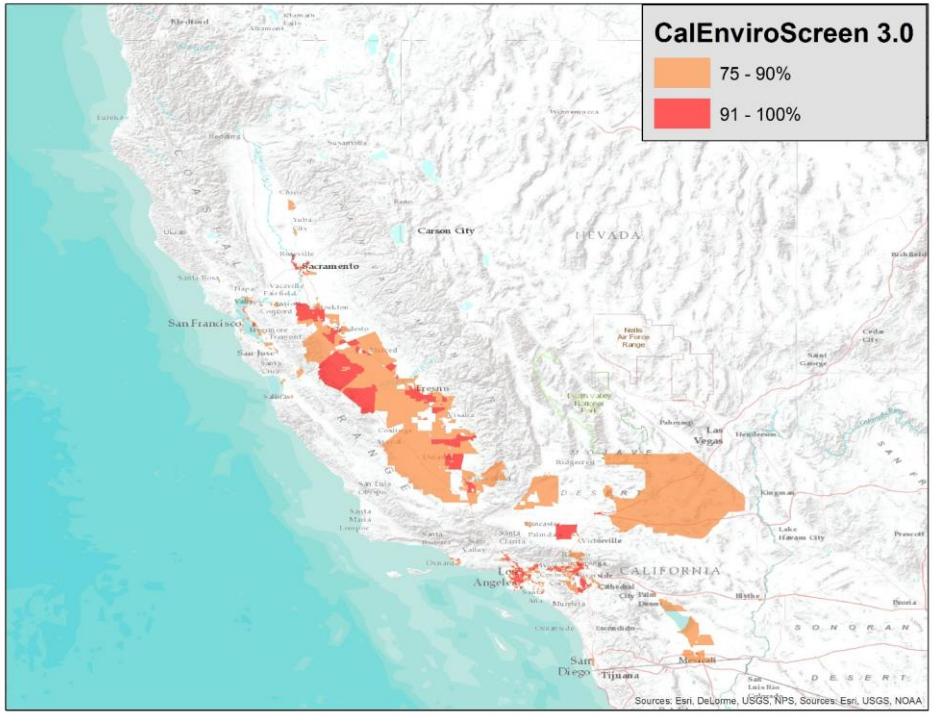


infogr.am

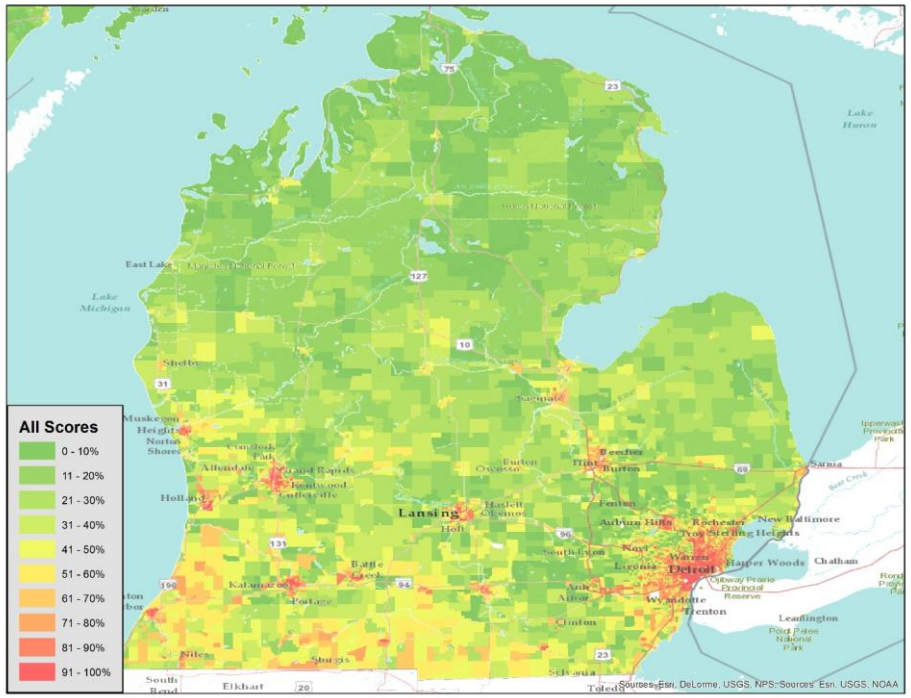
CalEnviroScreen 3.0



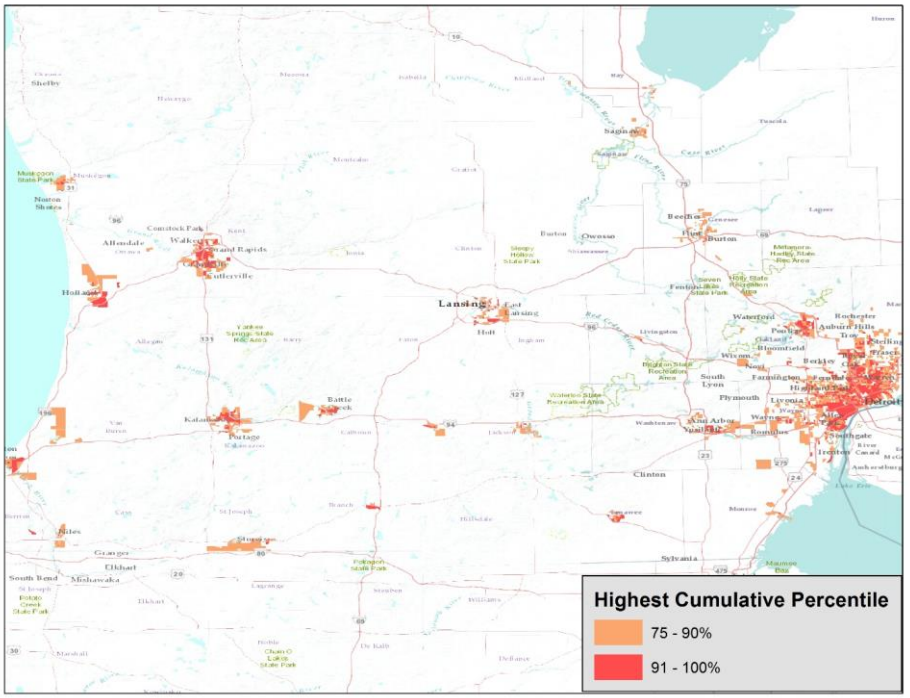
Top 10 and 25% Census Tracts



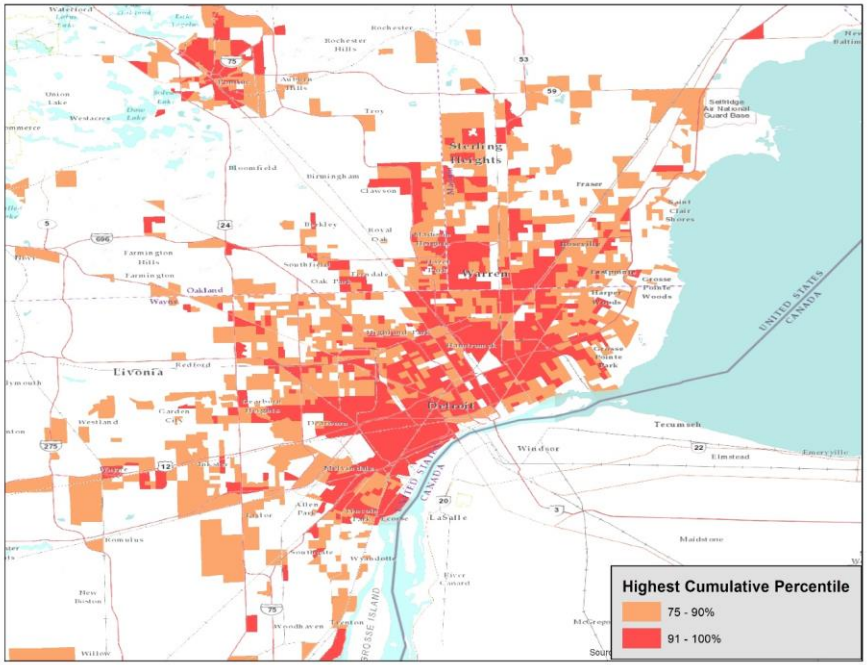
Cumulative Impact results using EJSCREEN Data



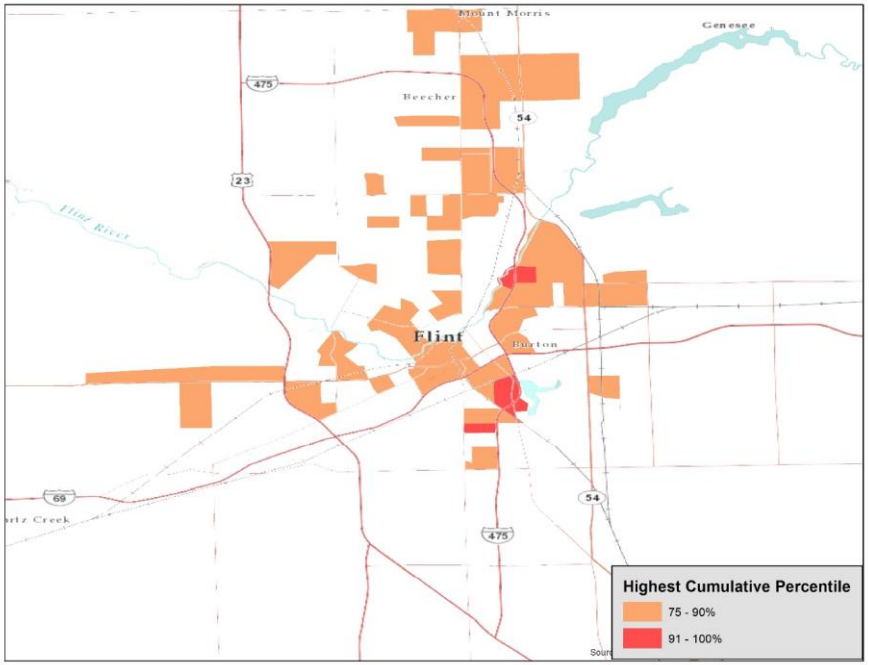
Tracts in top 25%



Top 10 & 25% Census Tracts in Detroit area



Top 10 & 25% Census Tracts in Flint area



What's Next and Critical

- Incentives & Resource Allocation – Continue
- Prioritize areas for local action
- Avoid creating or worsening DACs with in-fill
- Include consideration of cumulative impacts in land-use approval process
- Integrate cumulative impacts consideration into permitting at the local, regional and state level

My mentors of EJ – thank you

Carlos Porras	Communities for better Environment
Jane Williams	California Communities against toxics
Diane Takvorian	Environmental Health Coalition
Shabaka Heru	Society for Positive Action
Henry Clark	West County Toxics Coalition
Margaret Gordon	West Oakland
Richard Moore	New Mexico
Charles Lee	U.S EPA