GREENFIELD
LOUISIANA, LLC

ENVIRONMENTAL JUSTICE

ASSESSMENT OVERVIEW

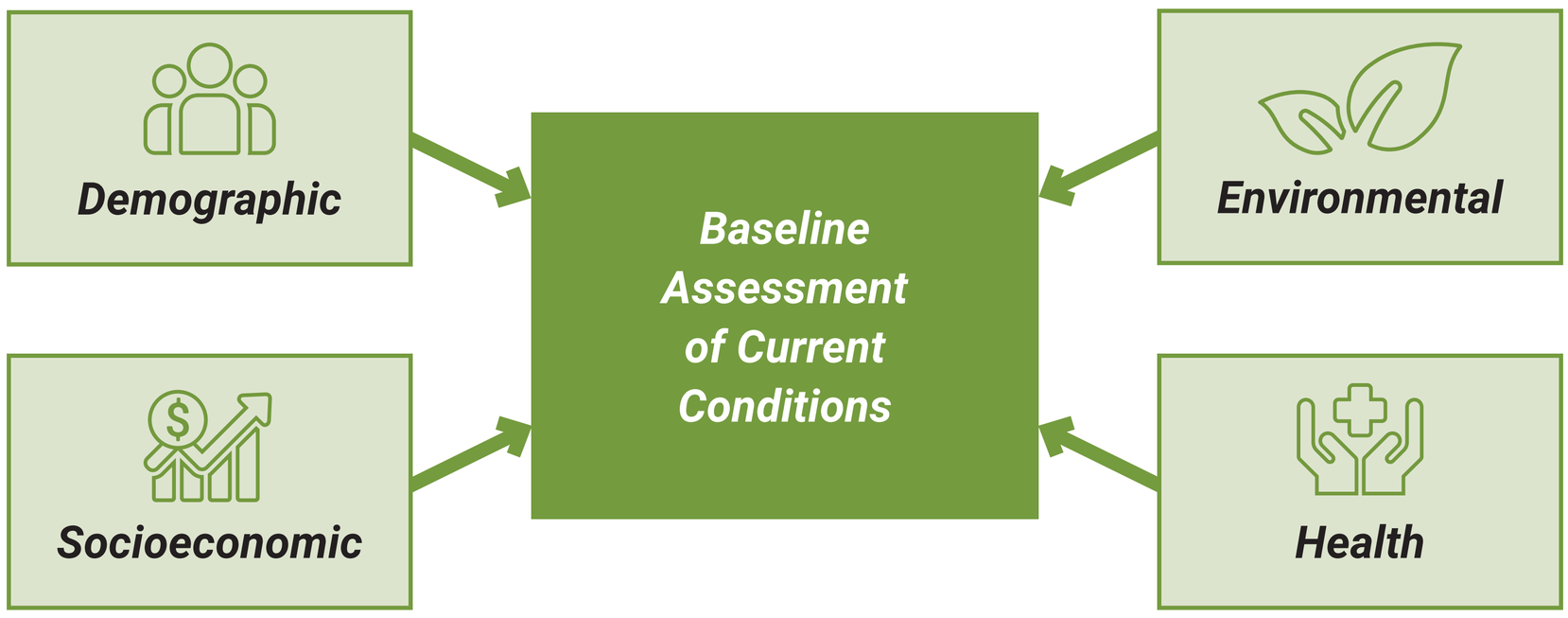
Greenfield conducted an environmental justice analysis in accordance with U.S. Environmental Protection Agency (EPA) guidance. The assessment evaluated demographic, environmental, socioeconomic, health, and other conditions in the community surrounding the proposed facility.

The conditions are summarized to provide a baseline understanding of the environmental health risk factors affecting community health and susceptibility to environmental exposures.

The environmental justice analysis methods were guided by federal guidance and regulations. It focused on communities living within 0.5 to 3.1 miles from the proposed Wallace Grain Export Facility. The analysis looked at:

- Current, or "baseline," conditions
- Possible facility impacts (direct impacts, indirect impacts, cumulative impacts)
- Whether impacts affect some people more than others, or "disproportionate impacts"
- Mitigation strategies

For the baseline analysis, EJScreen and other EPA tools were used to identify possible environmental and social or economic vulnerabilities in the communities. Community input and the baseline analysis were used to determine what to model, or predict, for the proposed facility. The modeling focused on air toxics, fine particulate emissions, viewshed, lighting, and noise impacts.



EPA's EJScreen tool was used to identify potential environmental health vulnerabilities.

