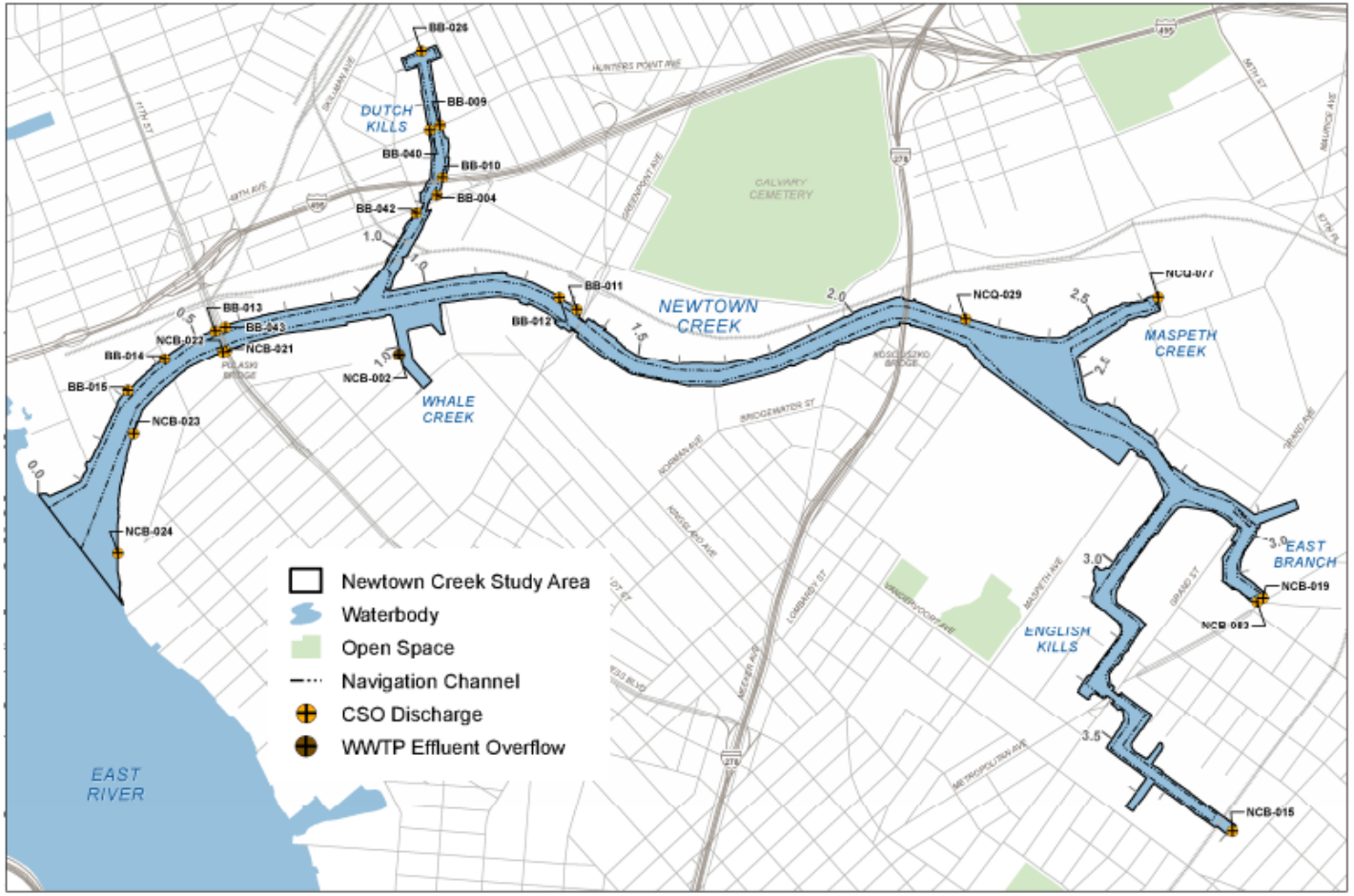
High Level Overview of Site Status and Planned Path Forward
Newtown Creek Superfund Site CAG Meeting
May 20, 2026

