

THE NORTH AMERICAN HAZARDOUS WASTE TRADE: U.S. IMPORTS & ENVIRONMENTAL JUSTICE IMPLICATIONS

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THE PROBLEM

International agreements such as NAFTA have enabled a transnational trade in hazardous waste. As countries import and export this waste, they are forced to negotiate its treatment as both a commodity and as a managed risk. However, understanding of the North American hazardous waste trade has been limited.

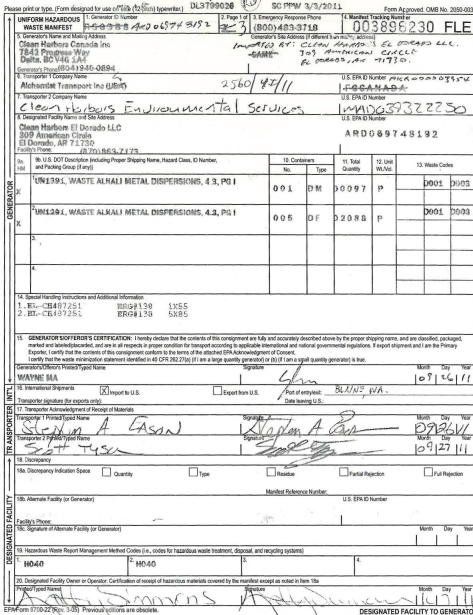
We seek to address this through gathering and synthesizing data; mapping and analyzing the data to highlight environmental justice concerns; and making our data, maps, and stories publicly available.

OUR PROCESS

Freedom of Information Act Request to U.S.Environmental Protection Agency (EPA)

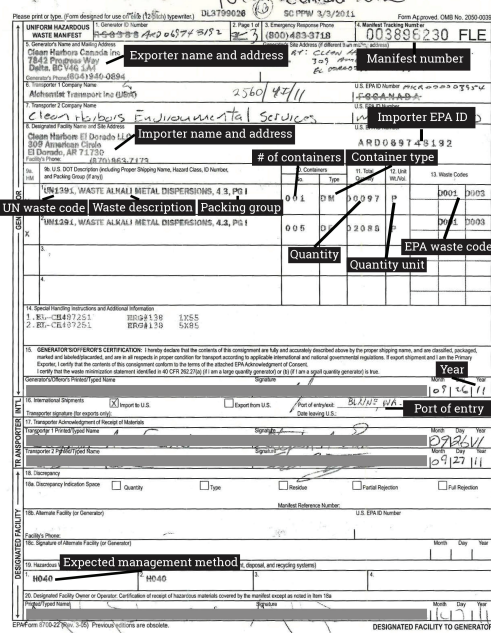
Ongoing communication with EPA

Receipt of Shipping Manifests



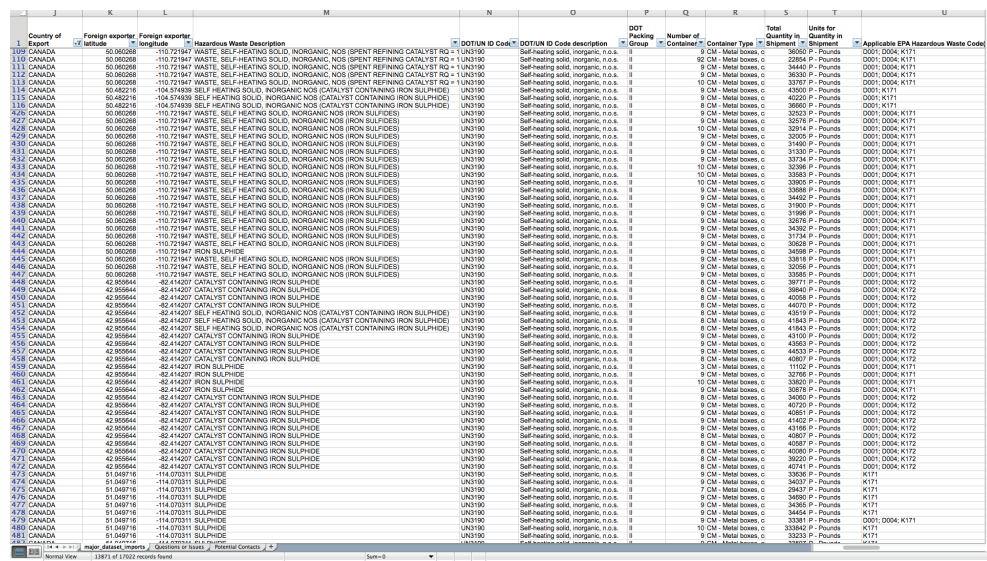
[records of U.S. imports and exports of hazardous waste]
[records from 2007 and 2009-2012]
[no data available for 2008]
[9,521 manifests total]
[17,332 shipments imported total]