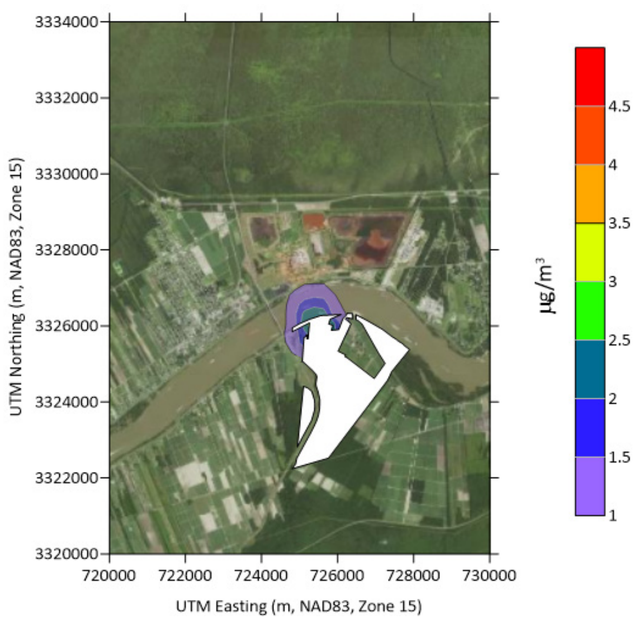
Study Area Radius	Area	Population	Indexes > 80th Percentile	State Percentile	EPA Region Percentile	U.S. Percentile
0.5-mile	7.97 sq. mi.	702	$PM_{2.5}$	82	71	82
			Ozone	81	68	79
			2017 DPM	85	82	84
			2017 Air Toxics Cancer Risk	99	98	99
			2017 Air Toxics Respiratory HI	84	78	86
			Wastewater Discharge	85	80	85
1.0-mile	14.75 sq. mi.	1,329	2017 DPM	81	78	81
			2017 Air Toxics Cancer Risk	99	97	99
			2017 Air Toxics Respiratory HI	79	74	82
			Water Discharge	84	79	84
3.1-mile	60.12 sq. mi.	12,443	2017 Air Toxics Cancer Risk	80	74	84
			Water Discharge	78	73	81

***DPM** – diesel particulate matter*
***HI** – hazard index*
***$PM_{2.5}$** – particulate matter with diameters 2.5 micrometers or less*

FACILITY IMPACT ASSESSMENT

An environmental justice analysis was conducted for the Wallace Grain Export Facility, relying on the EPA's EJScreen tool, consistent with Louisiana Department of Environmental Quality (LDEQ) and EPA practice. The environmental justice analysis focused on the area encompassed within 3.1 miles of the proposed facility.

The primary environmental justice concern is related to air quality, namely the cancer risk associated with air toxics. The study determined that the proposed facility will not result in a measurable increase in cancer risk.



Average $PM_{2.5}$ Concentrations (average result of 5 years)

$PM_{2.5}$ ambient air quality standard (annual) = 12 µg/m³

Fine particulate concentrations from the facility will be many times lower than concentrations considered safe by the EPA.

Greenfield Model Predictions for Future Maximum Impacts

Category	Results of Analysis
Air toxics emissions	Maximum air toxics emissions well below health-based levels established by EPA
Fine particulates ($PM_{2.5}$)	Maximum $PM_{2.5}$ concentrations less than 1 ppb
Viewshed	Minimal impacts anticipated; fencing and trees to be installed to create visual buffer
Lighting	Minimal impacts anticipated; lighting fixtures have been designed to limit lighting illuminating areas off-site
Noise	Maximum nearby noise level equivalent to a suburban area at night
Traffic	Louisiana Department of Transportation and Development has determined that impacts from traffic are expected to be nominal and thus a formal traffic study is not required

Note: economic and social benefits also considered in impact analysis

All air toxics concentrations from the facility will be many times lower than concentrations considered safe by the EPA.

Estimated Air Toxics Concentrations Compared to EPA Health-based Residential Air Concentrations

Chemical**	Maximum Annual Modeled Air Concentration (ppb)	EPA Cancer Screening Level (ppb^3)	EPA Non-cancer Screening Level (ppb)
Benzene	0.00080	0.36	31
Formaldehyde	0.0010	0.22	10
Hexane	0.024	*	730
Toluene	0.00090	*	5,200
Xylenes (total)	0.00020	*	100