SITE BACKGROUND

Newtown Creek

- Part of New York/New Jersey harbor estuary
- Forms a portion of the North-South Brooklyn-Queens border
- 3.8-mile tidal water body with five tributaries
- Designated by NYC as 1 of 6 Significant Maritime & Industrial Areas in NYC

Study Area


DUTCH KILLS
NEWTOWN CREEK
WHALE CREEK
MASPETH CREEK
EAST BRANCH
ENGLISH KILLS
EAST RIVER
CALVARY CEMETERY
BB-026
BB-009
BB-040
BB-010
BB-004
BB-042
BB-011
BB-012
BB-013
BB-043
NCB-022
NCB-021
BB-014
BB-015
NCB-023
NCB-024
NCB-002
NCQ-029
NCQ-077
NCB-019
NCB-083
NCB-015
Newtown Creek Study Area
Waterbody
Open Space
Navigation Channel
CSO Discharge
WWTP Effluent Overflow

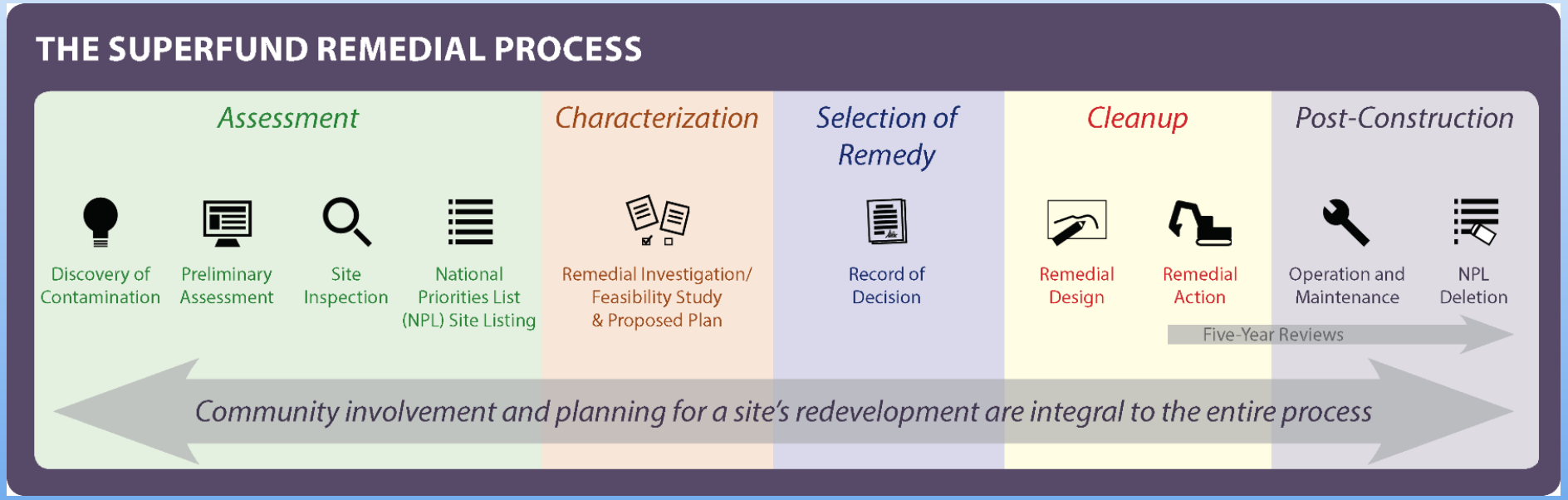
Historical Use

- Mid-1800s, Newtown Creek was one of the busiest industrial areas in New York City.
- Heavy industrial facilities were located along its banks, including more than 50 oil refineries, petrochemical plants, fertilizer and glue factories, sawmills, and lumber and coal yards.
- NYC began dumping raw sewage directly into the water in 1856.
- The creek was crowded with commercial vessels, including large boats bringing in raw materials and fuel and taking out refined petroleum products, chemicals and metals.
- During World War II, the creek was one of the busiest ports in the nation.
- Industrial, commercial and municipal facilities still operate along the creek.