Manual Coding of data from manifests



[48 attributes extracted]

Assembled dataset [snapshot]



[17,333 cleaned records]

Analysis [transnational environmental (in)justice || country of origin || recycling || how hazardous? || poverty rates || class || shipments per facility || imports per state || industry consolidation || lead || mercury || solid and liquid waste || batteries || incineration || uncertainty]

Map Design

[static and dynamic]

MAPS AND STORIES

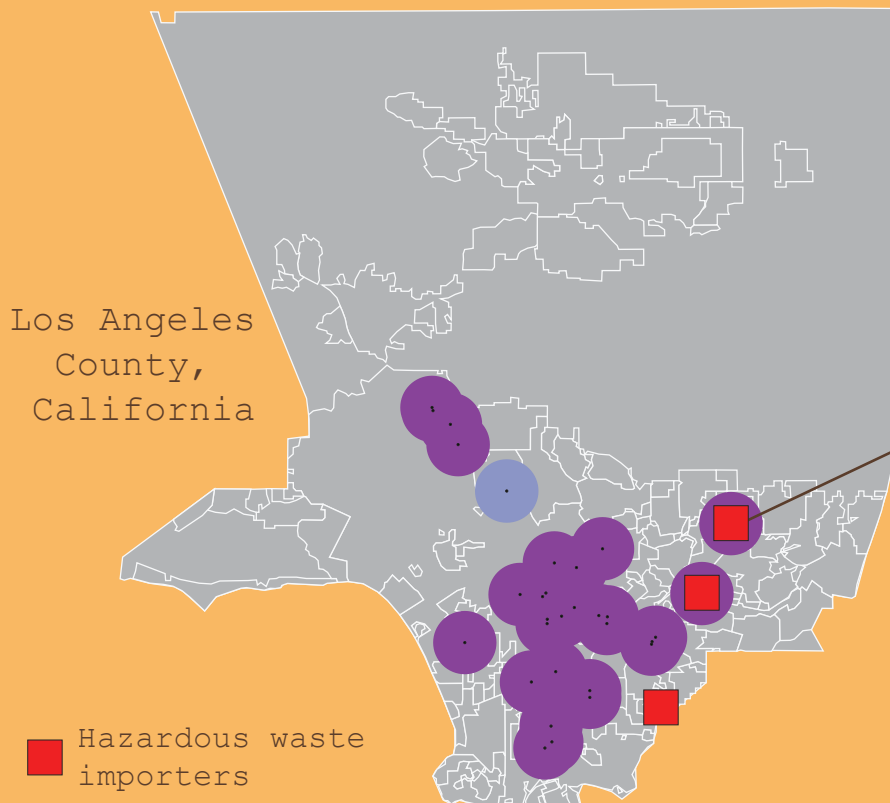
http://geography.wisc.edu/hazardouswaste



VEOLIA AND TRANSNATIONAL WHITE SUPREMACY

Veolia is a French transnational corporation, infamously known as the company in part responsible for the Flint water crisis. In Los Angeles County, Veolia has a waste recycling and disposal facility. Despite the "green" face recycling facilities often put forth, this facility has been subject to numerous recurring violations.

Urban geographer Laura Pulido (2015) describes the significance of white supremacy in producing environmental injustice. Using the example of a battery recycling facility in majority-Latinx East Los Angeles, Pulido argues that white supremacy does not simply describe hate groups such as the KKK. Rather, it is an attitude of superiority that is much more ubiquitous, which corporations put into practice by knowingly polluting black and brown communities.

