

QUARTERLY BROWNFIELD ROUNDTABLE

September 20, 2022

Office of Brownfield & Community Revitalization



PERSONNEL UPDATE



Hazardous Discharge Site Remediation Fund (HDSRF) Update

- Staffing
 - 2 HDSRF Coordinators
- Status of the HDSRF
 - Generous Summer Appropriations (over \$33MM)
 - FY23 Uncommitted Balance = \$66,620,061
- HDSRF Recommendations
 - CY22 Recommendations = \$21,196,914

September 16, 2022 data

Updates on the Brownfields Redevelopment Incentive Program

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September 20, 2022



What is the Brownfields Redevelopment Incentive Program?



Established under the **Economic Recovery Act of 2020 (ERA)**



Can work in conjunction with **other ERA programs**.



Provides tax credits to incentivize **brownfields redevelopment** in New Jersey



Applications are due by a preestablished **deadline** and awards are based on **competitive scoring**



Focuses on **brownfields remediation as a component of community development**



Bolster **smart growth investments focused on the remediation of contaminated sites**, by helping to bring often underutilized properties back to productive use



Encourage **long-term investment into the State, while remediating and redeveloping underutilized properties**



Includes fiscal protections



Program **is funded to accept applications through 2027**

Key Features

- ▶ **Capped at \$300 million over 6 years**
 - Option to roll over unused program tax credits yearly as needed
 - Option to use funds from succeeding year if required
- ▶ Awards **50 - 60 percent of remediation costs**
 - Up to 50 percent of remediation costs for eligible properties, up to a maximum of \$4 Million
 - Up to 60 percent of remediation costs for qualified properties located in a Government Restricted Municipality or a Qualified Incentive Tract, up to a maximum of \$8 Million
- ▶ Tax credits awarded via **competitive** application process
 - ▶ EDA cannot discuss specific projects once the application window is open
- ▶ **Prevailing wage for building services** for 10 years following project completion
- ▶ One-time tax credit which is issued at completion of remediation
- ▶ Tax credit is transferrable

Brownfields Redevelopment Incentive Program

Eligible Activities

- ▶ Soil and groundwater investigation
- ▶ Site remediation
- ▶ Hazardous materials assessment and survey
- ▶ Hazardous materials or waste disposal
- ▶ Building and structural issues, including:
 - Demolition
 - Asbestos abatement
 - PCB removal
 - Contaminated wood or paint removal
 - Other infrastructure remedial activities



Project Eligibility

ELIGIBILITY CRITERIA

- ▶ Project site is a **brownfield**
- ▶ Letter of support from the **governing body**
- ▶ Without the tax credit award, the project is **not economically feasible**
- ▶ **Project financing gap** exists, and the tax credit being considered for the project is equal or less than the project financing gap
- ▶ Prevailing wage required
- ▶ Remediation has **NOT** commenced, unless the full extent of contamination could not reasonably have been known prior to starting cleanup.
- ▶ **NOT** in any way responsible or liable for the contamination
- ▶ Remediation costs are reasonable and appropriate
 - ▶ This will be reviewed by DEP prior to Board Approval

REMEDIATION COSTS

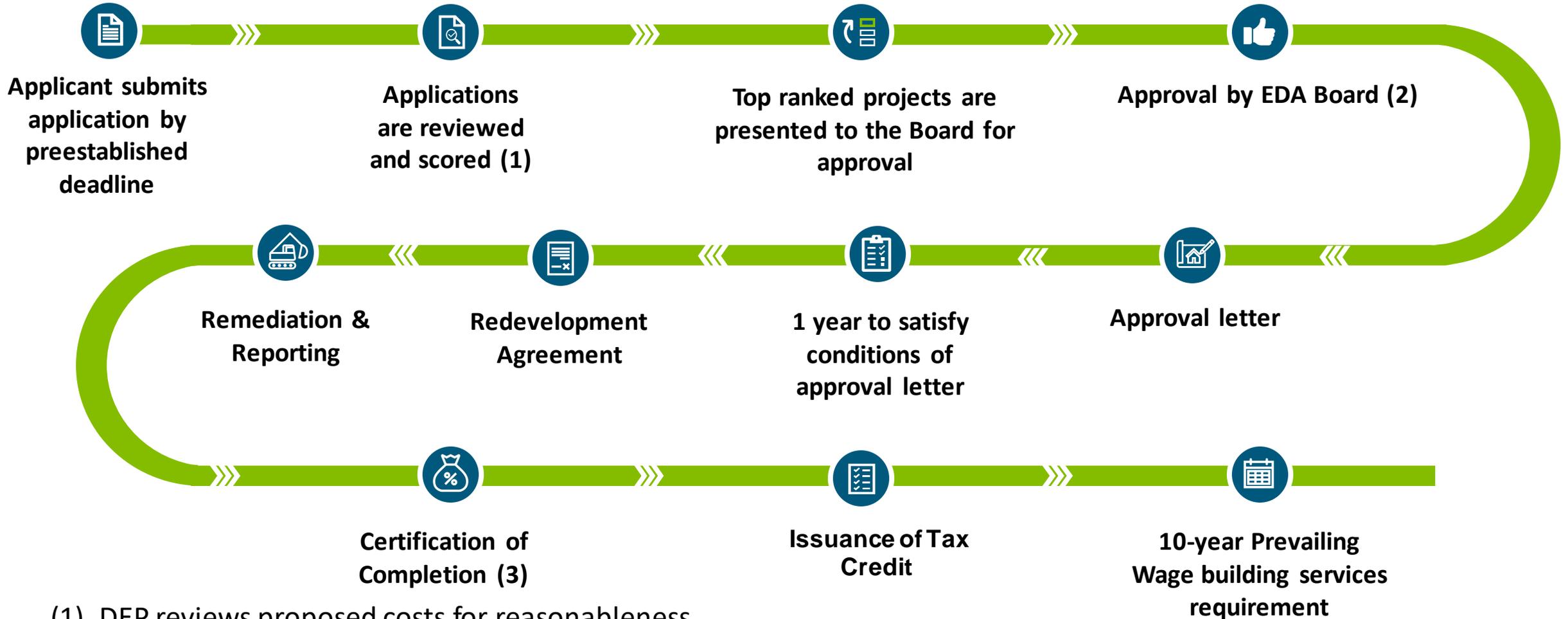
ELIGIBLE REMEDIATION COSTS

Remediation costs means all reasonable costs associated with the remediation of a contaminated site including DEP site remediation program fees and other DEP permit fees. Prior environmental assessment and investigation are eligible up to 24 months from the application date.

INELIGIBLE REMEDIATION COSTS

Costs excluded from the program include acquisition of the property, financing the remediation, legal fees, incentive consultant fees, Authority fees, penalties, and violations. Vertical construction costs (which are not part of remediation) are not eligible.

Program Project Timetable



(1) DEP reviews proposed costs for reasonableness.

(2) Six years from Board Approval to complete remediation project.

(3) Submit documents to DEP for certification within 1 year of completing remediation project.

Recording of Public Feedback Sessions

Members of the public can submit written feedback on the New Jersey Brownfields Redevelopment Incentive Program via www.njeda.com/program-specific-feedback through September 15th

Both New Jersey Brownfields Redevelopment Incentive Program (“BRI”) public feedback sessions were recorded and posted on www.njeda.com/program-specific-feedback so that members of the public unable to participate in a virtual session have the opportunity to review.



Visit njeda.com or email bftaxcredit@njeda.com for more information



@NewJerseyEDA | njeda.com |

609.858.6767

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NJEDA

CCI UPDATE

Frank Mclaughlin, CCI Manager



CCI UPDATE

**Victor Cirilo, City of Newark
Newark Housing Authority**



BREAK



An aerial photograph of Northeast New Jersey, showing the Hudson River and surrounding urban and industrial areas. Overlaid on the map are various colored lines and arrows representing pipeline development and brownfield transformation projects. The lines are in shades of green, blue, orange, and pink, with some dashed lines. Arrows indicate the direction of flow or development. The text is overlaid in white, bold, sans-serif font.

RESILIENT NJ

NORTHEASTERN NEW JERSEY

PIPELINE DEVELOPMENT: RESILIENT
TRANSFORMATION OF CONTAMINATED SITES &
BROWNFIELDS

SEPTEMBER 20, 2022

AGENDA

The background of the slide features a scenic view of a city skyline, likely San Francisco, across a body of water. In the foreground, there is a wooden walkway or pier extending into the water, with a grassy area and some dark, rectangular objects (possibly floats or buoys) visible. The sky is filled with large, white clouds, and the overall lighting suggests a bright, sunny day.

- Quick project and risk overview
- Why create a resilient transformation pipeline?
- How create a resilient transformation pipeline?
- What more is needed?
- Next steps and discussion

QUESTIONS FOR YOU

- *Does this sound right?*
- *What else should we be thinking about?*
- *What would you like to see happen next?*

PROJECT OVERVIEW

RESILIENT NORTHEASTERN NEW JERSEY



Resilient Northeastern NJ Project Area



NJDEP administers this program and similar initiatives in three other regions in NJ



Representatives of the Region Team sit on the Steering Committee

Residents from each city sit on the Community Advisory Council

WHAT DOES THIS PLAN INCLUDE?



Physical and nature-based solutions

Coastal

Stormwater

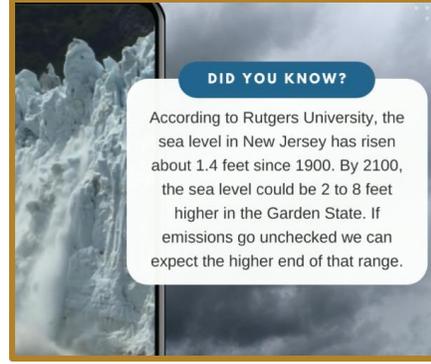
Other climate hazards

Example: Conversion of vacant and abandoned lots to stormwater retention



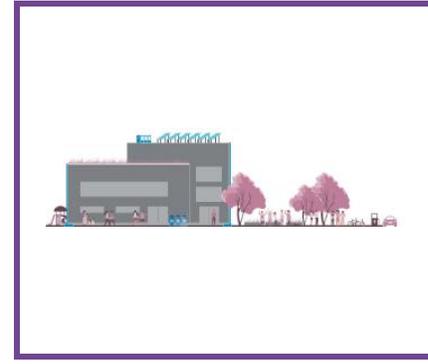
Recommended changes to policies and governance

Example: Incentives for green infrastructure



Outreach, education, and capacity building

Example: Flood management 101 campaign



Service and program development

Example: Resilience hubs



Emergency response and preparedness

Example: Improved flood warning systems

HOW DID WE GET HERE?

About Our Region



Vision & Priorities



**“WHO WE ARE” AND
“WHAT WE ENVISION”**

Flood Impact Assessment



Ida After Action



Climate Hazards Assessment



WHAT'S AT RISK

Progress through the project is shared through these milestone reports. The action plan is intended to be a “living document.”

Scenario Development



OPTIONS

Draft Action Plan (coming soon)



SOLUTIONS

COMMUNITY ENGAGEMENT

WHAT ELSE COULD WE DO IN THE FUTURE TO ENSURE THE PLAN IS REFLECTIVE OF COMMUNITY GOALS AND PRIORITIES

ANYTIME ENGAGEMENT TOOLS



WEBSITE



IRYS APP



MIRO BOARDS



SOCIAL MEDIA



PHONE HOTLINE



EMAIL



SURVEYS



POP-UP MEETING MATERIALS



MEETINGS-IN-A-BOX

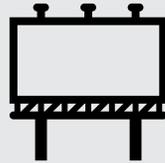
OUTREACH AND COMMUNICATIONS



SOCIAL MEDIA



EMAIL SIGN-UP LIST / CONTACT LISTS



ADVERTISEMENT / PUBLIC NOTICES



PRESENTATIONS AT EXISTING EVENTS



FLYERS & COMMUNITY ART SHEETS



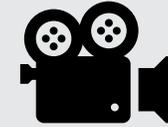
NEWSLETTERS



TABLING AT EVENTS



DIRECT PHONE CALLS



VIDEOS



NEWS REPORTS / PRESS RELEASES



TEXT ALERTS



MEETING RECORDINGS

DIRECT ENGAGEMENT



CAC MEETINGS & SMALL GROUP MEETINGS



ATTENDANCE AT EXISTING PLANNED EVENTS / MEETINGS



SITE VISITS



YOUTH WORKSHOPS



COMMUNITY MEETINGS

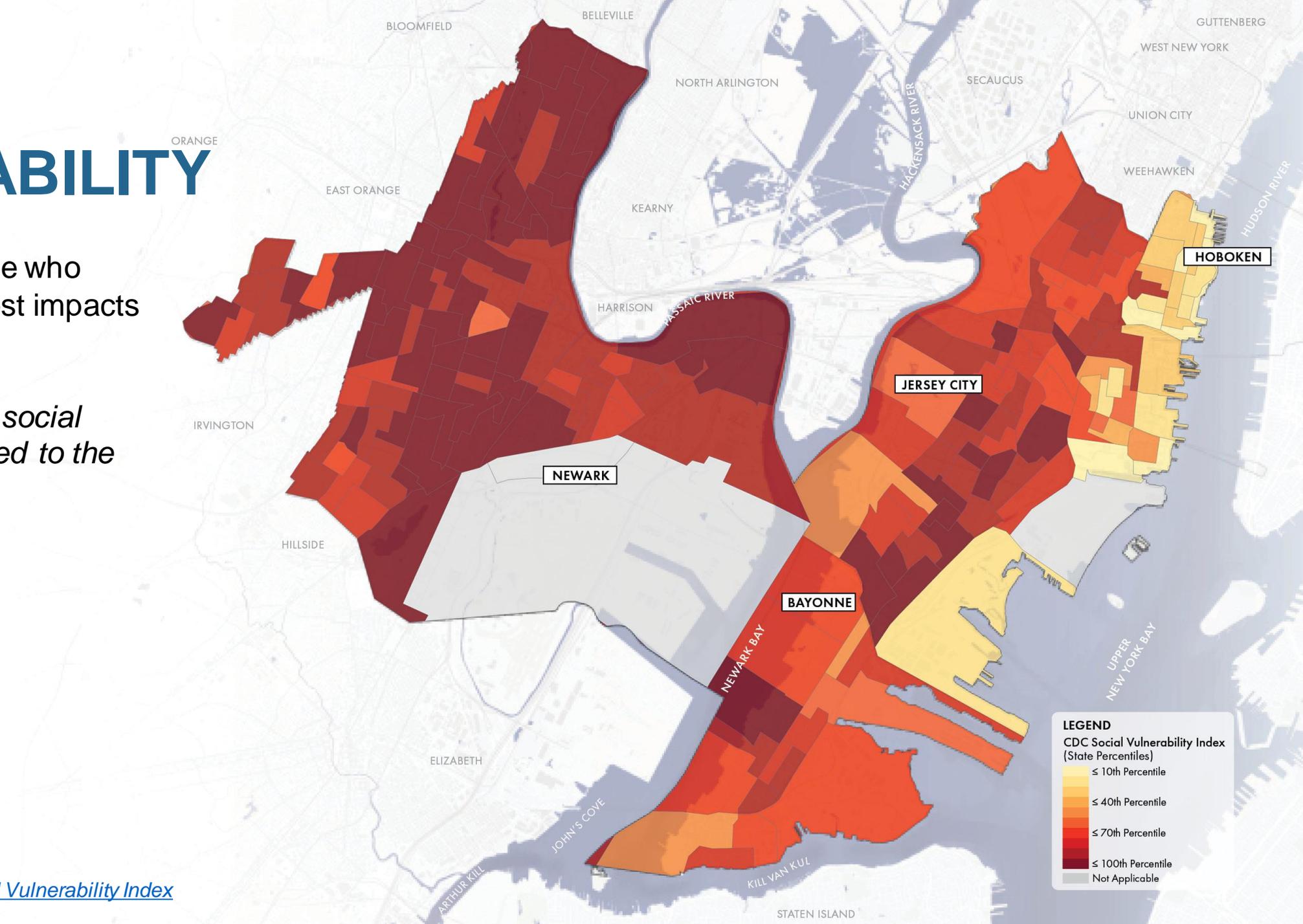


INTERVIEWS AND ONE ON ONES

SOCIAL VULNERABILITY

Where are the people who might feel the greatest impacts of climate change?