Newtown Creek Superfund Site

- Listed on the National Priorities List in September 2010
- Six Respondents signed an Administrative Order on Consent in 2011 to conduct the Remedial Investigation/Feasibility Study (RI/FS), under EPA oversight
  - Newtown Creek Group (NCG) - consists of 5 private parties
    - Phelps Dodge Refining Corporation, Texaco, Inc., BP Products North America Inc., the Brooklyn Union Gas Company D/B/A National Grid NY, and ExxonMobil Oil Corporation.
  - New York City Department of Environmental Protection (NYCDEP)
- Study Area defined in the Order:
  - Includes "...Newtown Creek proper and its five branches (or tributaries)...as well as the sediments below the water, and the water column above the sediments, up to and including the landward edge of the shoreline, and including also any bulkheads or riprap containing the water body, except where no bulkhead or riprap exists, then the Study Area shall extend to the ordinary high water mark..."

Superfund Remedial Process



Newtown Creek Superfund Site Overview

The Site was added to the National Priorities List in September 2010 and has since been divided into 4 operable units (OUs):

- **OU1**: Includes the Remedial Investigation/Feasibility Study (RI/FS) of the entire Study Area. Work is being conducted as per the terms of a 2011 Administrative Order on Consent (AOC) with six respondents. The RI/FS is ongoing and an interim, early action remedy was recently selected for a portion of the OU1 Study Area.

- **OU2**: Evaluates current and reasonably anticipated future releases of Superfund site-related chemicals of potential concern from combined sewer overflow discharges to the Creek. Work was conducted pursuant to a 2018 AOC with the City of New York, a no further action ROD was signed in April 2021, and post-ROD monitoring is being conducted pursuant to an AOC signed in September 2022 between EPA and the City of New York.

- **OU3**: Evaluated a potential Early Action for a portion of the Operable Unit 1 Study Area; has since been discontinued.

- **OU4**: Relates to an interim Early Action for the East Branch portion of Operable Unit 1. EPA released a Proposed Plan to cleanup OU4 on September 18, 2024; the public comment period ended (after extensions) on November 12, 2024, and Record of Decision (ROD) was signed on January 16, 2025.

Primary Partners and Community Involvement

State and Federal Partners

- New York State Department of Environmental Conservation (NYSDEC)
- National Oceanic and Atmospheric Administration (NOAA)
- US Fish and Wildlife Service (FWS)
- US Army Corps of Engineers (USACE)

Community, Local, and State Government

- Newtown Creek Community Advisory Group (CAG)
- Elected Officials
- Community Board

Also coordinate as needed with Department of Transportation, U.S. Coast Guard, and others

List of Noticed PRPs

- BP America, Inc.
- The Brooklyn Union Gas Company d/b/a National Grid
- The City of New York
- ExxonMobil Oil Corporation
- Phelps Dodge Refining Corporation (part of Freeport McMoRan, Inc.)
- Texaco, Inc. (part of Chevron Corporation)
- Consolidated Edison Company of New York
- National Railroad Passenger Corporation (AMTRAK)
- American Premier Underwriters, Inc.
- SWC Limited Partnership (formerly Connell Limited Partnership)
- The Long Island Railroad Company
- Motiva Enterprises, LLC
- Shell Oil Company
- Simsmetal East LLC (subsidiary of Sims Metal Management, Inc.)
- Darling Ingredients Inc.
- Sunoco Entities:
  - Sunoco, Inc.
  - Energy Transfer L.P.
- Enviri (formerly Harsco Corporation)
- The Brink's Company
- ConocoPhillips
- Howmet Aerospace Inc.
- Pfizer Inc.
- Valvoline Inc.
- Waste Management of New York, LLC
- Cascades Holding US Inc.
- Republic Services, Inc. Entities:
  - Browning-Ferris Industries of New York, Inc.
  - BFI Waste Systems of New Jersey, Inc.
- Honeywell International Inc.
- U.S. General Services Administration
- U.S. Department of Navy