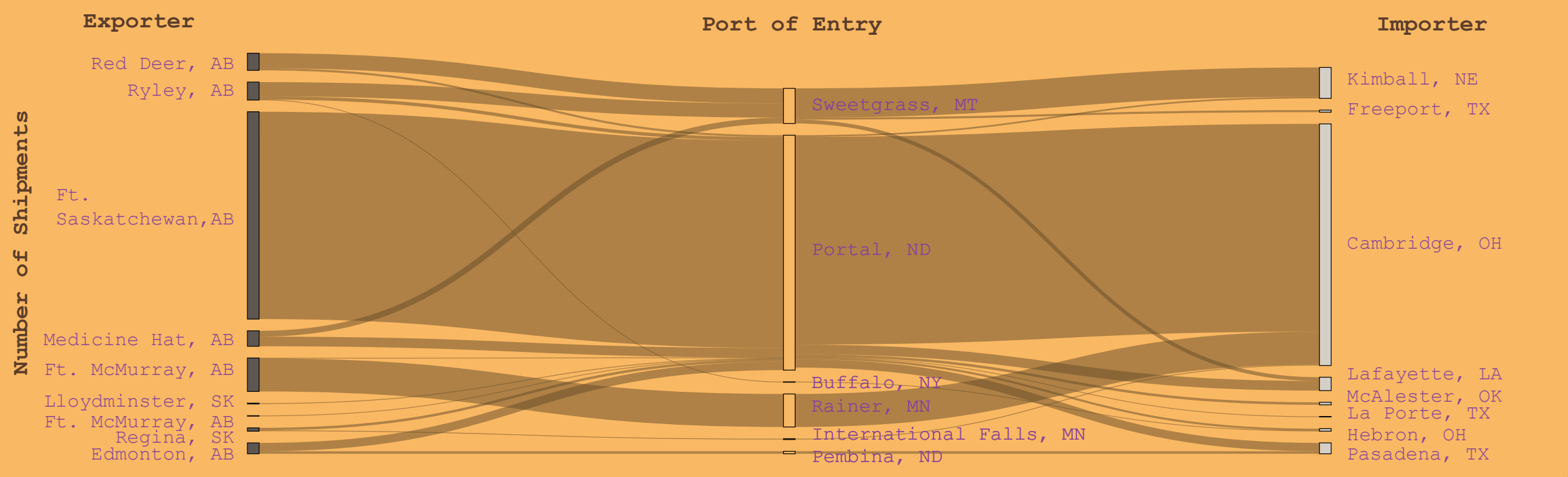


3 mile buffer around hazardous waste generators in significant noncompliance over the past 3 years:
● In majority white areas = 1
● In areas with minority population greater than county-wide rate (72.5%) = 30

The case of Veolia extends Pulido's argument to a transnational level. Not only does the corporation act in continued noncompliance, but it is enabled to do so through transnational trade agreements. They import from 15 sites, mostly on the U.S.-Mexico border.

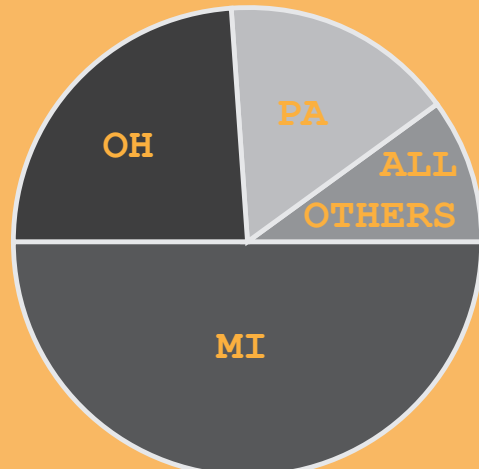
ALBERTA TAR SANDS: NEW EXTRACTIONS, NEW WASTE FLOWS

Crude oil extracted from the Athabasca oil sands (commonly called "tar sands") of Alberta, Canada is at the center of some of the most highly visible political debates today. The tar sands are a recently developed source of oil and are critiqued because their development is energy inefficient and pollution intensive. Waste from tar sands production is imported into the U.S. for further processing and disposal. Everyday automobile users benefit from the oil produced at these sites without having to see the burdens faced by waste producing and receiving communities. The diagram shows the relative number of waste shipments from tar sands refineries in Alberta and Saskatchewan as they pass through North Dakota and other states, often winding up in Ohio and Texas.