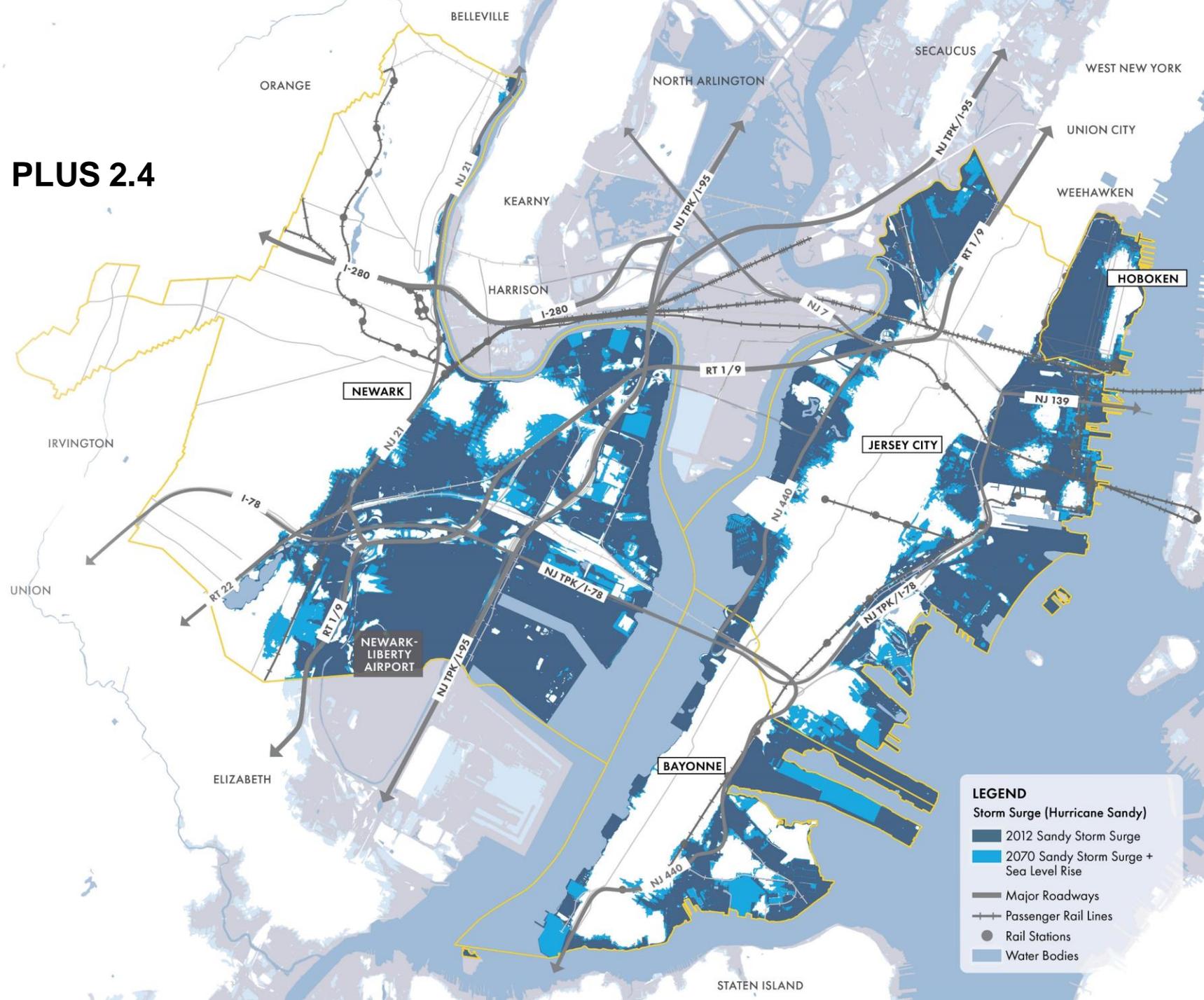
The region has high social vulnerability compared to the rest of the State.



SANDY

2012 HIGH WATER MARKS AND PLUS 2.4 FEET SEA LEVEL RISE

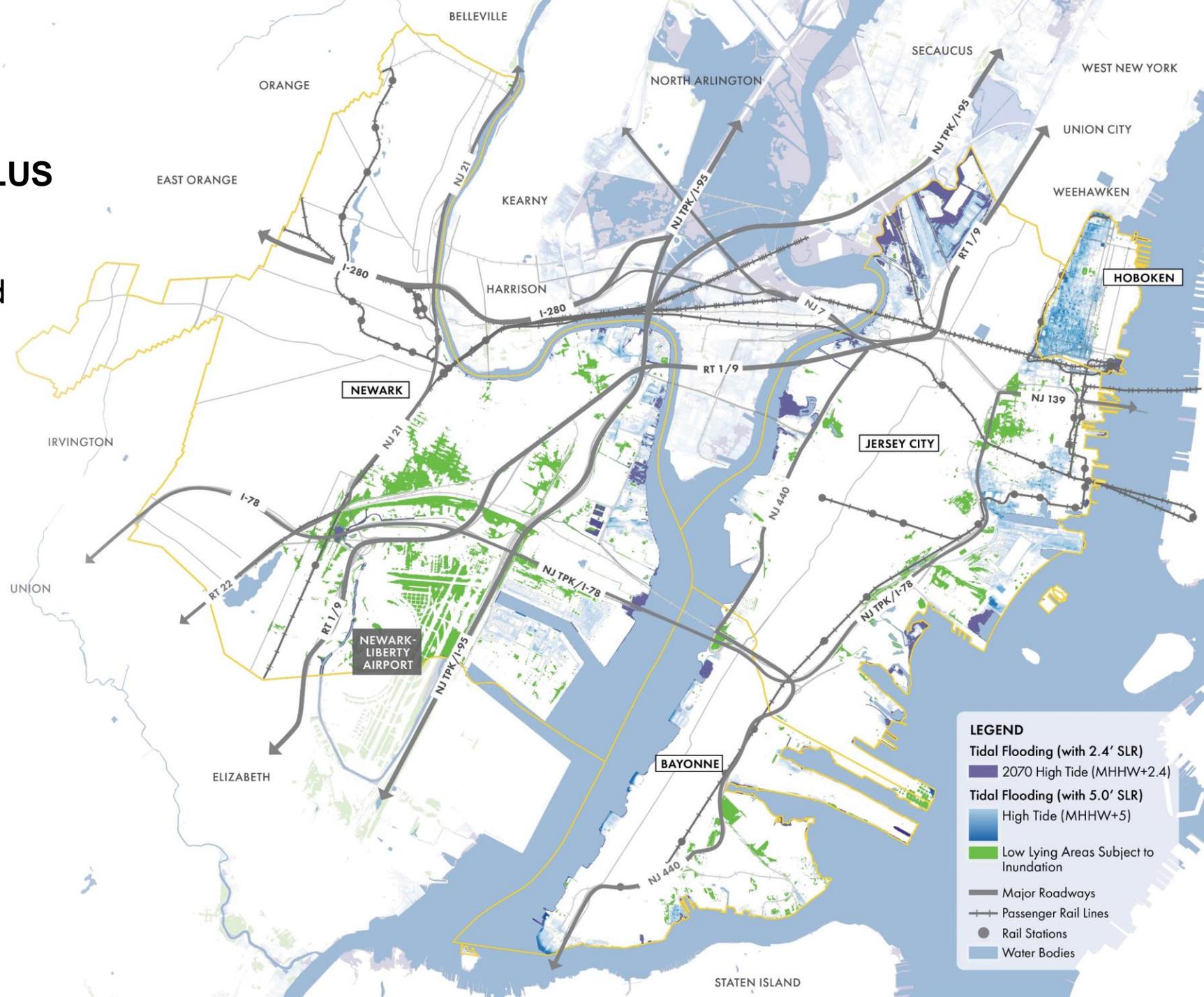
\$31B in losses and **150,000** residents in impacted homes from a future storm surge event



HIGH TIDE

MEAN HIGHER HIGH WATER PLUS
SEA LEVEL RISE

\$2B in replacement value and
420 residents in impacted
homes from exposure to
future tidal flooding

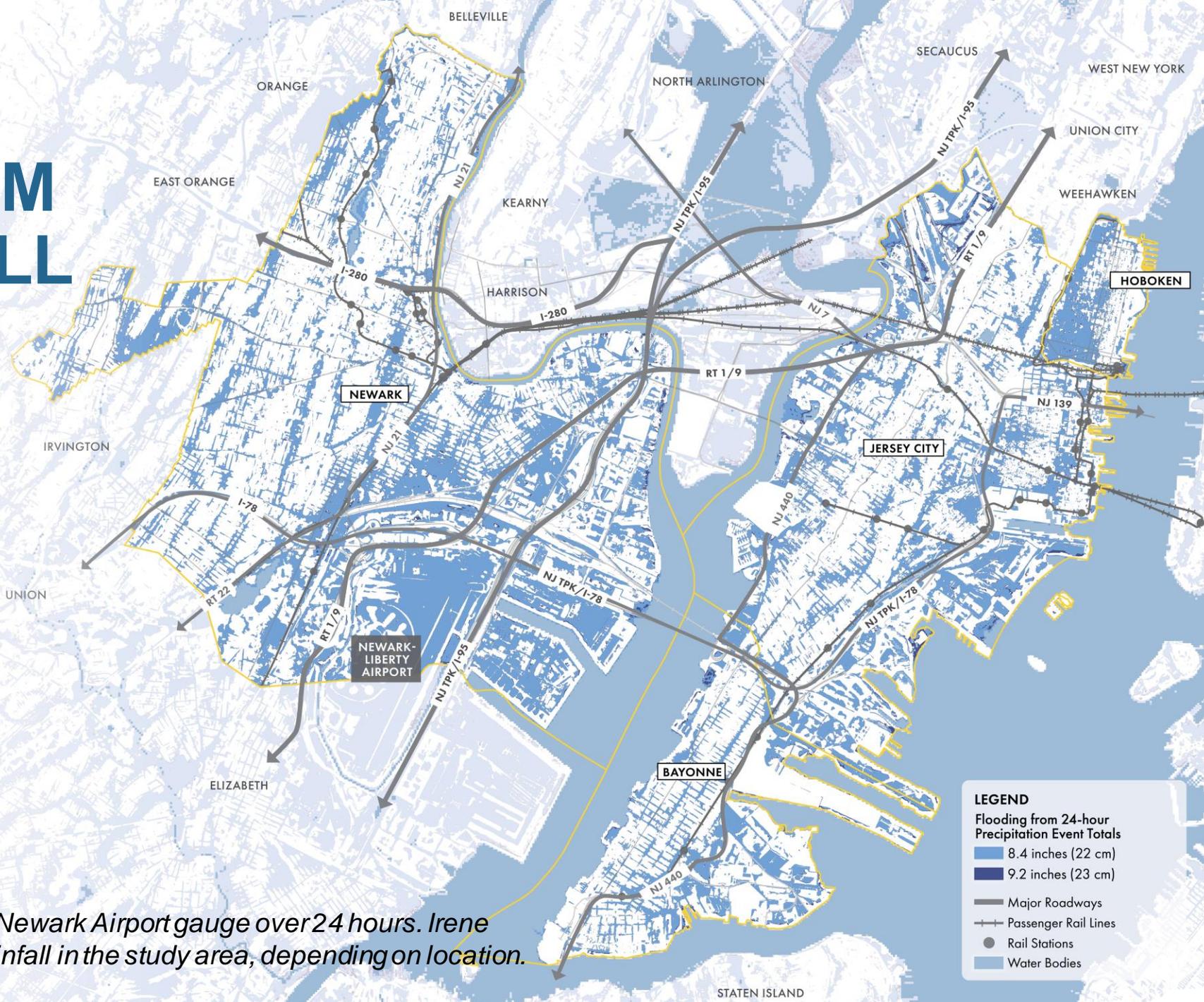


LEGEND

- Tidal Flooding (with 2.4' SLR)
 - 2070 High Tide (MHHW+2.4)
- Tidal Flooding (with 5.0' SLR)
 - High Tide (MHHW+5)
- Low Lying Areas Subject to Inundation
- Major Roadways
- Passenger Rail Lines
- Rail Stations
- Water Bodies

MODELED FLOODING FROM MAJOR RAINFALL

\$5.9B in losses and **220,000** residents in impacted homes from a future rainfall event