PRP search is ongoing

OPERABLE UNIT 1 REMEDIAL INVESTIGATION AND FEASIBILITY STUDY (RI/FS)

Status of Completed Work

- June 2017 – Baseline Human Health Risk Assessment (BHHRA) finalized
- September 2018 – Baseline Ecological Risk Assessment (BERA) finalized
- April 2023 – Remedial Investigation (RI) report finalized
  - Feasibility Study ongoing
- January 2025 – East Branch Interim, Early Action Record of Decision (ROD) signed
  - Proposed Plan released in August 2024
  - East Branch is now referred to as OU4 of the Site

Data Collection

RI:

- Bathymetric
- Groundwater seepage
- Ecological communities
- Point source discharges
- Sediment and surface water chemistry
- Porewater
- Biota tissue analysis
- Sediment toxicity testing
- East River and reference area sediment and surface water
- Air Sampling
- NAPL delineation
- Gas ebullition surveys
- Biota sampling

FS:

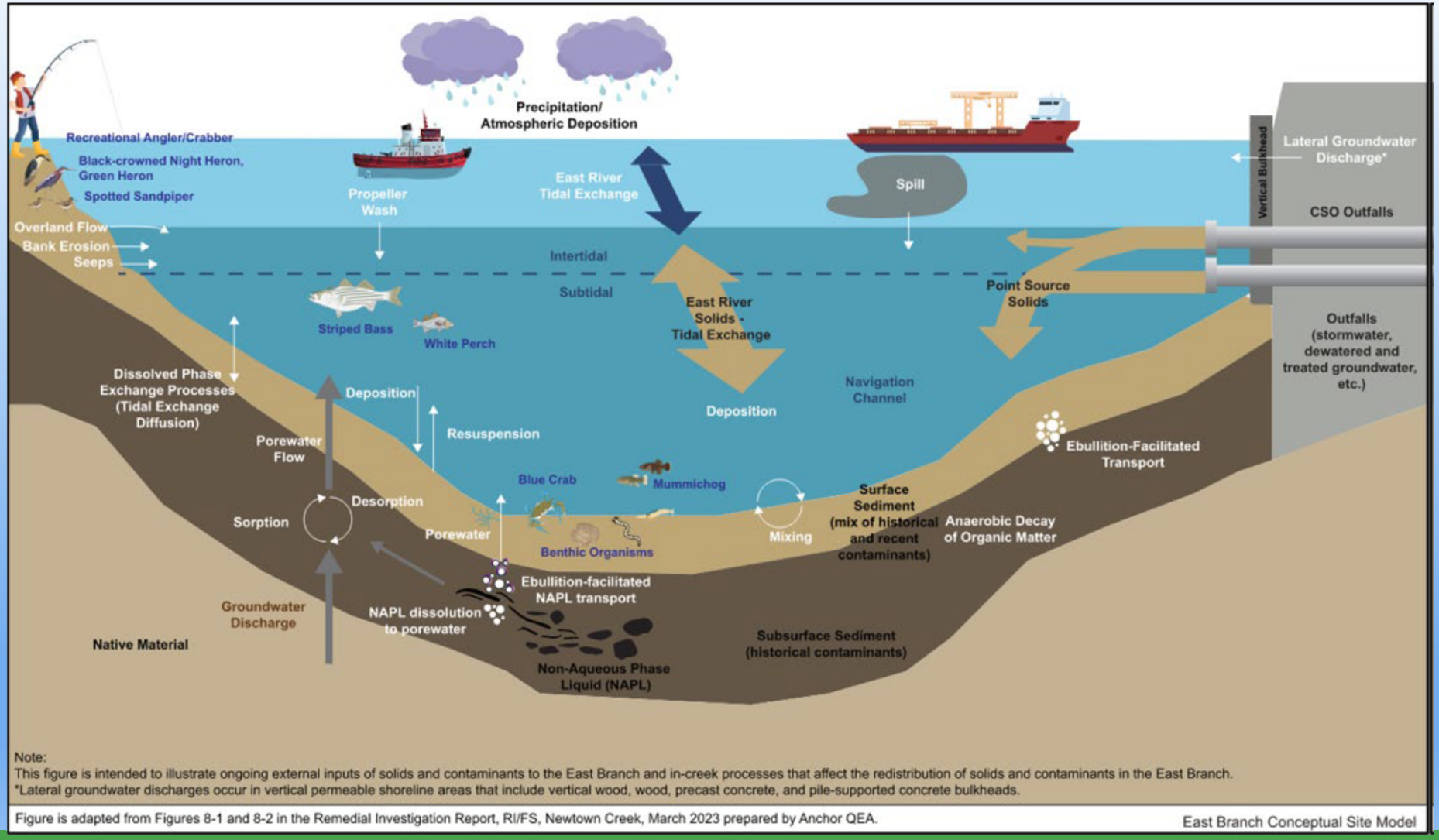
- Groundwater seepage rate
- Shoreline sampling of sediments/soils and seeps
- Gas ebullition surveys and quantitative study
- NAPL delineation and refinement
- NAPL characterization and mobility
- Geotechnical
- Biota sampling
- Supplemental Data Collection in CM 0-2 and East River
- Bulkhead survey
- More?