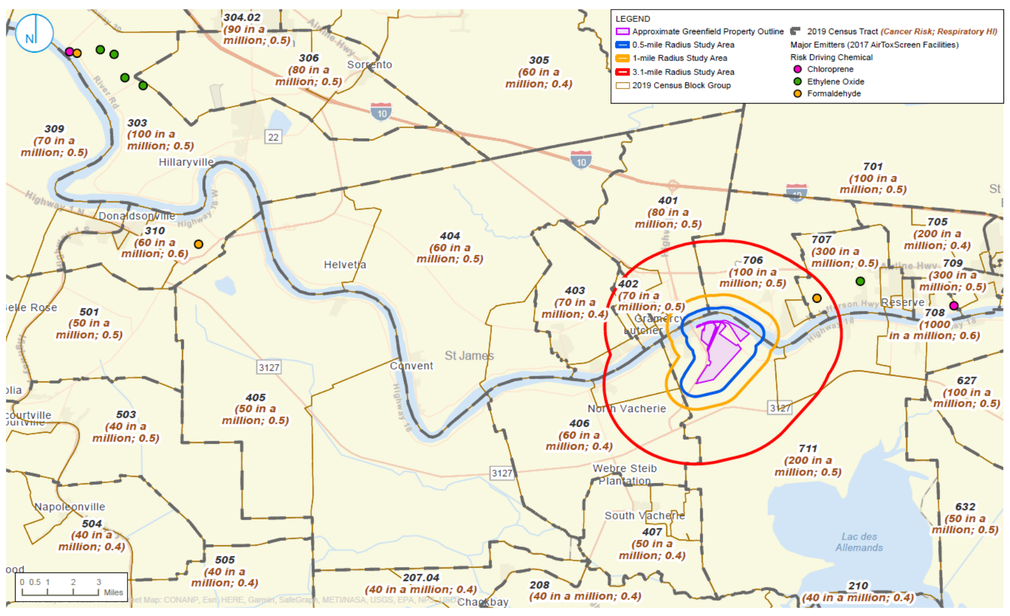
ppb *– parts per billion*

** – chemical listed is not a known or probable carcinogen; no cancer risks were calculated*

*** – chemicals are from combustion of fuel used in the grain dryer or emergency backup engines*

ADDITIONAL TOOLS USED

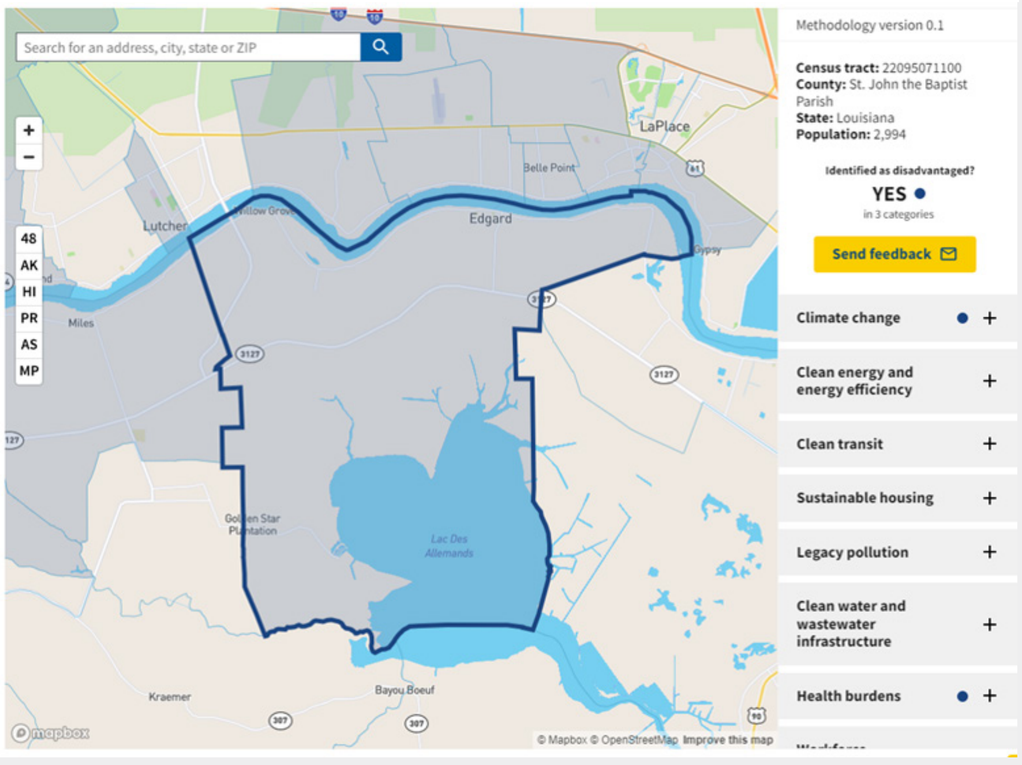
AirToxScreen Mapping Tool



Baseline AirToxScreen Information (2019):

- 2017 AirToxScreen provided in baseline analysis.
- 2019 total cancer risk estimate for this Census tract (711) decreased by 65% compared to 2017.
- Primary air toxics from other, existing facilities are chloroprene (22%), ethylene oxide (40%), and formaldehyde (28%).

Climate and Economic Justice Screening Tool



The CEJST results for Census tract 711 in St. John the Baptist Parish identifies the tract as “disadvantaged” based on exceedances in three categories: climate change, health burdens, and workforce development.

DISPROPORTIONATE IMPACTS ANALYSIS AND MITIGATION STRATEGIES

EJScreen and CEJST indicate that the community in the vicinity of the proposed facility currently faces greater social, health, and economic barriers or disadvantages compared to most others in the state of Louisiana.

Even when considering the current baseline conditions, the incremental impacts of air toxics from the proposed facility will be negligible. The presence of a vulnerable population does not indicate that any and all releases to the environment will necessarily be impactful or significant. Given this finding, the proposed facility will not disproportionately impact the people of color, people living with low-income, and other vulnerable populations in the 3.1-mile study area.

Air toxics and fine particulate emissions from the proposed facility will not result in disproportionate impacts. Nevertheless, Greenfield is taking action to mitigate the limited emissions and provide additional health, economic, and social supports to the community.

The proposed Wallace Grain Export Facility will generate significant and quantifiable benefits for the local, regional, and state economy, during both the construction phase and the ongoing future operation of the facility. Benefits to the local and regional economy can also lead to improvements in social conditions, such as support for maintenance and improvements to local infrastructure systems.