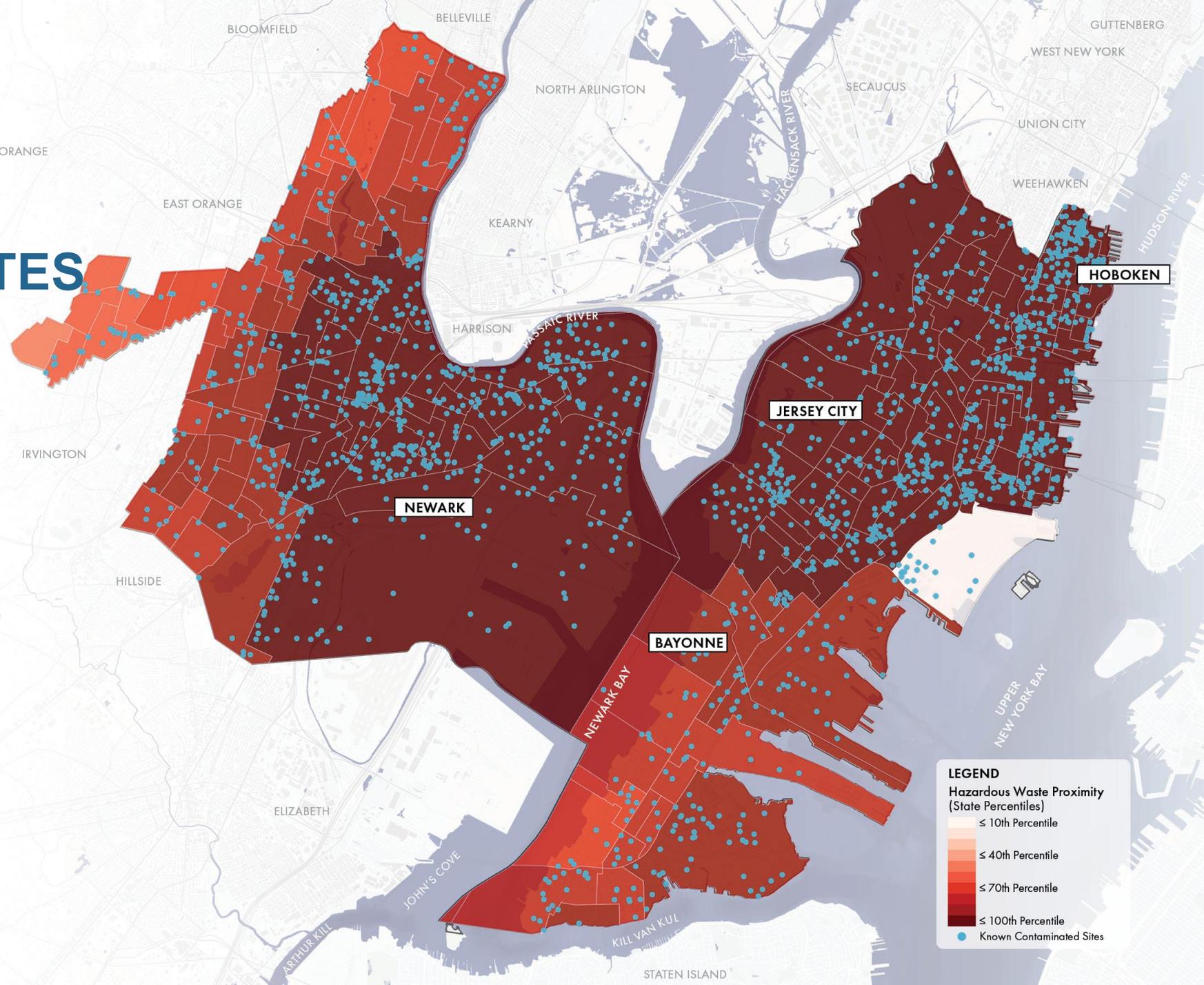
There is not a lot of dark blue visible because the water will mostly get deeper with 10% increase in rainfall

**Ida dropped 8.4 inches (22 cm) of rain at Newark Airport gauge over 24 hours. Irene dropped 6 to 10 inches (15 to 25 cm) of rainfall in the study area, depending on location.*

PROXIMITY TO HAZARDOUS WASTE AND CONTAMINATED SITES

Due largely to the region's industrial legacy, there are many known contaminated sites in the region that may expose community members to pollution.

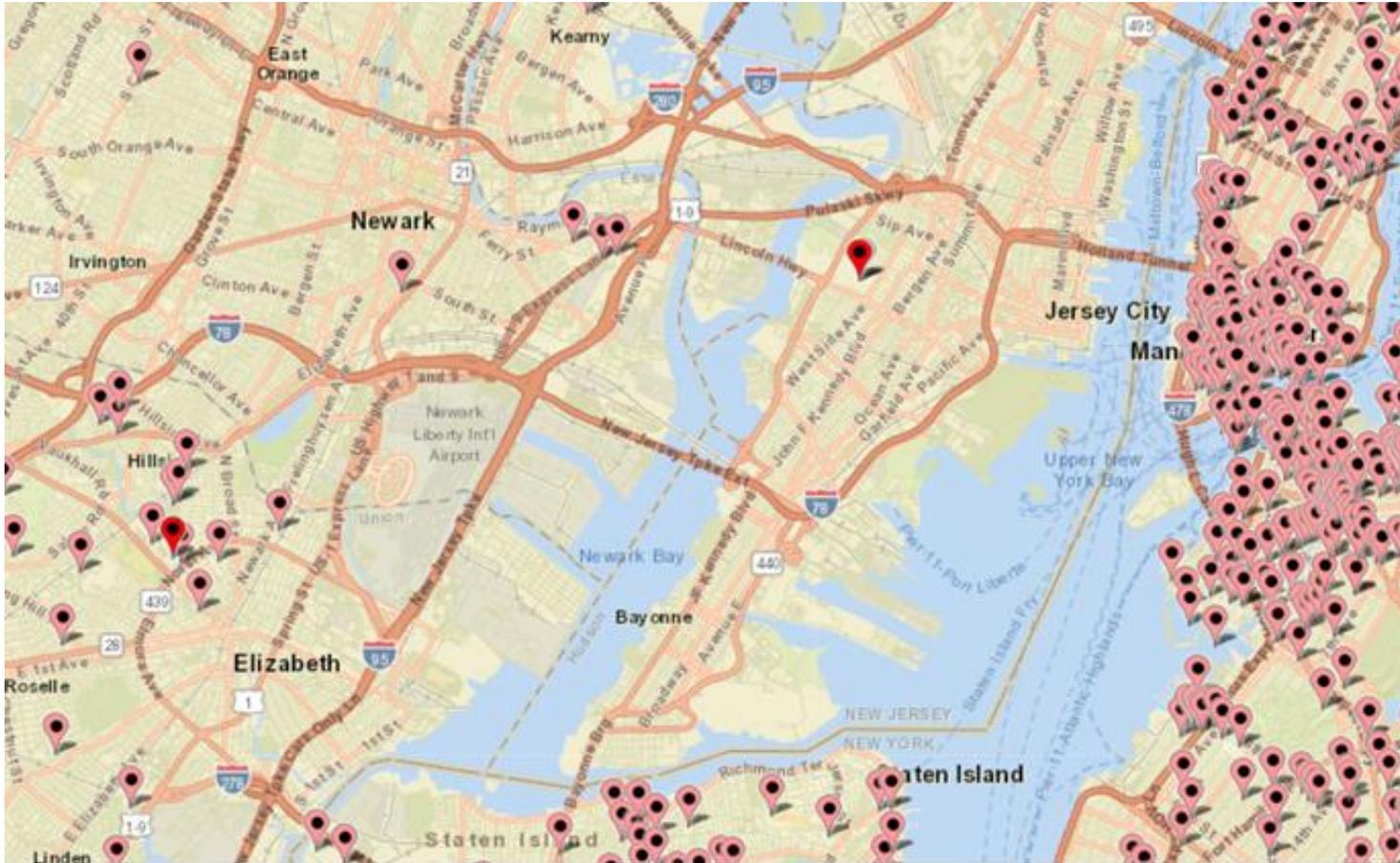
The blue dots include only **known** contaminated sites that have been reported to the State and may include some that were recently cleaned up.



Data sources: [EPA EJScreen Mapping Tool](#) (for underlying hazardous waste proximity), [NJDEP Known Contaminated Site List](#) (for points)

GROUNDWATER ANALYSIS

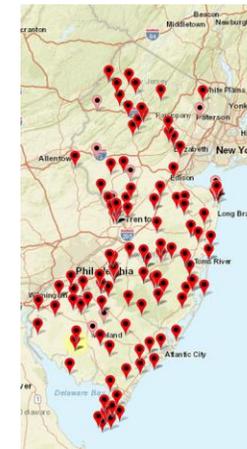
DATA GAPS AND CHALLENGES IN PREDICTING GROUNDWATER RISE



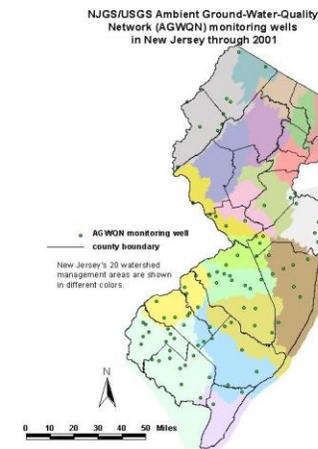
There are significantly fewer USGS wells in the region as compared to in NYC (source: National water dashboard, NWIS)

Groundwater rise is less understood and studied as compared to sea level rise, but the two phenomena are linked.

Additional data are needed to be able to project groundwater rise in the region.



USGS wells in the State



NJ Geological survey



WHAT DO WE WANT TO ACCOMPLISH UNDER RNJ AS IT RELATES TO CONTAMINATED SITES?

GOAL #1: IDENTIFY CONTAMINATED SITES AT HIGHEST CONCERN FROM A RESILIENCE PERSPECTIVE

GOAL #2: IDENTIFY REMEDIATED SITES WHERE RISK MAY REMAIN DUE TO A CHANGING CLIMATE CONTEXT (I.E., GROUNDWATER)

GOAL #3: CREATE A PIPELINE FOR RESILIENT TRANSFORMATION BY IDENTIFYING SITES AND GUIDELINES FOR:

WHY CREATE A PIPELINE?

When faced with a lot of work, a pipeline supports implementation by a) prioritizing where we might have the most impact, b) giving us our first step, and c) building a backlog for others to share the load

Step 1: Clean up



Step 2: Flood Hazard Mitigation



Step 3: Recreational / open space or economic enhancement

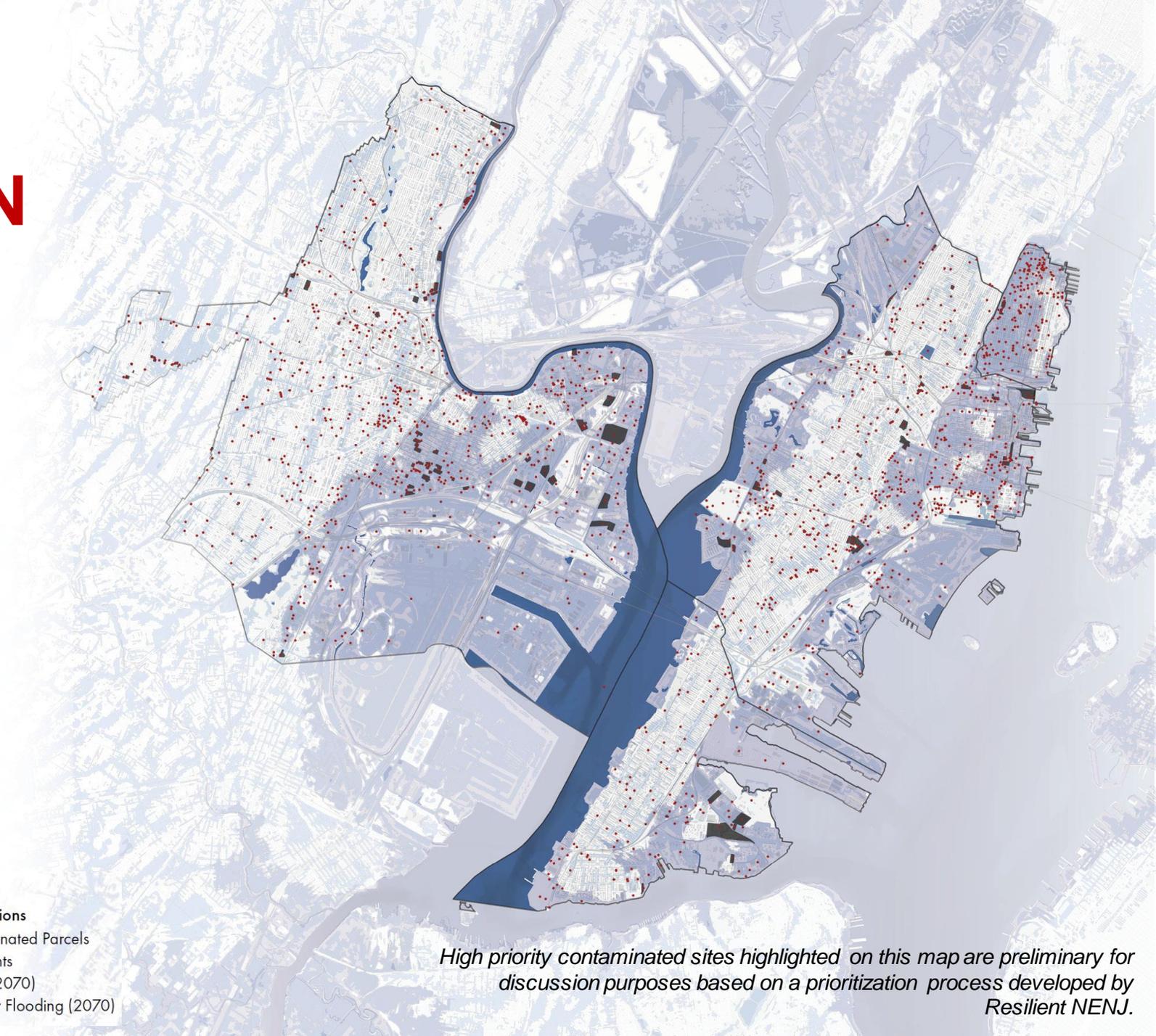
RESILIENT SITE TRANSFORMATION PIPELINE

Identifying priority sites for remediation. These could integrate stormwater storage in the clean-up, be converted to green space, and/or provide economic value.