Newtown Creek Contamination Overview

- Surface and subsurface sediment contaminant concentrations are lowest in creek mile (CM) 0-2 and increase moving upstream
- Contaminant concentrations in subsurface sediment are higher than those in surface sediment
- Contaminant concentrations in surface water during wet weather are higher than during dry weather
- Non-aqueous phase liquid (NAPL) and sheens are present in sediment and surface water
- There are many ongoing sources of contamination to the creek

Overview of Site Risks

- Human Health Risk
  - Wide variety of possible exposure pathways evaluated, including recreational boaters, swimmers, waders, workers, residents during flooding events
  - Unacceptable risks associated with exposure to polychlorinated biphenyls (or PCBs) and dioxins/furans through fish and crab ingestion
- Ecological Risk
  - Elevated risks present for benthic macroinvertebrates, bivalves, blue crab, fish and birds
  - Associated mainly with hydrocarbons, PCBs, and copper, with additional risk from dioxins/furans and lead
- Sediment is the primary medium of concern for all elevated risks
- Key contaminants overall include hydrocarbons, PCBs, copper, dioxins and furans, and lead



Note:
This figure is intended to illustrate ongoing external inputs of solids and contaminants to the East Branch and in-creek processes that affect the redistribution of solids and contaminants in the East Branch.
*Lateral groundwater discharges occur in vertical permeable shoreline areas that include vertical wood, wood, precast concrete, and pile-supported concrete bulkheads.

Figure is adapted from Figures 8-1 and 8-2 in the Remedial Investigation Report, RI/FS, Newtown Creek, March 2023 prepared by Anchor QEA.

