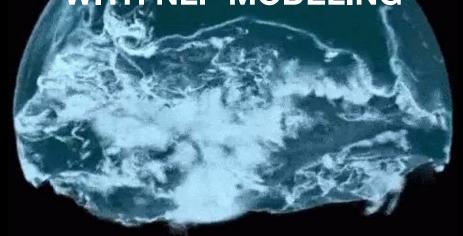# ACT FASTER

DETERMINING RESPONSE PRIORITY WITH NLP MODELING
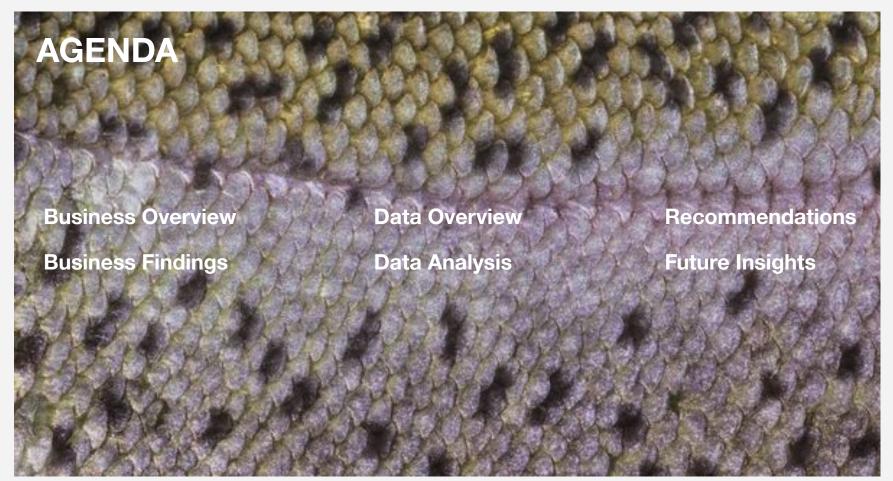
January 4, 2024

Marley Lopez

Data Scientist.
Balancing curiosity with technical ability.
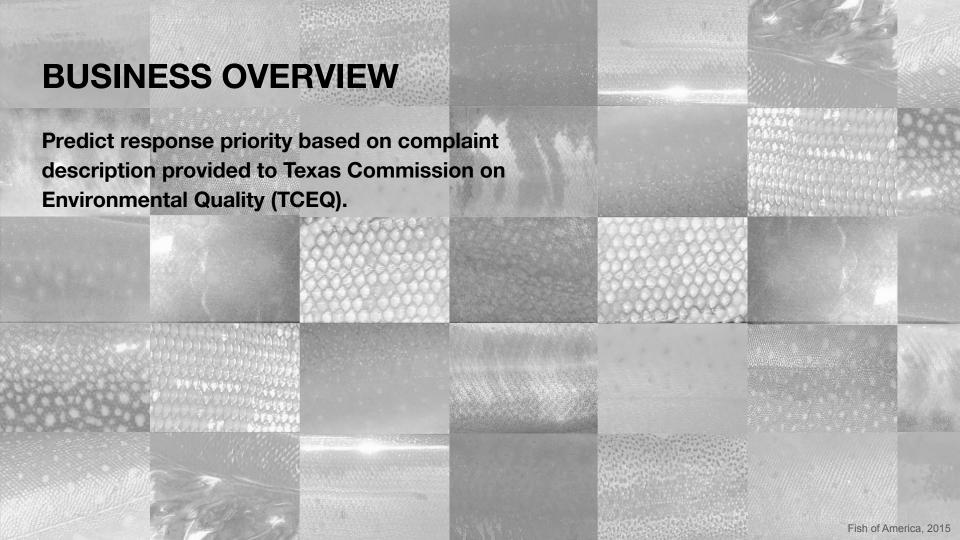Experience in impact investment and start-ups.