LEGEND

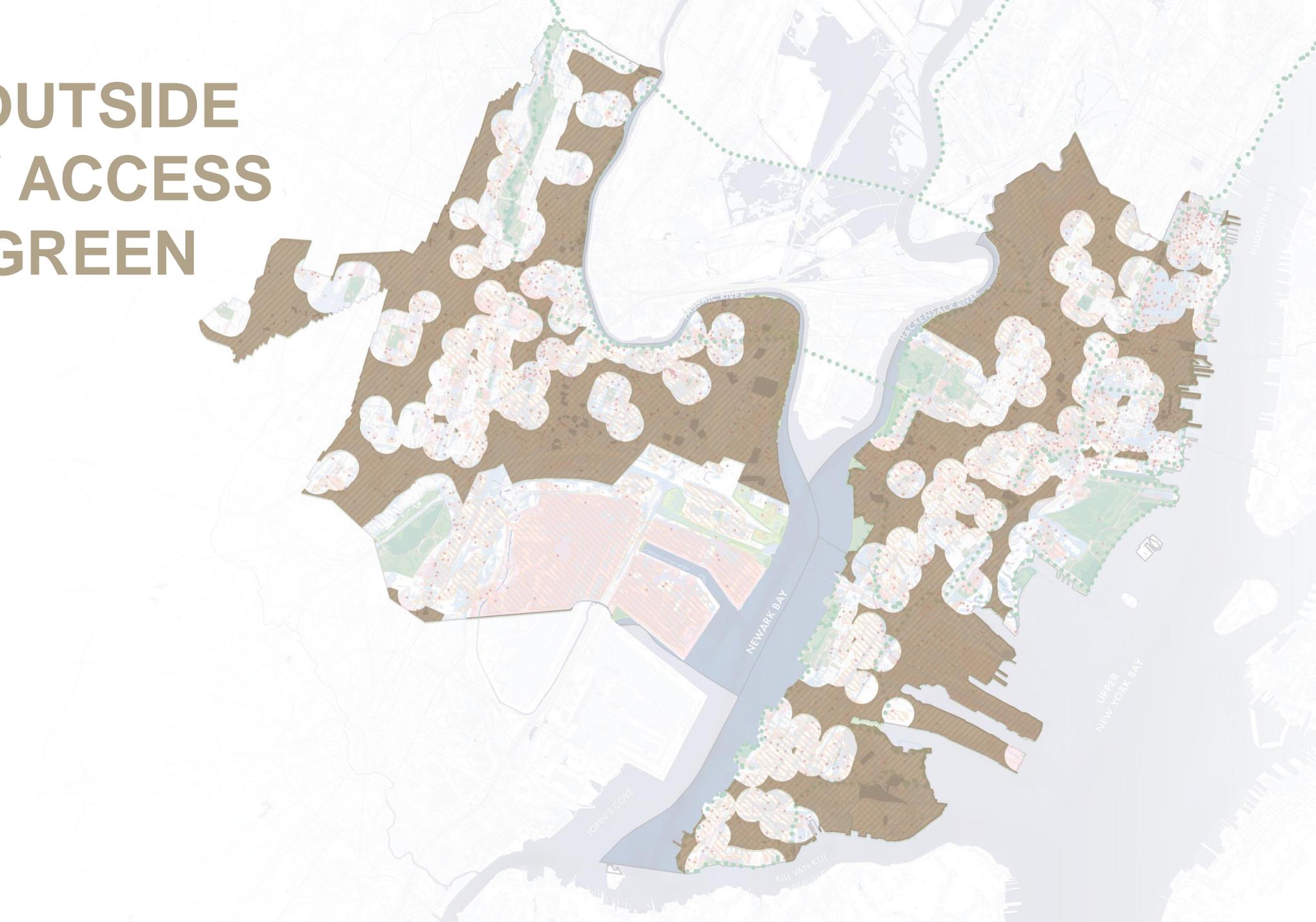
Green Infrastructure Considerations

- High Opportunity Contaminated Parcels
- Known Contamination Points
- Modeled Flash Flooding (2070)
- Modeled Hurricane Sandy Flooding (2070)

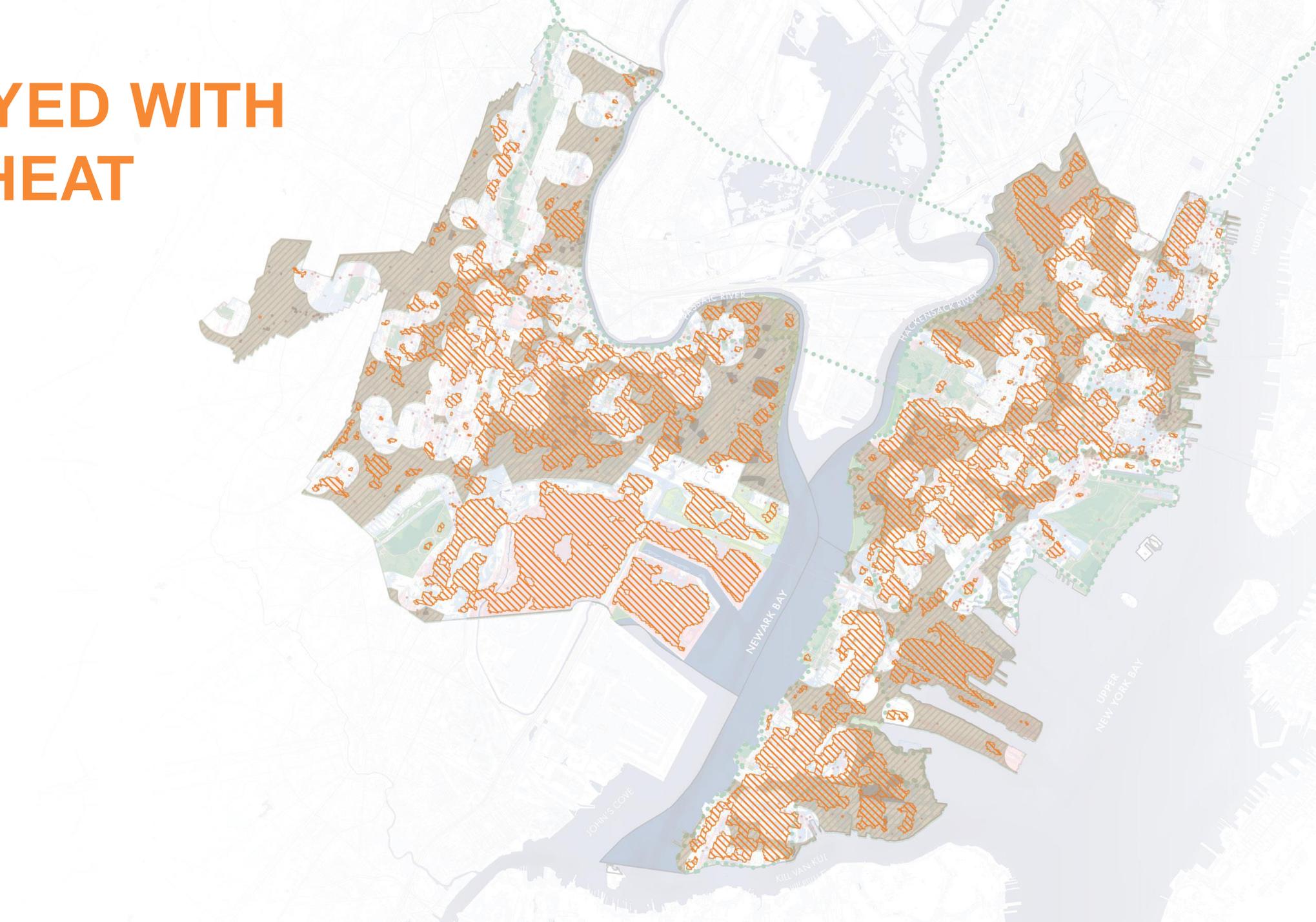


High priority contaminated sites highlighted on this map are preliminary for discussion purposes based on a prioritization process developed by Resilient NENJ.

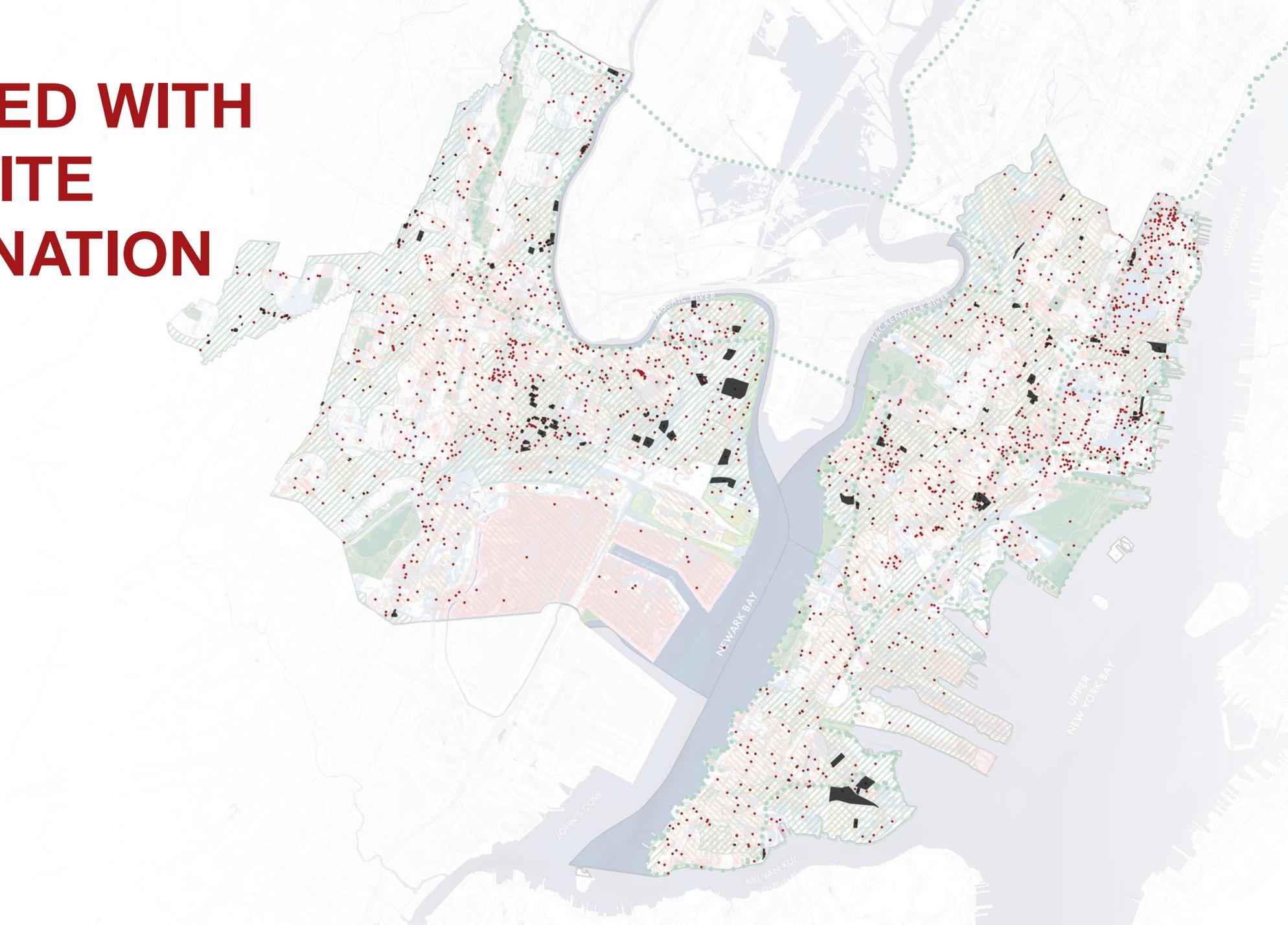
AREAS OUTSIDE OF EASY ACCESS TO ANY GREEN SPACE



OVERLAYED WITH URBAN HEAT ISLAND



OVERLAYED WITH KNOWN SITE CONTAMINATION

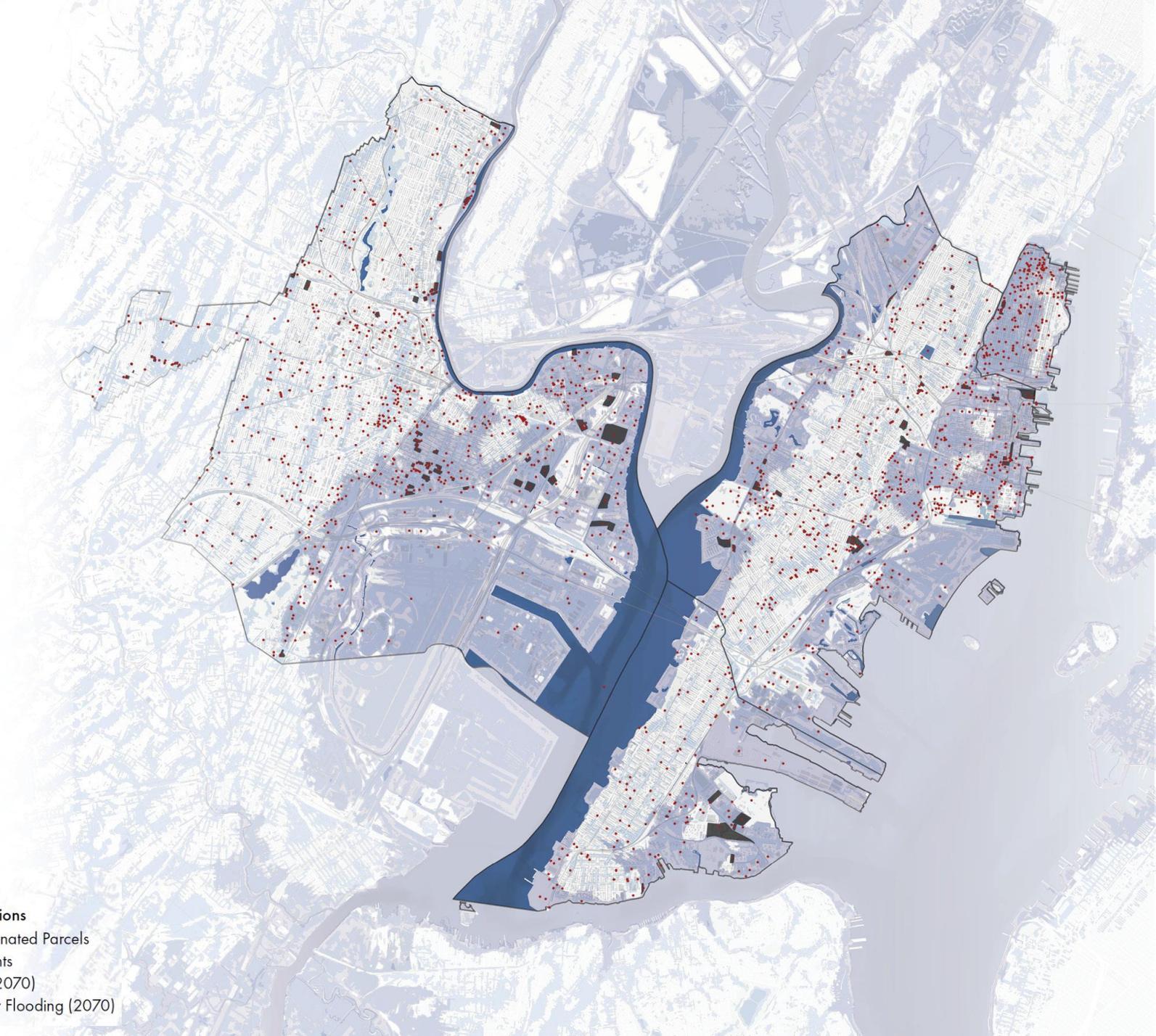


KNOWN SITE CONTAMINATION OVERLAYED WITH RAINFALL FLOOD RISK

LEGEND

Green Infrastructure Considerations

- High Opportunity Contaminated Parcels
- Known Contamination Points
- Modeled Flash Flooding (2070)
- Modeled Hurricane Sandy Flooding (2070)



