

Why consider cumulative impacts? (and how?)

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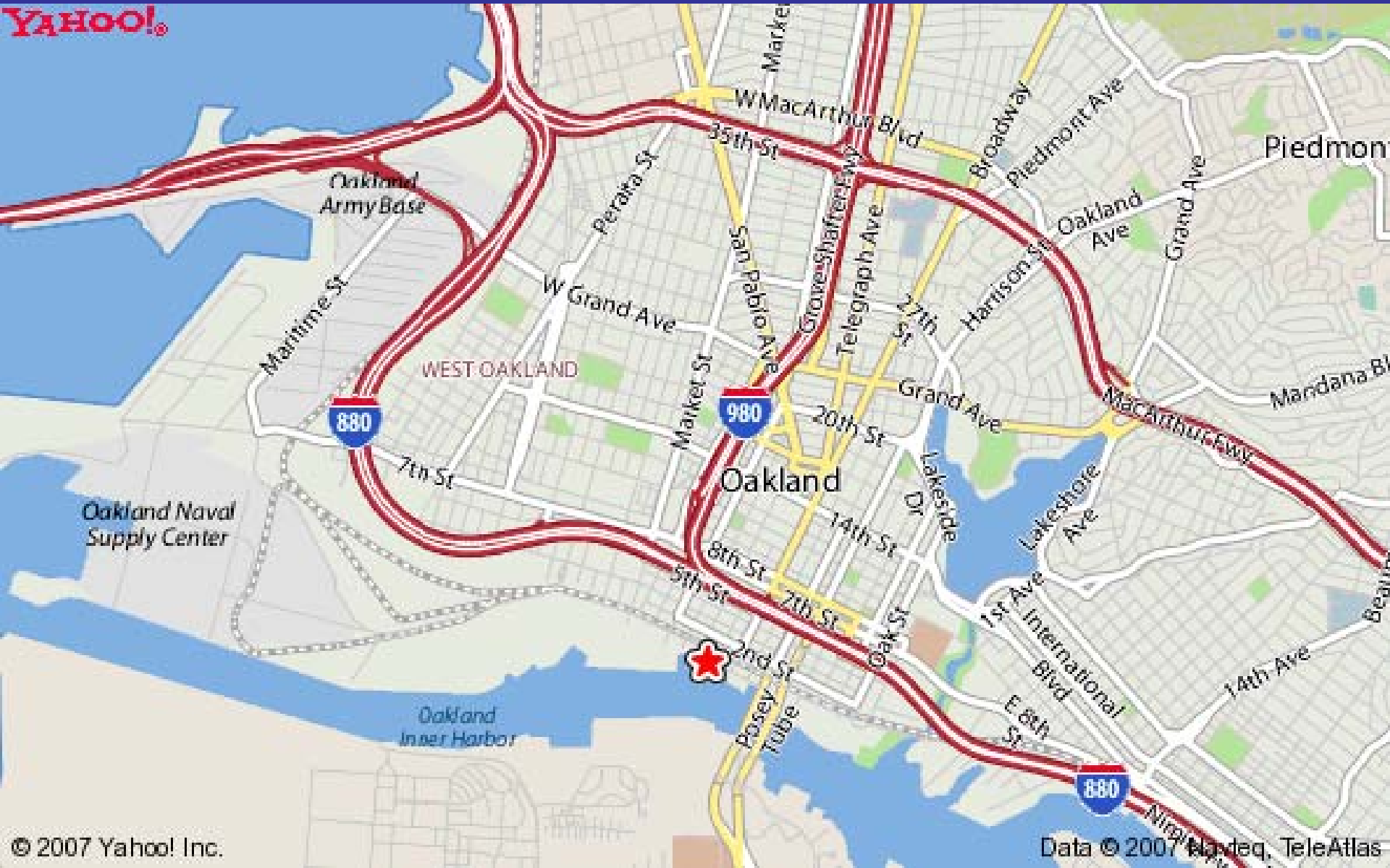
University of California Berkeley