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AGENDA

Business Overview

Data Overview

Recommendations

Business Findings

Data Analysis

Future Insights

Rainbow Trout, Native to Pacific Northwest

TEXAS
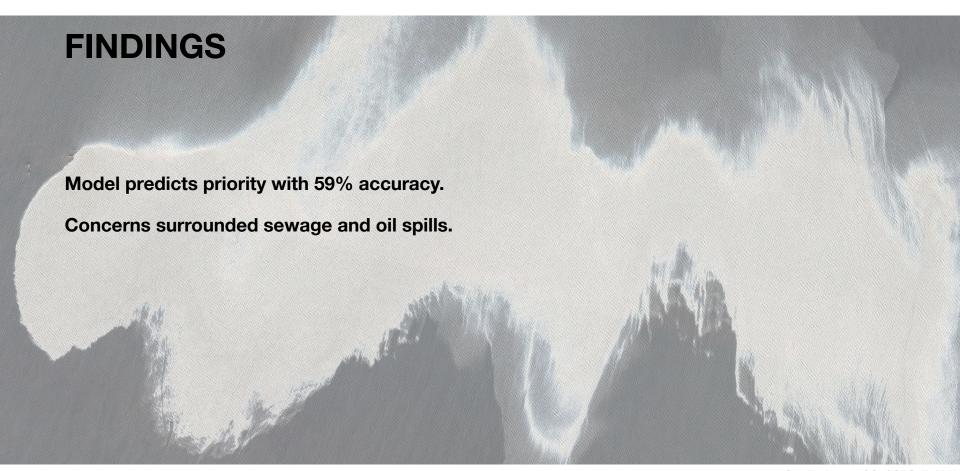
Hurricane Harvey, August 31, 2017

BUSINESS OVERVIEW

Predict response priority based on complaint description provided to Texas Commission on Environmental Quality (TCEQ).

FINDINGS

Model predicts priority with 59% accuracy.

Concerns surrounded sewage and oil spills.
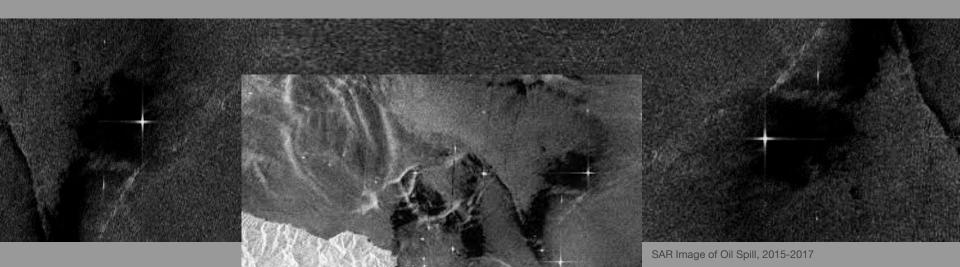
DATA OVERVIEW

Dataset:

TCEQ
215,000 Rows
33 Features

Limitations:

Imbalanced Priorities
Missing Clear Response

Filtering:

Water-Related
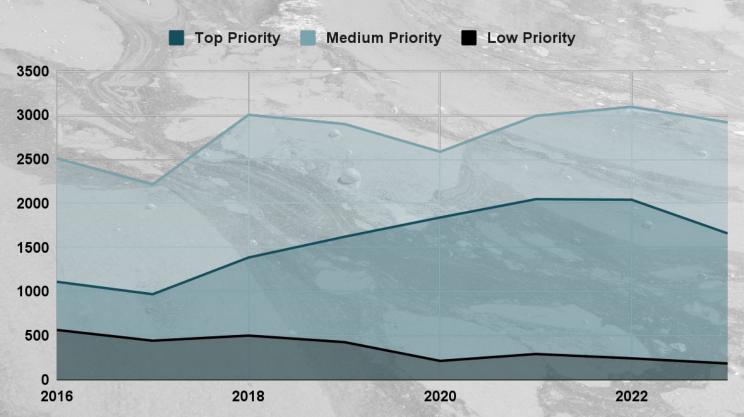**Simplified Priorities**
Balanced Priorities

SAR Image of Oil Spill, 2015-2017

Eutrophication, or 'Algae Bloom'

MOST COMMON CITIES

City	Value
Waco	14,398
Houston	13,800
Dallas / Fort Worth	8,673
Austin	6,706

REPORTS PER PRIORITY CLASS
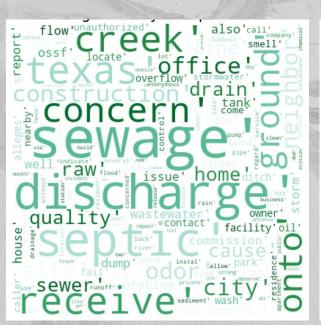
MOST COMMON WORDS

High Priority

Medium Priority

Low Priority

Eutrophication, or 'Algae Bloom'

RECOMMENDATION

Let Complainants Tag Complaints

Flag Uniquely High Priority Words

Advocate for Prevention

FUTURE INSIGHTS

Identify Sites   **Explore Correlations**   **Confirm Action**

Gulf Oil Spill, 2010

Marley Lopez

Most Likely To Plant a Vegetated Swale

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QUESTIONS?

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