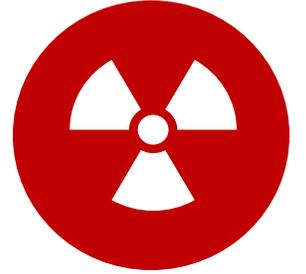
SOME POSSIBLE PRIORITY AREAS BEGIN TO EMERGE

LEGEND

-  Socially Vulnerable Areas of High Heat, Lack of Access
-  Publicly Owned Impervious Surfaces within Select Areas
-  Contaminated Parcels within Select Areas
-  Areas More than .25mi from Parks



RISK METHODOLOGY



Variables considered in risk prioritization:

- Flood exposure
- Community exposure
- Social vulnerability index
- Contaminant type

Information that could be valuable to understand risk but is not widely available across the known contaminated sites:

- Concentrations of contamination
- Extents of contamination (we have through deed notices and classification exception areas, but this is only applies to a portion of the sites and is only for sites further along in the remediation process)

**more research is needed in this field*

OPPORTUNITIES METHODOLOGY



General resilience: Open space, green space, general community benefits (we are using “general” as a shorthand for this category)

- Site status
- Flood exposure
- Community exposure
- Inclusion in the brownfields inventory
- *Social vulnerability index*
- *Distance from green space*
- *Redevelopment area*



Economic development

- Site status
- Flood exposure
- Community exposure
- Inclusion in the brownfields inventory
- *Presence in US Dept. of Treasury Opportunity Zone*
- *Presence in an Urban Enterprise Zone (UEZ)*

Italics are factors that differ between the two categories of prioritization

DRAFT ACTION PLAN RECOMMENDATIONS

| WHO? | NEAR TERM PRIORITIES | LONGER TERM ACTION ITEMS |
|----------|---|---|
| STATE | <ul style="list-style-type: none"> Expand the brownfields inventory across the state, beyond CCI municipalities (which are the only municipalities included as of June 2022) Continue data improvements to Known Contaminated Site List and other state-managed databases to provide more complete information on resilience-related factors (e.g. expanding available information or accuracy on contaminant type and extents, remedial design type, site status) Coordinate and align state funding programs to accelerate resilient transformation of contaminated sites. Consider: <ul style="list-style-type: none"> Collaborating in the development of guidelines and requirements a site might follow to flow through the process Funding and supporting resilient transformation of high priority sites under RNJ banner | <ul style="list-style-type: none"> Conduct a statewide climate-related risk assessment for contaminated and remediated sites to understand the magnitude of risk and make the potential case for further investment. As part of the assessment, consider including: <ul style="list-style-type: none"> A study of the impacts of climate-related hazards such as groundwater rise on risks posed by various types of site contamination Through continued engagement with appropriate program, advancement of the criteria developed and summarized herein for prioritization of sites for risk and opportunity, and application of the criteria to create a pipeline of sites prioritized for action Exploration of higher standards for contaminated sites to consider climate change impacts in remedial design |
| COUNTIES | <ul style="list-style-type: none"> Support refinement of the prioritization methodologies presented herein and support municipalities in confirming high risk and high opportunity sites for action | <ul style="list-style-type: none"> Support implementation by partnering on funding pursuits Support advocacy for increased funding and action to address resilience-related needs around contaminated sites |
| CITIES | <ul style="list-style-type: none"> Support refinement of the prioritization methodologies presented herein and confirm high risk / opportunity sites Advance catalyst resilient transformation projects at high risk / opportunity publicly owned contaminated sites / brownfields | <ul style="list-style-type: none"> Engage private property owners to explore partnership opportunities for resilient transformation of privately owned sites |
| CBOs | <ul style="list-style-type: none"> Support documentation of impacts on people from the presence of contaminated sites to advocate for and inform statewide risk assessment | <ul style="list-style-type: none"> Participate in partnerships to advance resilient transformation of sites Support advocacy for increased funding and action to address resilience-related needs around contaminated sites |

QUESTIONS FOR YOU

- *Does this sound right?*
- *What else should we be thinking about?*
- *What would you like to see happen next?*

THANK YOU!

APPENDIX

DATASETS

Categorization uses the **Known Contaminated Site List** dataset, with information linked from:

- The [brownfields inventory](#)*
- Classification exception areas (**contaminants present**, CEA depth)
- Deed restriction areas (depth [vertical extent in feet of contamination found within the boundary], use of engineered cap & its thickness in feet, **contaminants present**)

Information on **contaminant type** is available through the classification exception area (CEA) and deed notice databases for ~920 of ~1800 sites in the Known Contaminated Site List for this region. In the risk prioritization, a contaminant flag is applied to sites that have a known presence of the top 10 contaminants on the [Substance Priority List](#).

Site status is also determined from this dataset, with the following ranking applied:

Pending = 3 (**Earlier stage of planning**)

Active = 2

Active – RAP or Active – Post Rem = 1

*Brownfields inventory only applies to Jersey City, Bayonne, and Newark as of May 2022

DATASETS, CONT'D

- **Existing green space:** to represent green space, we are using the NJDEP database [State, Local, and Nonprofit Open Space of New Jersey](#), with impervious surfaces removed
 - **Data processing:** Areas in proximity to green space were identified by applying a ¼ mile buffer to the green space dataset. Areas outside this buffer are considered to be lacking green space
- **Social vulnerability:** [CDC ATSDR social vulnerability index](#) at the census tract level (2018)
- **Redevelopment areas:** Redevelopment areas from the [state database](#) were combined with redevelopment area maps that were created in coordination with the municipalities for Resilient NENJ
- **Opportunity zones:** [Opportunity zones layer produced by HUD](#)
- **Urban Enterprise Zones:** [UEZ layer produced by NJ DCA](#)
- **Flood exposure:** see later slide
- **Community exposure:** see later slide

OTHER DATASETS THAT COULD BE INCORPORATED BUT HAVE NOT YET BEEN

- [NJ Overburdened Communities database](#) (similarly to the SVI, most communities in the region, except for Hoboken, are considered to be overburdened) could be incorporated into risk and opportunity prioritization
- Gas stations, auto body shops & dry cleaners datasets (all available from NJDEP) could be incorporated into risk prioritization

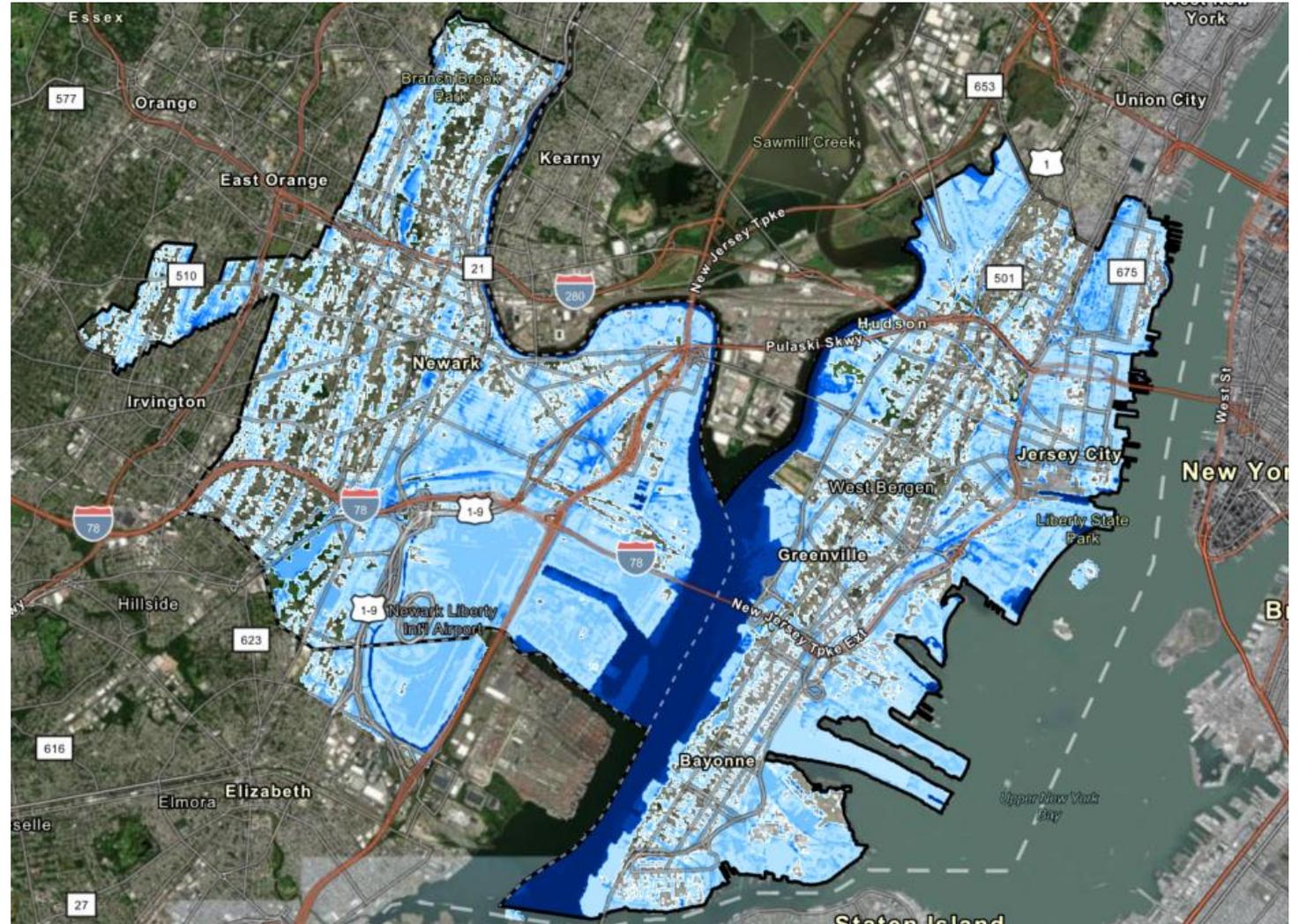
DATA: FLOOD EXPOSURE

ASSUMPTION: HIGHER EXPOSURE = HIGHER RISK

This methodology uses the 6 modeled flood scenarios that were created for the RNJ program. Flood exposure is scaled based on a composite raster layer that combines the 6 scenarios (includes current and future rainfall flooding, future tidal flooding, storm surge flooding).

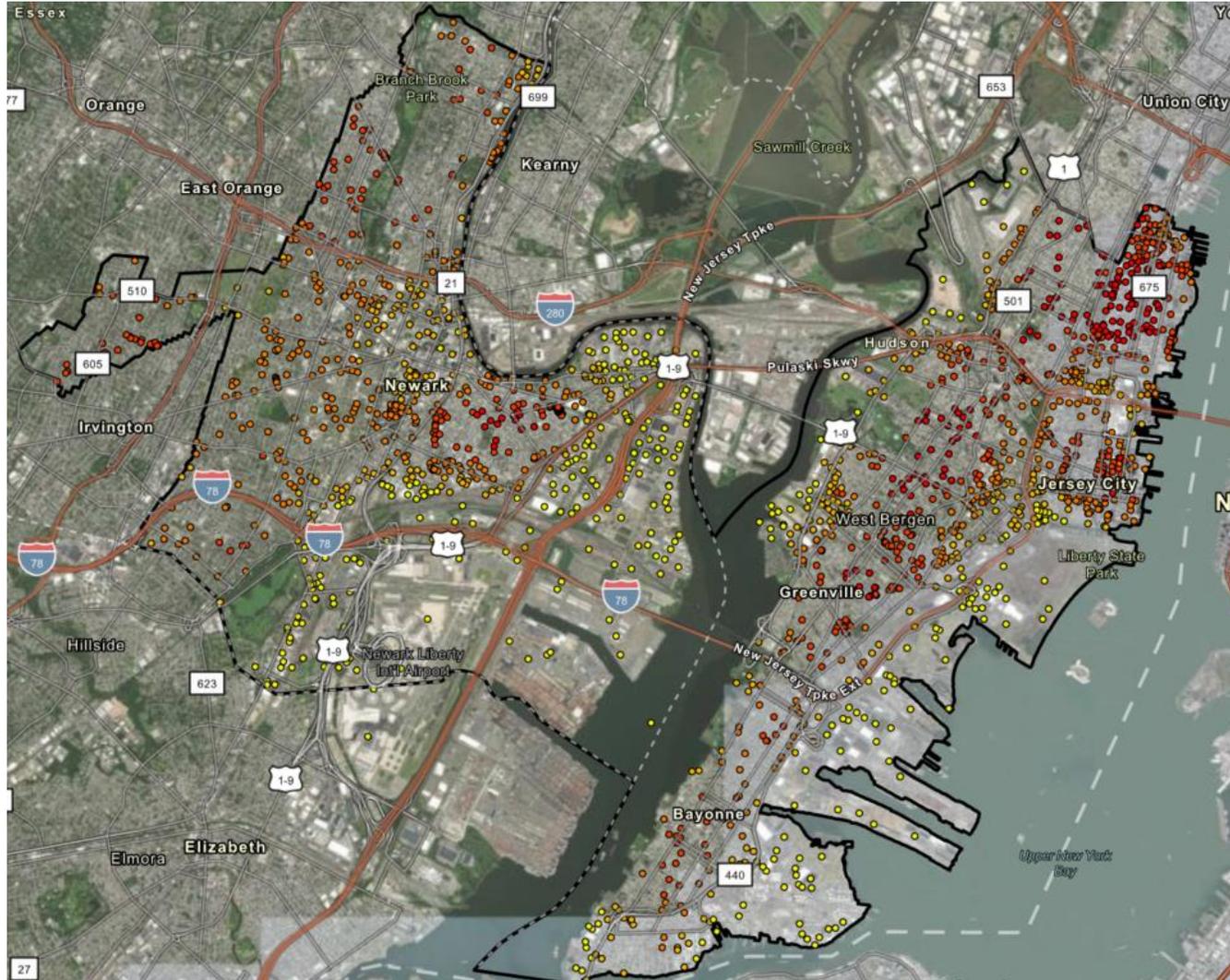
The composite flood raster layer ranges in value from 0 to 120. The flood exposure value for each contaminated site is determined by averaging the value across the parcel or point.