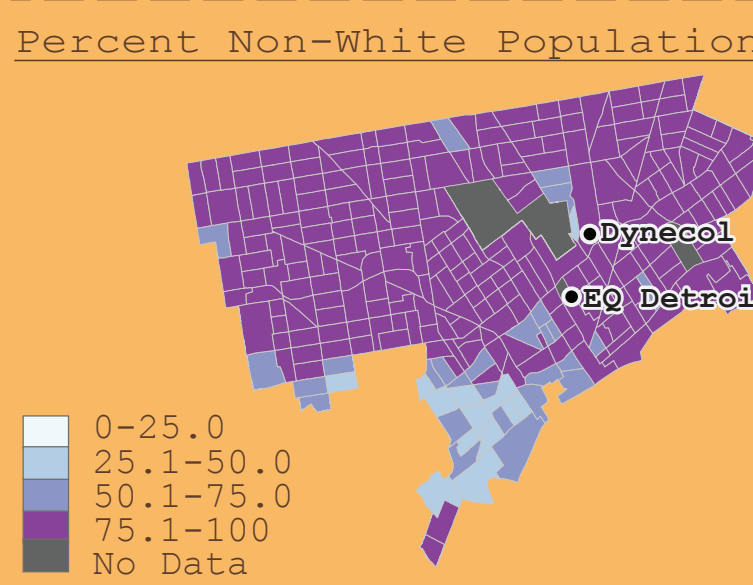
FROM PRODUCTION TO WASTE ECONOMY IN DETROIT AND THE MIDWEST

Formerly a major manufacturing hub of the US, the post-industrial Midwest has emerged as a major part of the waste economy. Michigan alone imports as many liters of liquid hazardous waste as all other states combined.



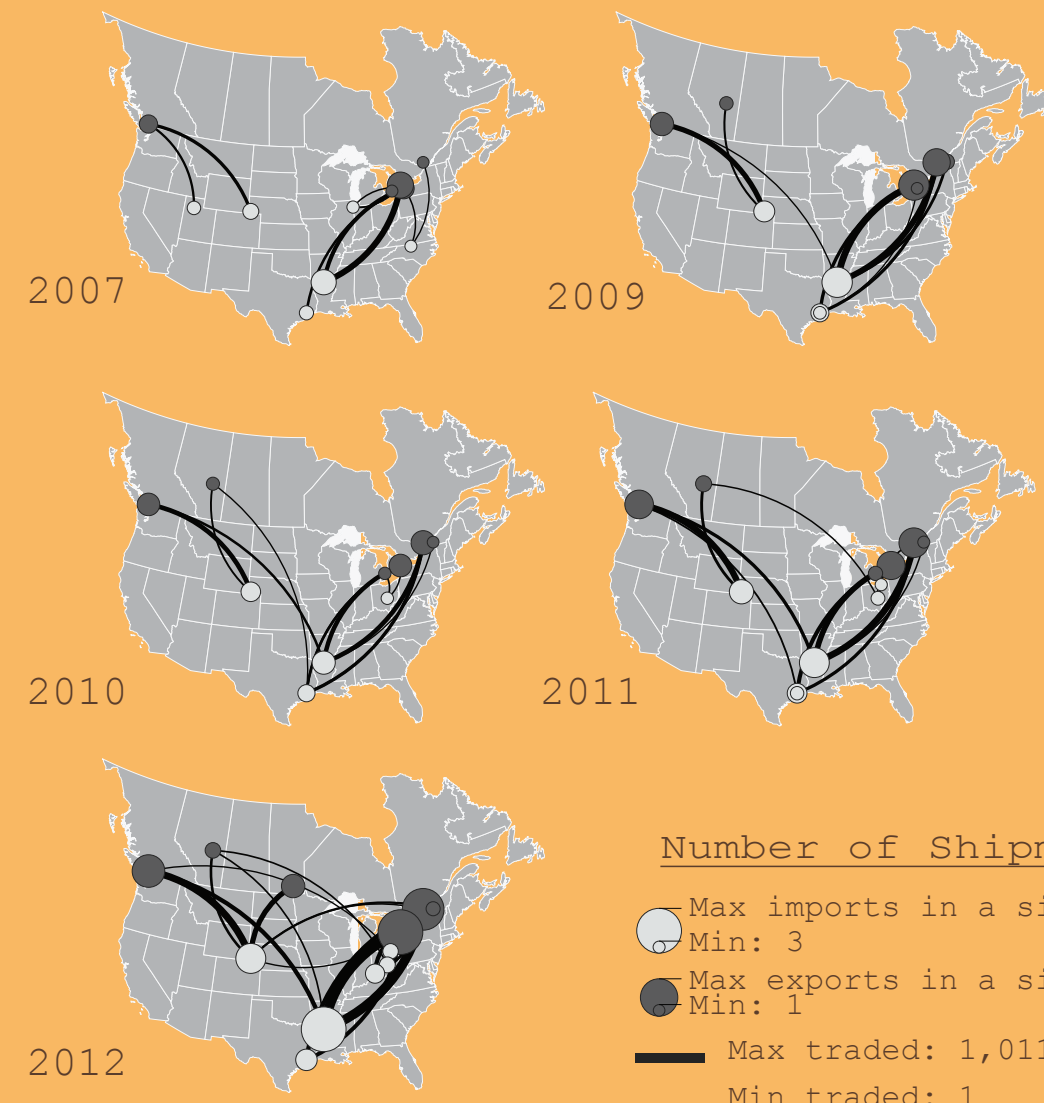
IMPORTS OF LIQUID HAZARDOUS WASTE BY STATE (LITERS)