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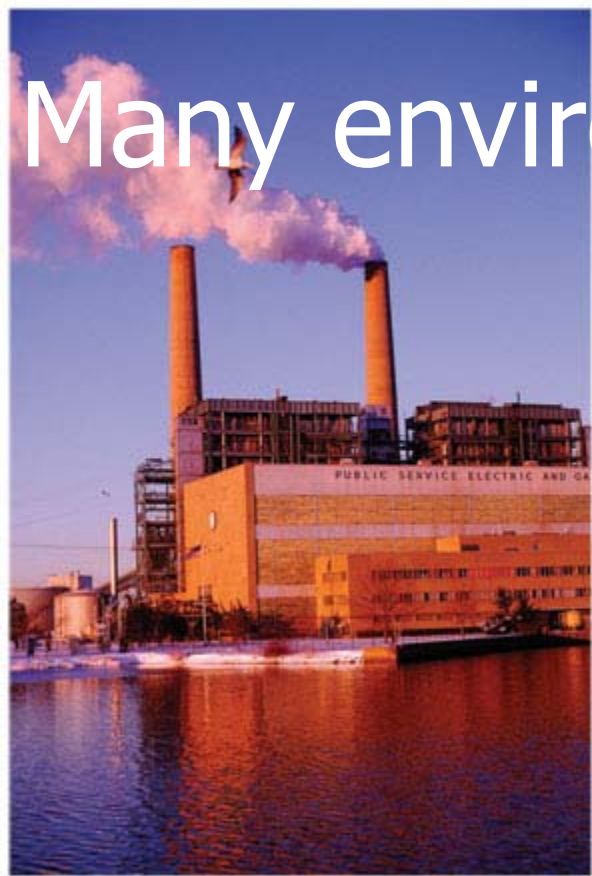
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Port of Oakland