Darker blue is higher exposure



DATA: COMMUNITY EXPOSURE

ASSUMPTION: HIGHER EXPOSURE = HIGHER RISK AND HIGHER OPPORTUNITY



Population within a ½ mile of the site is used to represent community exposure using the below ranking:

- Population < 500 = 1
- Population >= 500, <1,000 = 2
- Population >=1,000, <1,500 = 3
- Population >=1,500 = 4 (higher population = higher community exposure)

Darker red is more population / greater community exposure of the sites in the inventory

CAVEATS

A NOTE ON DATA LIMITATIONS

The Known Contaminated Site List is the most extensive of the available datasets. The dataset overlaps with several others that are available, including chromate sites and brownfield development areas. Due to existing overlap and some inconsistencies, the layers were not merged, which means there may be some sites missing from the combined inventory.

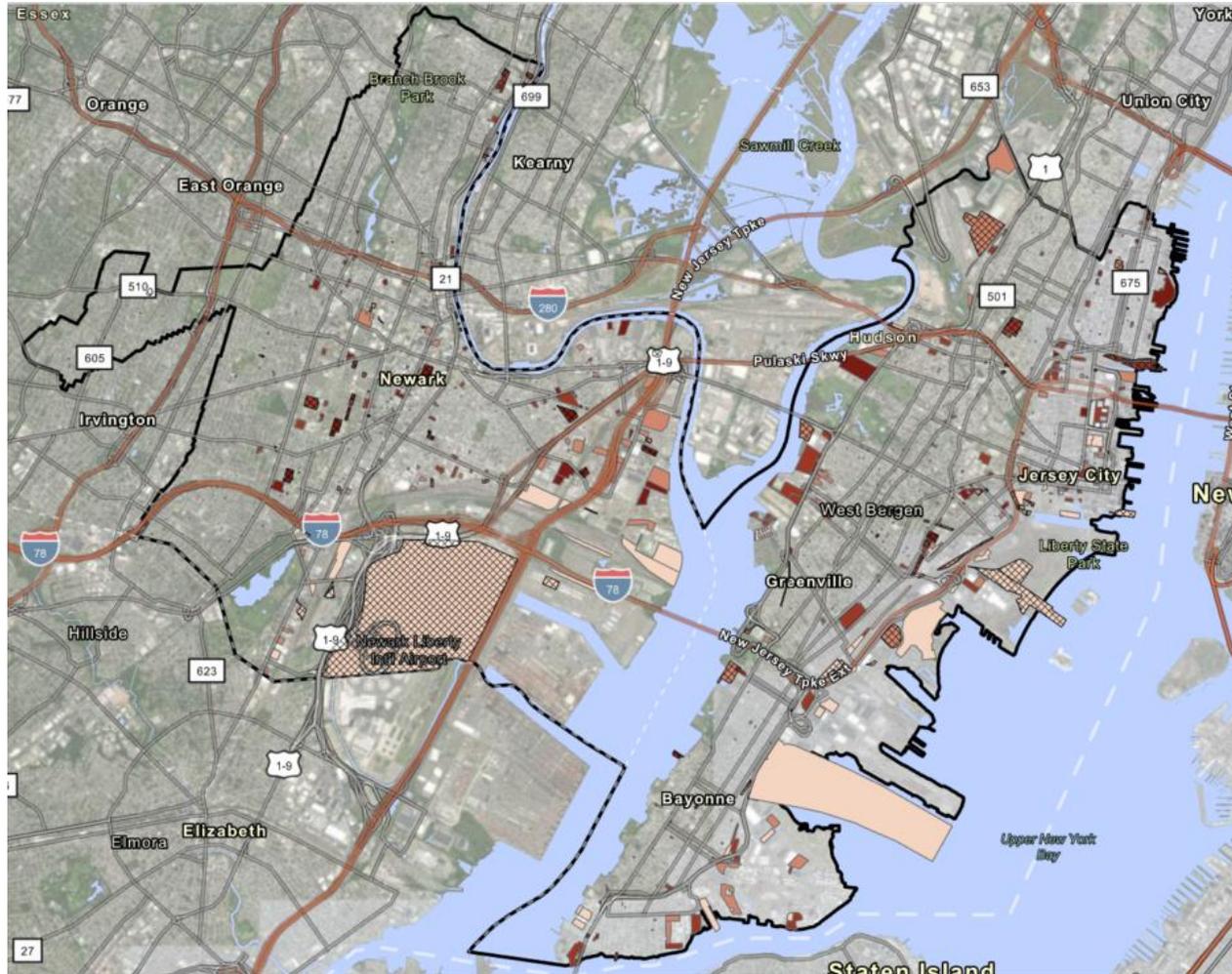
*The Known Contaminated Site List has its own inherent limitations. For example, the database includes only **known** sites. There may be other sites with contamination that are not yet included in the list because they have not yet been documented through existing processes. The list is also highly fluid and is updated on NJDEP's website daily. See next slide for additional caveats.*

Additionally,

- This is based only on currently accessible and best available data for contaminated sites and other datasets
- Data may be out of date – for example, several sites have been identified that are listed as “Active” but are known to have been remediated with completed redevelopment
- Data do not currently consider other economic, social, and environmental factors for decision making\

**DRAFT
CATEGORIZATION OF
UNREMIEDIATED SITE
RISK BASED ON DATA
AVAILABLE**

PRELIMINARY PRIORITIZED RISK INVENTORY



Darker red is higher risk.

Hatched sites are publicly owned.

THE BASICS

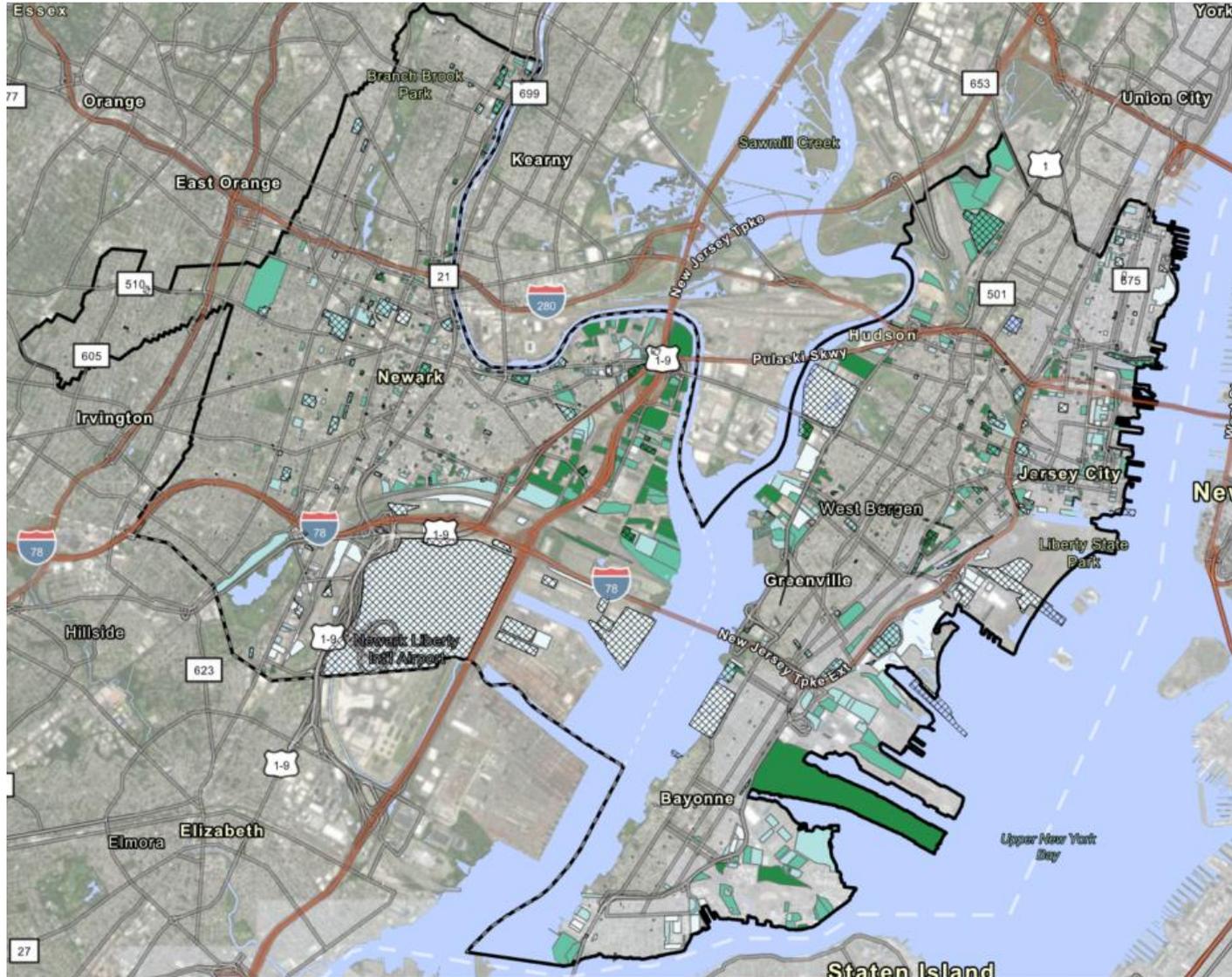
The inventory includes > 1,800 contaminated sites and brownfields.

Information about contamination is available for ~920 of the sites

This prioritization only includes un-remediated sites (sites with status Pending or Active in the Known Contaminated Sites List)

**DRAFT OPPORTUNITIES
CATEGORIZATION
BASED ON DATA
AVAILABLE**

PRELIMINARY PRIORITIZED INVENTORY - GENERAL



Darker green is higher opportunity for GENERAL RESILIENCE.

Hatched sites are publicly owned.

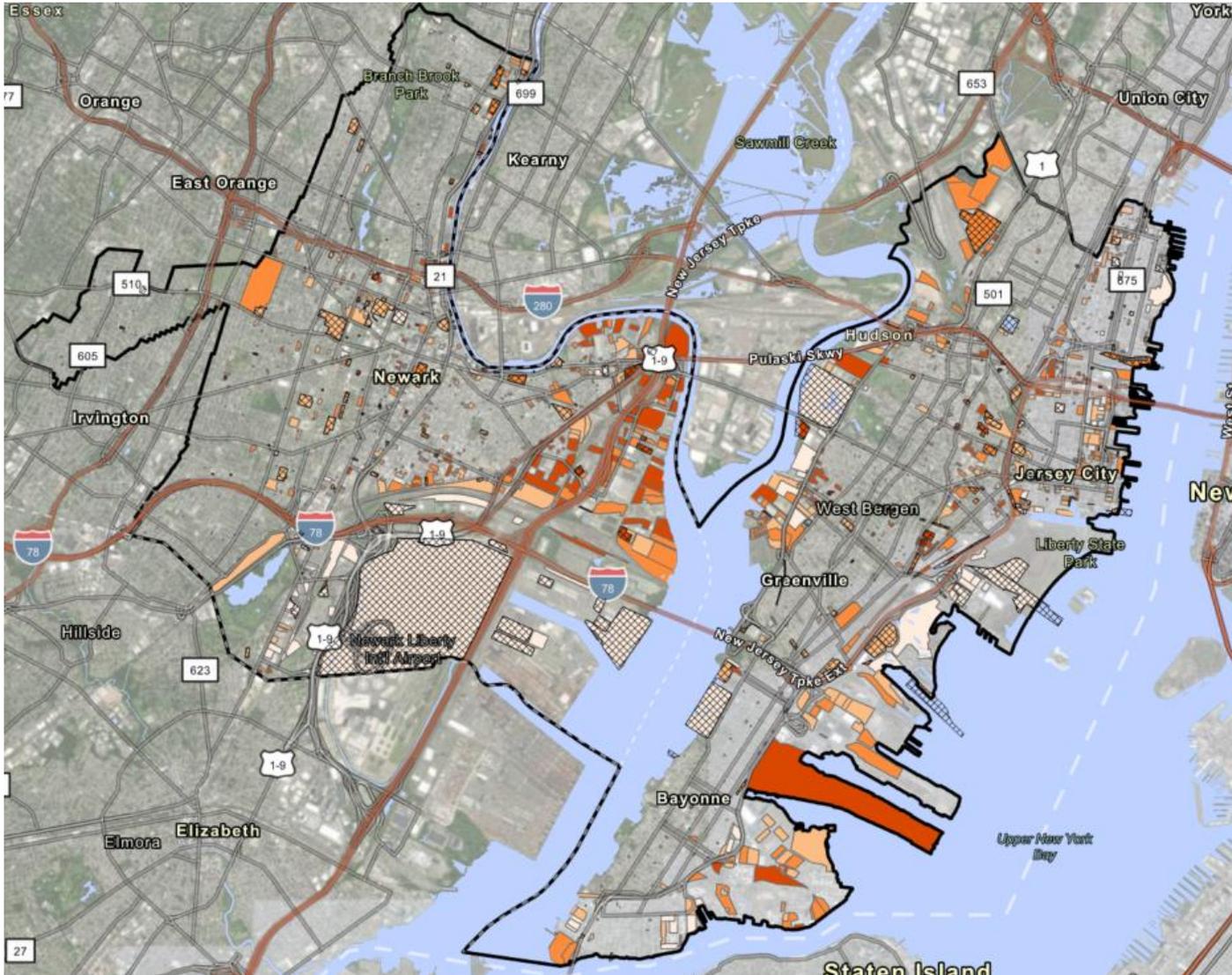
THE BASICS

The inventory includes > 1,800 contaminated sites and brownfields.

QUESTIONS FOR DISCUSSION

- The opportunities prioritization includes both remediated and not yet remediated sites, with greater weight given to sites earlier in the process. Does this sound right? Should it only include sites that are in the Pending and Active stages?
 - Suggestion: remove active / operational businesses?

PRELIMINARY PRIORITIZED INVENTORY - ECONOMIC



Darker orange is higher ECONOMIC opportunity.