The Midwest also has a long history of environmental injustice, in which economically marginalized communities of color are disproportionately exposed to environmental hazards. Detroit, featured at left, is a well-known case of this, to which the transnational trade contributes.



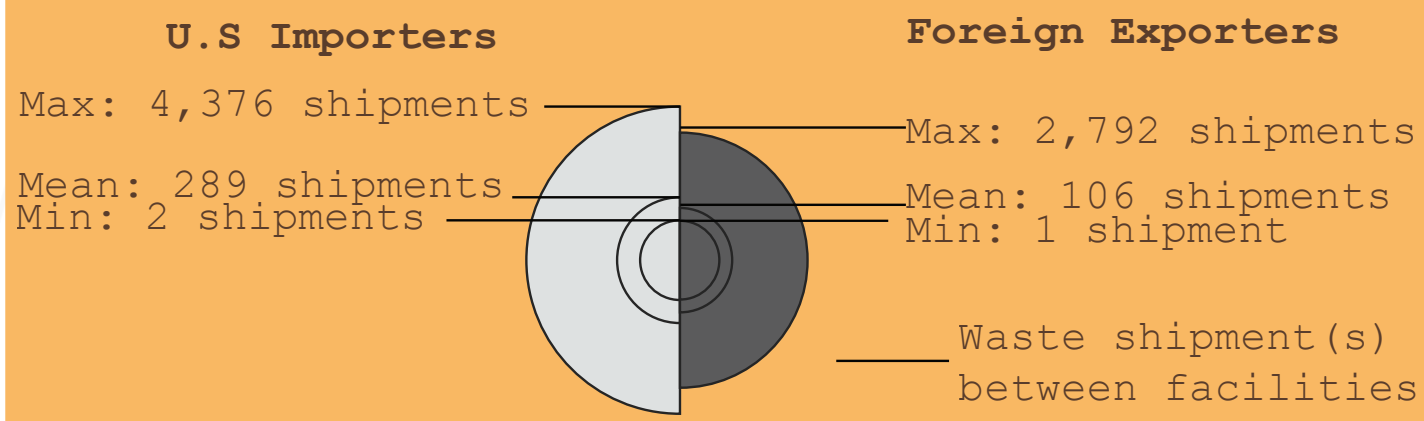
CLEAN HARBORS, INC: MANY COUNTRIES, ONE COMPANY

The geography of much of the North American hazardous waste trade is a network of several transnational corporations. Clean Harbors, Incorporated, imports more shipments of hazardous waste into the US than any other company and has the most importing and exporting facilities in North America. The highlighted facility is Clean Harbors El Dorado, the company's largest US importer. The series below shows the growth of the Clean Harbors import network: waste shipments that go from one Clean Harbors facility to another.



While hazardous waste is traded between countries, it often stays within the same company, so the infrastructures for processing and transporting waste are interconnected. This complicates questions of environmental justice, which is more frequently understood as a subnational or international problem.

Number of Shipments



Number of Shipments
● Max imports in a single year: 2,073
● Min: 3
● Max exports in a single year: 1,344
● Min: 1
— Max traded: 1,011
— Min traded: 1

ACKNOWLEDGMENTS
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