Many environmental factors



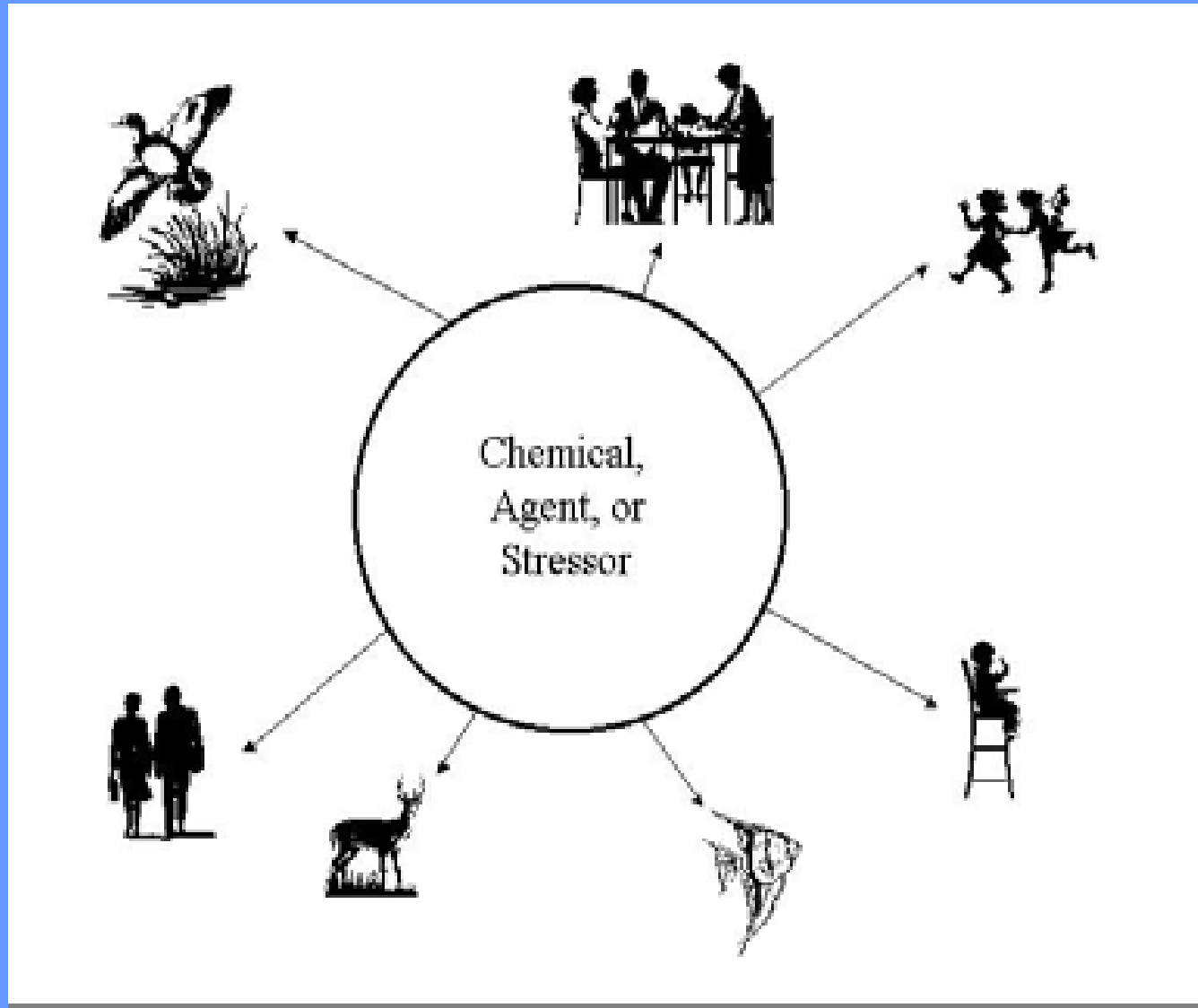
Newer scientific knowledge

- Common pathways for effects that involve many compounds
- Some people much more sensitive
- Health disparities are significant and partly related to environment
- Increases in environmental diseases