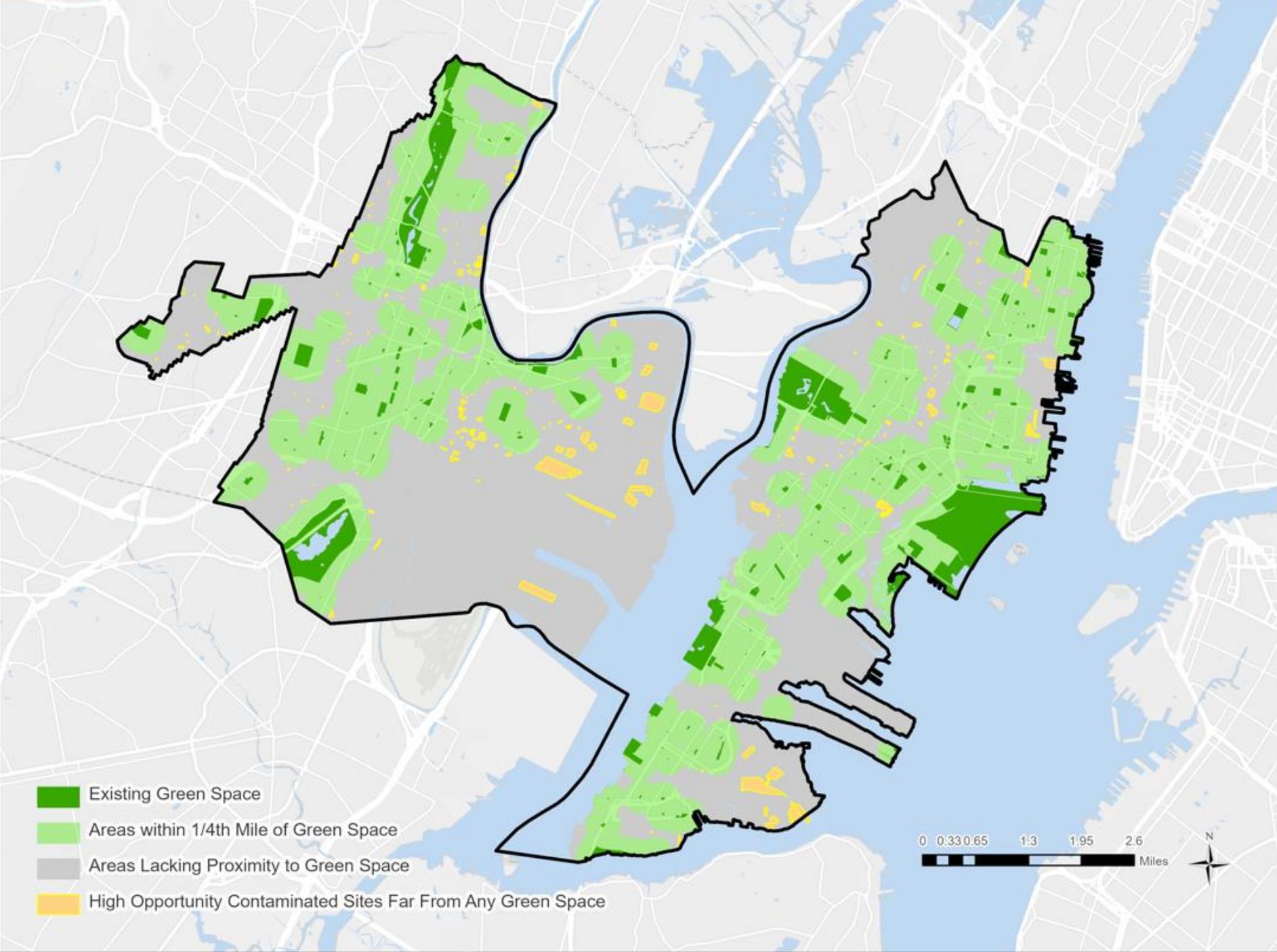
Hatched sites are publicly owned.

THE BASICS

The inventory includes > 1,800 contaminated sites and brownfields.

Example of how it is possible to combine these data with other decision factors to guide planning

Integration of this prioritization into green infrastructure opportunity identification



DEFINITIONS

DEFINITION OF SITES AND AREAS

CONTAMINATED SITE DEFINITIONS

- ***Known Contaminated Sites***: The Known Contaminated Sites in New Jersey report is produced by NJDEP in response to N.J.S.A. 58:10-23.16-17 that requires preparation of a list of sites affected by hazardous substances. It also satisfies the Site Remediation Program's obligations under the New Jersey New Residential Construction Off-Site Conditions Disclosure Act (N.J.S.A 46:3C1 et seq.).
 - This list of Known Contaminated Sites may include sites where remediation is either currently under way, required but not yet initiated **or has been completed**.
 - Quarterly and annual reports are static and subject to update. Live databases by county and municipality are available at: <https://www.state.nj.us/dep/srp/kcsnj/>
 - Database can be searched by remedial status (Pending, Active, Active – RAP, Active – Post-Rem), description of contaminant source, and level of complexity.

Possible State data recommendation: Note that the data does not include the **method** of remediation. Having this data would be helpful to track performance against climate related hazards over time, as well as identify sites with potential risk to groundwater rise, etc.

DEFINITION OF SITES AND AREAS

BROWNFIELD DEFINITIONS

- ***Brownfields***: Any former or current commercial or industrial site, currently vacant or underutilized and on which there has been, or there is suspected to have been, a discharge of a contaminant. (Source: Brownfield and Contaminated Site Remediation Act, N.J.S.A. 58:10B-1 et seq.)
- ***Brownfield Development Areas (BDAs)***: Under the Brownfields Development Area (BDA) approach, NJDEP works with selected communities affected by multiple brownfields to design and implement remediation and reuse plans for these properties simultaneously. Designation as a BDA will not affect or limit in any way the utilization or application of New Jersey's other brownfield or remediation programs on properties within a BDA.
- ***How are Brownfields Identified?*** "The New Jersey Brownfields Redevelopment Task Force was created by the State Legislature, pursuant to the Brownfield and Contaminated Site Remediation Act, N.J.S.A. 58:10B-23. It consists of seven State representatives and six public representatives. The Task Force is required to 'prepare and update an inventory of Brownfields sites in the State,' N.J.S.A. 58:10B-23b., and 'actively market sites on the inventory to prospective developers,' N.J.S.A. 58:10B-23c. The NJ Brownfields "Site Mart" is that official State inventory of Brownfields properties. Nomination procedures and inventories are located at: <https://www.njbrownfieldsproperties.com/>

DEFINITION OF SITES AND AREAS

CONTAMINATED SITE ATTRIBUTES

- **Known Contaminated Sites Attributes:** Live NJDEP database can be sorted by attributes:
 - **Description of contaminant source and case status.**
 - A: Sites with on site source(s) of contamination.
 - B: Sites with an unknown source(s) of contamination.
 - C: Sites closed with Institutional Control(s)*.
 - **Level of Site Complexity**:**
 - A: Emergency action/stabilization.
 - B: Single phase remedial action; single contamination affecting only soils.
 - C: Known or unknown source releases to soil and/or groundwater (three subcategories)
 - D: Multi-phased remedial action; multiple sources/releases to multi-media, including ground water.
 - **Status**
 - Pending: Site where contamination has been identified but a formal evaluation of the extent of the contamination has yet to be performed.
 - Active: Active SRP case - remediation is ongoing
 - Active - Post Rem: Restricted Use or Limited Restricted Use NFA/RAO case where the Remedial Action Permit has not yet been issued
 - Active – RAP: Restricted Use or Limited Restricted Use NFA/RAO case with an associated Remedial Action Permit

The data do not specify the controls in place (possible data improvement recommendation**). An example of institutional controls would be a CEA, restricted residential (e.g., no single-family homes or single owner lots allowed). Control rests with the site development owner or homeowner association.*

***Note, site complexity does not affect possible reuse*

DEFINITION OF SITES AND AREAS

CHROMATE SITES

- ***Hudson County Chromate Project***

The Hudson County Chromate Chemical Production Waste Sites are located throughout Jersey City, Bayonne, Kearny, Newark and Secaucus in Hudson and Essex Counties. NJDEP has identified over 160 sites that are contaminated with chromite ore processing residue, also known as chromate waste.

- ***NJDEP GIS layer for Chromate Sites:*** <https://gisdata-njdep.opendata.arcgis.com/datasets/njdep::chromate-waste-site-boundaries-of-new-jersey/about>
- Chromates Sites are typically mapped as multiple property areas.

DEFINITION OF SITES AND AREAS

Classification Exception Area (CEA)

- **CEA Definition:** NJDEP may designate a groundwater CEA only when constituent standards are not or will not be met:
 1. Due to natural ground water quality (i.e., high salinity);
 2. Due to localized effects of a permitted discharge (e.g., effluent limits above the constituent standards with discharge outside the plume/capture zone);
 3. If the area is part of a pollution remedy conducted pursuant to an ACO or other Department oversight mechanism or program;
 4. And an Alternate Concentration Limit has been approved pursuant to the New Jersey Pollutant Discharge Elimination System (NJPDES).

- **GIS Mapping of CEAs:** This data layer identifies those Known Contaminated Sites or sites on the Site Remediation Program (SRP) Comprehensive Site List where groundwater contamination has been identified and, where appropriate, the NJDEP has established a Classification Exception Area (CEA). Access at: <https://www.nj.gov/dep/gis/geoweb splash.htm>

HYPOTHESIS CATEGORIZATION

*How could we categorize if all data
were available?*

RISK CATEGORIZATION – UNREMEDIED SITES

Sites with status “Active” (undergoing remediation) or “Pending” (evaluation not yet performed) in NJDEP databases

- **Factors to consider**

- High Risk: Potential for unremediated sites to release contaminants of significant concern to air, surface water or groundwater due to flood inundation and erosion of existing soil and shorelines under:
 - **Type of contamination**
 - *Available for ~920 of ~1800 sites in the Known Contaminated Site List by pulling information from the CEA and Deed Notice databases
 - Suggest: align with the Agency for Toxic Substances and Disease Registry [Substance Priority List \(SPL\)](#). Based on 2019 rank (most recent publicly available), the top 5 substances are arsenic, lead, mercury, vinyl chloride, and polychlorinated biphenyls (PCBs)
 - **Extent**
 - Exposure (nearby population)
 - Current projected flood hazards
 - Future predicted storm and flood hazards with SLR
- Moderate Risk: Sites lacking significant potential for release of contaminants of concern (e.g., historic fill sites, interim covered sites, deep groundwater contamination) due to floods and SLR
- Lower Risk: BDAs with no known soil contaminants but may not meet unrestricted soil use standards and groundwater standards

Items that are not currently mapped in the data

RISK CATEGORIZATION – REMEDIATED SITES

*Sites with status “Active – RAP” (Remedial Action Permit) or “Active – Post Rem” in NJDEP databases**

- **Factors to consider**

- High Risk: Sites with approved remedies that did not adequately design for resilience, as evidenced by recent impacts on remedial controls from high-energy storms and flooding
- Moderate Risk: Sites where periodic inspections of engineering and institutional controls revealed minor storm or flood damage.
- Lower Risk: Sites with resilient remedial controls but may not meet future resilience requirements based on predicted SLR.
- Lowest Risk: Sites remediated to unrestricted use conditions, which will never require future remediation with predicted SLR.

Checking assumptions: *We could give a higher risk score to sites known to have caps in place (through deed notice database), based on the assumption that there is higher risk from contamination left in place beneath the cap. Is this a reasonable approach?*

**A remedial action permit is required for some remediated sites following issuance of the No Further Action (NFA) / Response Action Outcome (RAO)*

POSSIBLE REQUIREMENTS FOR REMEDIATION TO CONSIDER TO REDUCE RISK

- **Resilience-related requirements for remediation**
 - Consider contaminant removal and in-situ remediation vs. containment in flood prone areas to:
 - Improve land value and return on investment (supports higher value future use)
 - Mitigates future risk of releases from site to environment and receptors
 - Require future resilience measures in remedial design
 - Require redevelopment to design for resilience to climate change, particularly future predicted impacts of SLR
- **Available tools (examples)**
 - Removal or in-situ chemical destruction of relatively non-degradable contaminants
 - Enhancement of natural attenuation mechanisms to speed up remediation of biodegradable contaminants
 - Incorporation of living shorelines, wetlands, and open space in remedial cover system design and site redevelopment plans involving flood plains
 - Building designs to eliminate potential for future damage from flooding and SLR

POSSIBLE WAYS CONTAMINATED SITES COULD BE LEVERAGED TO HELP ACHIEVE RESILIENCE-RELATED GOALS

Opportunities

Design for Resilience to:

- Reduce hardened surfaces
(including at vacant properties)
- Increase vegetated spaces
- Build/maintain sustainable shorelines
- Improve stream quality
- Increase public access to waterfronts
- Create/enhance wildlife habitat
- Restore damaged wetlands
- Improve floodplain planning and zoning
- Incorporate stormwater management

Additional example opportunities:

- Design of remedial projects to create or restore wetlands and improve stream quality
- Change current flood prone site elevation by increasing the finished grade and sloping shorelines (as opposed to sheeting/hard walls).
- Manage the flood plain elevations on site with less acreage dedicated to hardened surfaces, and improve access to vegetated waterfronts
- Require new buildings to be built above the predicted future 100-year flood elevations (e.g., occupied spaces at +14 ft, compared to existing structures as low as +6 ft.)