East Branch Conceptual Site Model

OU1 – Current Status

- Lateral Groundwater Study Data Summary Report
  - Spring 2026
- Feasibility Study Supplemental Data Collection
  - Data Summary Report – NCG to submit revised document based on EPA comments provided on 2/9/26.
  - Data Evaluation Report – EPA is reviewing first draft dated 1/22/26.
- Finalizing Probabilistic Long-Term Equilibrium Model Path Forward
- Feasibility Study for the Rest of OU1
  - Alternatives Memorandum – EPA is currently reviewing first draft dated 1/26/26.
  - Will discuss this more at end of presentation

Other Relevant Aspects of the Creek

- Navigation
  - East Branch deauthorized as a navigable channel in the 2024 Water Resources and Development Act (WRDA) bill
  - Potential modification and deauthorization for other parts of the Creek under consideration for WRDA 2026
- Bridges
  - Grand Street Bridge reconstruction plans ongoing
- Long-Term Control Plan – should be complete by 2040
- National Grid Salt Water Pump House – work ongoing
- More…

OPERABLE UNIT 2 OVERVIEW AND STATUS

Operable Unit 2 Status

- Relates to releases of CERCLA hazardous substances from Combined Sewer Overflow (CSO) discharges to the Study Area
  - AOC with NYCDEP signed in 2018
  - ROD issued in April 2021
  - AOC with NYCDEP signed in 2022 to perform post-ROD monitoring
- Post-ROD monitoring program targets the following locations sampled during the RI:
  - Combined Sewer Overflow Outfalls - 7
  - Stormwater Locations Outfalls - 16
  - Treated Discharge Outfalls - 8
  - East River

OU2 Post-ROD Monitoring

- NYC has mobilized on multiple occasions since August 2024 to sample CSOs, the East River, and MS4s. Samples were successfully collected on more than 20 of these events.
- Approved Quarterly Monitoring Reports are available on EPA's website and include:
  - Dates of sampling events and description of sampling activities
  - Sampling results (if available)
  - Figures with sampling locations
  - Watershed-wide metrics
  - Deviations
- Note: Long-Term Control Plan for Newtown Creek now scheduled for completion by 2040

OPERABLE UNIT 4 OVERVIEW AND STATUS

Why an Early Action for the East Branch?

- The Remedial Investigation and Feasibility Study for the Newtown Creek Study Area has been ongoing since 2011
- It is a highly complex system
- There is information to select a remedy for the East Branch portion of the site now while a remedy for the rest of the site is further developed
- Taking this action will provide the following benefits:
  - expedite the overall site cleanup by implementing remedial action in this upstream portion of the study area that has significant sediment contamination
  - result in immediate risk reduction and contaminant mass removal
  - an opportunity to gain direct experience conducting cleanup work in the creek
  - an opportunity to further refine the Study Area-wide Conceptual Site Model
    - Robust pre- and post-implementation sampling would be conducted
    - If assumptions are not accurate, the data will tell us

Ongoing Sources of Contamination at Newtown Creek

- There are many direct sources of hazardous substances, pollutants or contaminants to the Creek
- Internal sources include (but are not necessarily limited to)
  - Contaminated sediment resuspension
  - Ebullition
  - NAPL migration, dissolution, etc.
  - Vertical groundwater flow
- External sources include (but are not necessarily limited to)
  - Permitted and non-permitted discharges
  - Lateral Groundwater – including discharge/seeps from upland properties
  - CSOs and MS4s
  - Bank erosion
  - Direct overland flow
  - East river
  - Atmospheric deposition

The Dilemma

Could wait for all significant sources to be addressed, but that will take years…no one wants that!

Ongoing Sources

Could call ongoing sources background, but do not want Creek to only be as clean as what is entering it…that does not make sense either!

Protective Remedy

Achievable Remedy

Adaptive Management Framework

Focus on External Sources of Contamination

- Contamination entering from many external sources can be reduced at least to some extent over time. For example:
  - Contamination from upland properties could be addressed through cleanup actions
  - Contamination entering from permitted discharges could be reduced through changes in environmental regulation, such as through stricter permits
  - Contamination from general runoff could be reduced through the use of best management practices and engineering controls, such as green infrastructure and bulkheads
- The appropriate entity to put these reductions into effect might vary
  - EPA or NYSDEC
- The **rate** of reduction and **time frame** for reduction is unknown
  - We do have knowledge of current conditions
  - More data will improve our understanding on an ongoing basis

➢ As part of an Adaptive Management approach, identification and mitigation of ongoing sources that impact the protectiveness of the remedy may occur at any time in the Superfund process, including during and after cleanup.