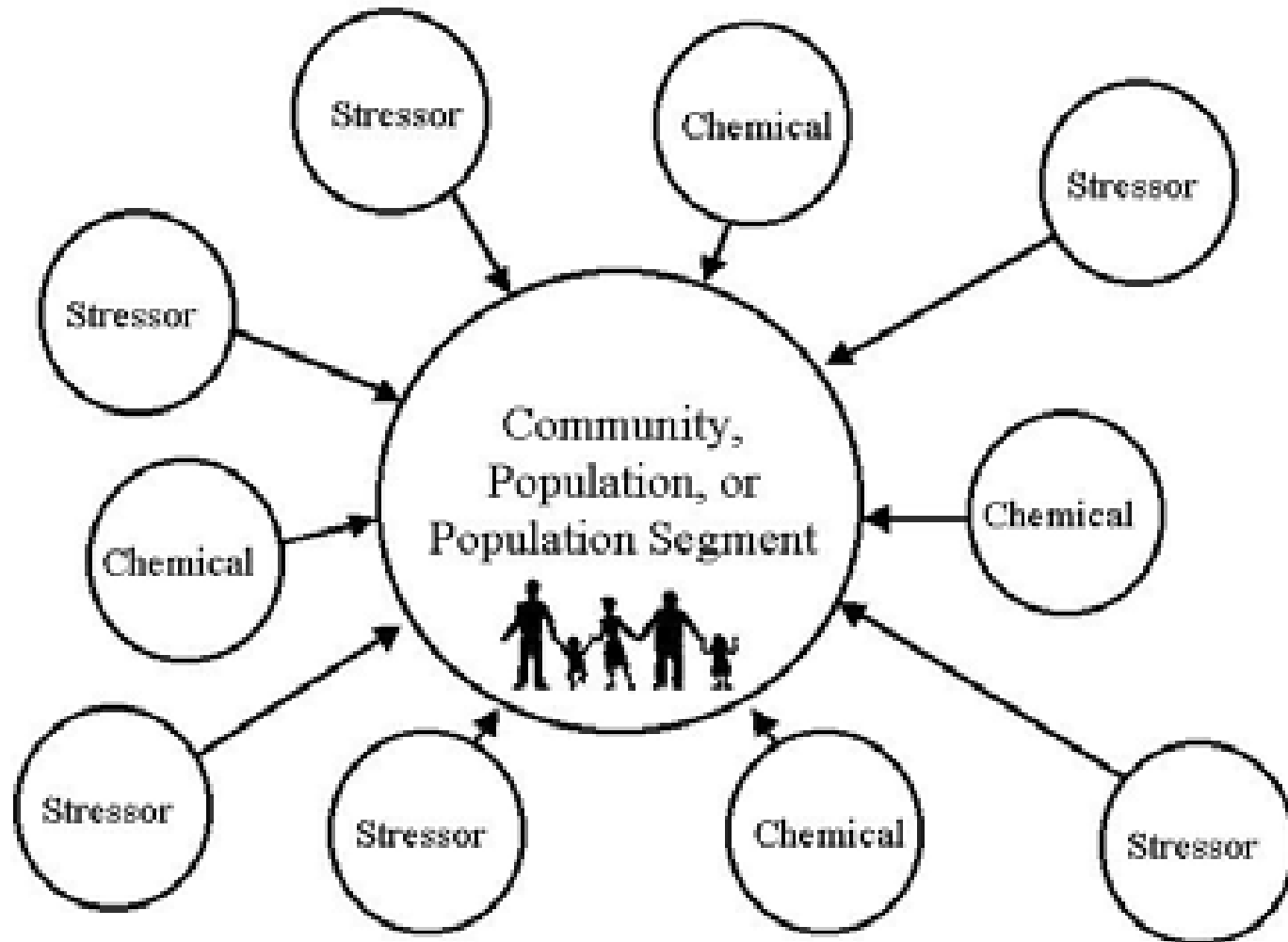
What we do now

- Pollutant by pollutant
- Source by source
- Single medium (air or water or food)

Change focus: from “single agent or stressor”



Change focus: to what happens in communities



Environmental factors

- Contaminant source approach
 - Air pollution (indoor and outdoor), water pollution, drinking water, land contamination (sites)
 - Dusts (indoors) and soils (outdoors)
 - Consumer products, workplaces
- Positive factors
 - Green space, access to recreation areas, walkability

Non-environmental factors

- People and communities
 - Susceptibility (e. g., kids)
 - Vulnerability (e. g., poverty)
 - Health status (elevated disease)
 - Resources and resiliency
- All interact with environment



**California Environmental
Protection Agency**

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ENVIRONMENTAL JUSTICE
ACTION PLAN**

Cal EPA Working definitions

Cumulative impacts means exposures, public health or environmental effects

from the combined emissions and discharges, in a geographic area, including environmental pollution from all sources

Impacts will take into account sensitive populations and socio-economic factors, where applicable and to the extent data are available.

Cal EPA Working definitions

Precautionary approach means taking anticipatory action to protect public health or the environment if a reasonable threat of serious harm exists based upon the best available science and other relevant information, even if absolute and undisputed scientific evidence is not available to assess the exact nature and extent of risk.

How can we think about this?

- Form to follow function
 - Allow methods that describe attributes
 - Cumulative impacts and vulnerability
- Don't leave out important stuff
- Consider all sectors
- Open discussion and process

How can we think about this?

- Expand beyond methods quantify cause and effect
- Address varied factors
 - "enough is enough"
 - Indexing or scaling
 - High-medium-low or percentiles
 - Trends

Conclusion

- Many environmental factors
 - Not all separate or independent
- Find ways to understand this
- Sensitive population attributes
- New methods for decisions
- Consistent with larger move to more sustainable communities

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Thanks!