OPPORTUNITIES CATEGORIZATION

FACTORS TO CONSIDER

- Factors to consider for un-remediated sites
 - Stage and status of remediation (projects in planning phase represent highest immediate opportunity)
 - *Extent and source of contamination (lower contamination extent / lower risk contaminants = higher opportunity)*
 - *Cost and required actions to remediate (lower remediation costs = higher opportunity)*
 - *Some remedial actions could preclude the property from other uses, e.g. perpetual active groundwater treatment*
 - *Any existing desired use of the site (i.e., economic redevelopment) – higher opportunity where will is aligned or there are no existing plans*
 - Status as a brownfield property, within a brownfield redevelopment area, or being desirable for development / transformation
 - Location:
 - In an area lacking green space / recreational space, needing habitat restoration or wetlands
 - In a flood prone area (riverine, coastal, stormwater)
- Factors to consider for remediated sites:
 - Disposition of the site (i.e., Presence on ROSI inventory, developed site)
 - *Remaining contaminants*
 - Location:
 - In an area lacking green space
 - In a flood prone area (riverine, coastal, stormwater)

Items that are not currently mapped in the data

Possible recommendation for State: mine these data from site reports (as they are present there, but not available in the datasets) and integrate into database for use in planning

DATA AVAILABLE AND DATA SOURCES

| DATA SOURCE | LAYER | RELEVANT ATTRIBUTES | ANY LIMITATIONS / NOTES / RECOMMENDATIONS |
|--|--|--|---|
| FEMA National Flood Hazard Layer | FEMA Flood Zones – GIS | | Data for some areas is missing or undergoing updates |
| NJGIN Open Data https://njogis-newjersey.opendata.arcgis.com/ | NJ Known Contaminated Sites – GIS | PI_NUMBER (site identification number), status, remediation level (complexity), CEA status, deed notice status, NPL status, category (source/status) | GIS layer updated daily on NJGIN site. Data does not contain details on contaminant type—must be obtained through associated CEA or Deed Notice using the PI_NUMBER, or Open Public Records Act (OPRA) request. Note that number of sites listed as having ongoing or lifted CEAs does not match the total number of features in the CEA layer (~4700 vs ~5700), and the same goes with deed notices (~2800 vs 3200). |
| NJGIN Open Data | NJ Classification Exception Areas (CEAs) – GIS | PI_NUMBER, description, restriction depth, duration, well restriction area (yes/no), contaminant type | |
| NJGIN Open Data | NJ Deed Notice Extents – GIS | PI_NUMBER, contaminant depth, engineering control, cap thickness, contaminant type | Details regarding engineering controls (cap type) are incomplete or missing for several sites |
| NJGIN Open Data | Chromate Sites in New Jersey – GIS | PI_NUMBER, site status, remedial status, CEA status, deed notice status, cap (yes/no) | |
| NJGIN Open Data | NJ Brownfield Development Areas (BDAs) – GIS | PI_NUMBER, site status, confirmation of contamination status | |
| NJGIN Open Data | NJ Site Mart Brownfields – GIS | PI_NUMBER, status, description | Data last updated in 2013, but seems to have been superseded by the other databases on this list |
| NJ Site Mart Webpage | NJ Site Mart Brownfield Listings | Reports include sections on owner info, taxes, operations, utilities, transportation, remediation status but fields appear to be largely blank | Individual site information (limited), searchable by county, municipality and site, as well as site nomination form. Site number does not appear to match that in the Known Contaminated Site List. |
| NJDEP Data Miner | | Can search by site, available reports include enforcement actions, permits, inspections, land use, enforcement site visits, violations | Many reports appear blank. |
| NJDEP Bureau of GIS | Brownfield Inventory | PI_NUMBER, site status, opportunity zone | |

LITERATURE REVIEW

Relevant Literature

| SOURCE | FINDINGS / NOTES |
|---|--|
| <p>GAO-21-555T, a testimony J. Alfredo Gómez, Director, Natural Resources and Environment before the Subcommittee on Environment and Climate Change, Committee on Energy and Commerce, House of Representatives on (GAO-20-73) May 13, 2021</p> | <ul style="list-style-type: none">• Testimony discusses GAO’s October 2019 report about potential climate change effects on Superfund sites. Specifically, it summarizes: (1) what available federal data suggest about the number of nonfederal NPL sites that are located in areas that may be impacted by selected climate change effects; (2) the extent to which EPA has managed risks to human health and the environment from the potential impacts of climate change effects at nonfederal NPL sites; and (3) challenges EPA faces in managing these risks.• GAO’s 2019 report found that EPA officials had not consistently incorporated climate change information into their assessment of site-level risks because they did not always have the climate data they needed.• Four recommendations to EPA focused on providing direction to Regions on integrating information on the potential impacts of climate change effects into risk response decisions at nonfederal NPL sites.• Mapping by GAO includes vulnerable sites within the NENJ and Raritan Basin. |

LITERATURE REVIEW

Relevant Literature

| SOURCE | FINDINGS / NOTES |
|--|--|
| <p>Technology News and Trends, EPA 542-N-14-001 Issue No. 65, May 2014 https://clu-in.org/products/newsletters/tnandt/view_new.cfm?issue=0514.cfm</p> | <p>Articles featured in this issue examine vulnerabilities at three National Priorities List sites, describe the effects of intense weather events at these sites, and detail adaptation measures already implemented or planned to increase the remedies' resilience to climate change impacts.</p> <p>Featured articles include: <i>Site Operations and Remedy Design: Hurricane Irene Flooding and Adaptation at the American Cyanamid Site, Raritan Basin</i></p> <p>On August 27, 2011, Hurricane Irene-associated floodwaters overtopped a 100-year flood control berm that surrounds much of the American Cyanamid site, a 435-acre National Priorities List site located along the Raritan River in Somerset County. Details on remedial system failure concerns due to the floodwaters are detailed and subsequent resilience-based changes to site management and operations were identified and implemented.</p> <p>A major goal of the next remedial design phase is to minimize loss of the site's floodwater storage capacity so that flooding of downstream communities is not exacerbated. Potential measures include constructing a natural stormwater management system and removing the site's flood control berm.</p> |

LITERATURE REVIEW

Relevant Literature

| SOURCE | FINDINGS / NOTES |
|---|---|
| <p>Brownfield Revitalization in Climate-Vulnerable Areas, USEPA, Region 3, 2016 https://www.epa.gov/land-revitalization/brownfield-revitalization-climate-vulnerable-areas</p> <p>Slide 1 of 2</p> | <p>The U.S. Environmental Protection Agency's (EPA's) Office of Land and Emergency Management (OLEM) Land Revitalization Program developed this tool to provide communities with practical, real-world examples of regulations, incentives, projects, and programs that local governments may consider to balance economic development goals with climate resiliency needs. The tool focuses on examples of regulations, incentives, projects, and programs that:</p> <ul style="list-style-type: none">• Support revitalization of brownfields.• Mitigate stormwater and flooding impacts.• Could work in areas with low to moderate demand for development.• Can be implemented by individual communities (as compared with approaches that require multi-community or regional collaboration). This report/tool:<ul style="list-style-type: none">• Provides examples of incentives and ordinance regulations that can be implemented without public or foundation money• Summarizes relevant examples of projects, programs or approaches not directly applicable to land use regulations• Provides several additional resources for communities to explore in climate adaptation planning that have been developed by EPA |

LITERATURE REVIEW

Relevant Literature

| SOURCE | FINDINGS/NOTES |
|---|--|
| <p>Brownfield Revitalization in Climate-Vulnerable Areas, USEPA, Region 3, 2016 https://www.epa.gov/land-revitalization/brownfield-revitalization-climate-vulnerable-areas</p> <p>Slide 2 of 2</p> | <p>Featured Example: Sims Municipal Recycling Facility (New York, NY)</p> <ul style="list-style-type: none">• The site-specific brownfield development plan incorporates multiple innovative elements that promote sustainability and resiliency:<ul style="list-style-type: none">• Stormwater is managed on-site using landscape features, bioswales, grading, and a retention pond.• The site has a 600kW solar power installation to generate its own electricity.• The city constructed three artificial reefs to mitigate the effects of the necessary dredging on the site to promote biodiversity.• All of the buildings, high voltage electrical gear, scales, and recycling gear were raised four feet above the new FIRM maps and remained dry during Hurricane Sandy.• As a public/private partnership, this facility required a \$48 million investment from NYC and a \$46 million investment from Sims. SIMS leases the facility from NYC. |

LITERATURE REVIEW

Relevant Literature

| SOURCE | FINDINGS/NOTES |
|---|---|
| <p>Climate Smart Brownfields Manual, United States Environmental Protection Agency, Office of Land and Emergency Management (5105T), EPA 560-F-21-002, June 2021</p> <p>https://www.epa.gov/sites/default/files/2021-06/documents/final_climate_smart_brownfields_manual_6-10-21_508_complaint.pdf</p> | <p>Analysis of Brownfield Cleanup Alternatives: If during the site assessment, contamination is found to exceed risk-based cleanup requirements for proposed reuse, cleanup options should be identified and their effectiveness evaluated. To ensure that cleanups remain effective as the climate changes, EPA has added a new term and condition starting in the FY13 Cleanup and Revolving Loan Fund (RLF) grants that requires recipients to “evaluate the resilience of the remedial options in light of reasonably foreseeable changing climate conditions (e.g., sea level rise, increased frequency and intensity of flooding and/or extreme weather events, etc.).”</p> <p>An Analysis of Brownfield Cleanup Alternatives (ABCA) is required of EPA Cleanup and Revolving Loan Fund (RLF) grant recipients. The ABCA provides an excellent opportunity for brownfield communities to evaluate the resilience of the remedial options in light of reasonably foreseeable changing climate conditions (e.g., sea level rise, increased frequency and intensity of flooding and/ or extreme weather events, etc.).</p> <p>Example reference: Checklist: How To Address Changing Climate Concerns in an Analysis of Brownfield Cleanup Alternatives (ABCA)</p> |

LITERATURE REVIEW

Relevant Literature

| SOURCE | FINDINGS/NOTES | |
|---|---|--|
| <p>Consider Sea Level Rise During Brownfields Redevelopment, United States Environmental Protection Agency, Office of Brownfields and Land Development, December 2020</p> <p>Consider sea-level rise during brownfields redevelopment (pdf) (12/2020, EPA 560-F-20-178)</p> | <p><i>How does sea level rise impact coastal properties?</i></p> <ul style="list-style-type: none">• Causes frequent flooding and potentially permanent inundation in low-lying coastal areas.• Expands flooding during coastal storms.• Increases shoreline erosion.• Elevates groundwater levels.• Mobilizes debris and contaminants.• Impedes stormwater drainage.• Damages critical infrastructure like roads, water and wastewater systems, telecommunication, and energy supplies.• Damages buildings and other development investments. | <p><i>A four-step exposure screening process to understand the risks of sea level rise:</i></p> <ol style="list-style-type: none">1. Explore sea level rise projections for planning & design scenarios.2. Visualize potential flooding at the brownfield site and surrounding area.3. Determine impacts of potential high tides and storms.4. Incorporate findings into decisions on cleanup and redevelopment planning. <p>Example measures are provided.</p> |

REGION TEAM

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NEWARK

HOBOKEN

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HUDSON COUNTY

HOPES

IRONBOUND COMMUNITY CORPORATION

CONSULTANTS

ARCADIS DESIGN & CONSULTANCY

INGROUP, INC.

SCAPE LANDSCAPE ARCHITECTURE

ONE ARCHITECTURE & URBANISM

IRYS

SAM SCHWARTZ ENGINEERING

HEYER, GRUEL & ASSOCIATES



PERMITS FOR REDEVELOPMENT

David Pepe, Director

Office of Permitting & Project Navigation





**NEW JERSEY
DEPARTMENT OF
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PROTECTION**

**OFFICE OF PERMITTING & PROJECT
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Office of Permitting & Project Navigation Staff

COORDINATE AND FACILITATE HIGH PRIORITY PROJECTS, STATE AND FEDERAL ENVIRONMENTAL ASSESSMENTS TO PROACTIVELY PURSUE SUSTAINABLE, RESILIENT AND RESTORATION DEVELOPMENT PROJECTS FOR ALL DEP AND INTERAGENCY PROGRAMS.

| Renewable Energy Project | Redevelopment Projects | Priority Projects |
|--------------------------|------------------------|-----------------------|
| Solar | Landfills | Flooding |
| Offshore Wind | Urban | Water Quality |
| Battery Storage | Restoration | Environmental Justice |

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 - ▶ Minimize
 - ▶ Mitigate
- ▶ Consultation
- ▶ Avoid Costs / Redesign
- ▶ Guide Project



COLLABORATIVE EFFORTS FOR THE DEPARTMENT

ENVIRONMENTAL JUSTICE

▶ September 20, 2021, Commissioner Shawn LaTourette signed Administrative Order 2021-25 outlining DEP's commitment to applications subject the Environmental Justice Act.

▶ Residents of the State, regardless of income, race, ethnicity, color, or national origin, have a right to live, work, learn, and recreate in a clean and healthy environment.

▶ OPPN oversees all AO/EJ projects which are triggered:

- ▶ Major Sources of Air
- ▶ Minor Sources of Air:
- ▶ Sludge processing, combustor or incinerator
- ▶ Sewage treatment over 50MGD
- ▶ Transfer stations or solid waste facility over 100 tons per/day
- ▶ Landfills
- ▶ Medical waste incinerator

...ess of income, race, ethnicity, color, or national origin, have a right to live, work, and recreate in a
...of color face a disproportionately high number of environmental and public health stressors and,
... seeks to correct these outcomes by furthering the promise of environm

Justice (OEJ) aims to improve the quality of life in New Jersey's most vulnerable communities by
...ent decision-making processes and guiding DEP's programs and other state departments and ag

[What's New?](#)

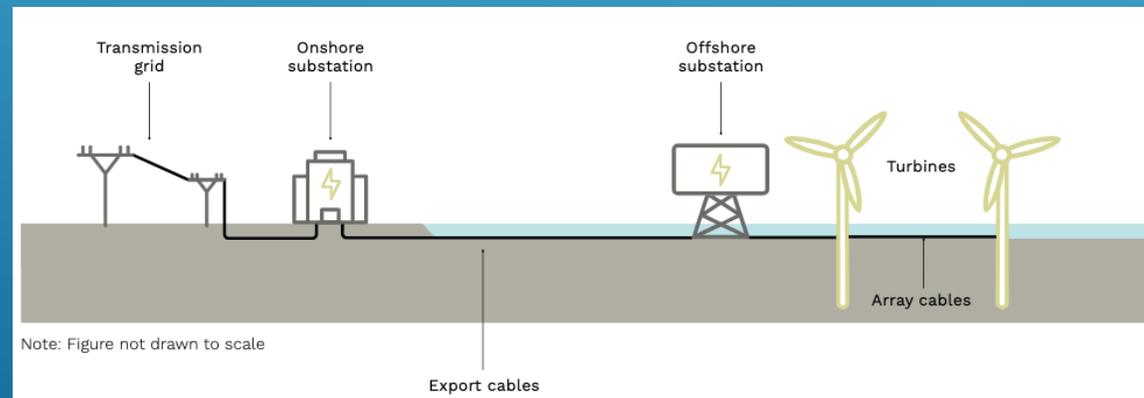
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OFFSHORE WIND



- OPPN is the DEP's lead on offshore wind.
- Coordinate regular meetings with the developers, federal partners and DEP programs.
- Discuss permitting requirements and authorizations needed to construct an offshore wind farm.
- Ongoing review of activities in state waters and onshore; such as: proposed cable routes and landings, substation locations and O&M port planning.



THANK YOU

Questions?

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OFFICE OF PERMITTING & PROJECT NAVIGATION

USEPA UPDATE

Terry Wesley, Brownfield Section Chief

Schenine Mitchell, Brownfields Program Coordinator



CONCLUSION / DISCUSSION



THANK YOU!