OU4 Remedial Action Objectives

- Exposure-based RAOs
  - Reduce potential current and future human exposure to Contaminants of Concern (COCs) from ingestion of fish and crab by preventing biota exposure to sediments in the East Branch with COC concentrations above protective Preliminary Remedial Goals/Remediation Goals (PRGs/RGs).
  - Reduce ecological exposure to Site COCs in sediment by reducing the concentrations of COCs in contaminated sediment in the East Branch to protective PRGs/RGs
- Source Control RAO
  - Reduce migration of COCs related to NAPL and its constituents and other sources of COCs within the East Branch, to surface sediment and surface water to levels that are protective for human health and ecological exposure.

Contaminants of Concern and their Risk-Based Cleanup Goals

Contaminant of Concern	Remediation Goal	Most Sensitive Receptor and Exposure Pathway
TPCBs[1]	0.30 mg/kg	Humans via crab consumption
Dioxins/Furans TEQ[1]	18 ng/kg	Humans via crab consumption
Copper[2]	490 mg/kg	Mummichog via dietary intake
Lead[3]	340 mg/kg	Spotted sandpiper via dietary intake[3]
TPAH(34)[2]	100 mg/kg	Benthic macroinvertebrates via sediment toxicity
C19-C36 Aliphatic Hydrocarbons[2]	200 mg/kg	Benthic macroinvertebrates via sediment toxicity

Notes:
TPCBs – total polychlorinated biphenyls, as described in the Summary of Site Characteristics Section
TEQ – toxic equivalence quotient
TPAH(34) – total polycyclic aromatic hydrocarbons, as described in the Summary of Site Characteristics Section
mg/kg – milligrams per kilogram
ng/kg – nanograms per kilogram

1. For this action, these will be evaluated on Surface Weighted Average Concentration basis over the East Branch portion of the OU1 Study Area. This will be re-evaluated as more portions of the Creek are remediated.
2. Evaluated on point-by-point basis (not to exceed)
3. To be evaluated on a SWAC basis along intertidal mud flats only. Note that the Proposed Plan mistakenly stated that lead would be evaluated on a SWAC basis for the full East Branch portion of the OU1 Study Area.

OU4 Remedy

- Record of Decision Signed January 16, 2025
- **Selected Remedy**: Dredging to allow placement of a cap to maintain existing water depth with localized deeper dredging.
- Major Components of Remedy Include:
  - Robust pre-design investigation (PDI)
  - Dredging
  - In-Situ Stabilization (ISS)
  - Capping
  - Backfilling
  - Sealed Bulkheads
  - Shoreline Stabilization
  - Dredged Material Management
  - Restoration
  - Institutional Controls
  - Robust Post-Remedy Implementation Monitoring Program (PRIMP)

Preliminary Estimates of the Selected Remedy

- 101,000 cy of sediment will be dredged through this action, over an area of 11.2 acres, and 5,300 cy of debris will be removed off-site.
- ISS will be used to address 9,900 cy of sediment in-place over an area of 0.4 acres.
- Deeper dredging to uncontaminated material will occur over 1.2 acres.
- An armored and amended cap will be placed over a total of 10.0 acres resulting in the need for 69,600 cy of capping.
- 14,400 cy of backfill material will be needed over 1.2 acres to manage dredge residuals and maintain existing water depth where deeper dredging is conducted.
- Shoreline stabilization will be required along 3,850 LF, which equates to approximately 76 percent of the shoreline, through the use of ISS, bulkheads or other methods.
- Sealed bulkheads will be needed over an estimated length of 180 LF.
- It is estimated that the entire action may take 22 months (over 3 construction seasons) to implement.
- Estimated net-present value cost of $243.5M

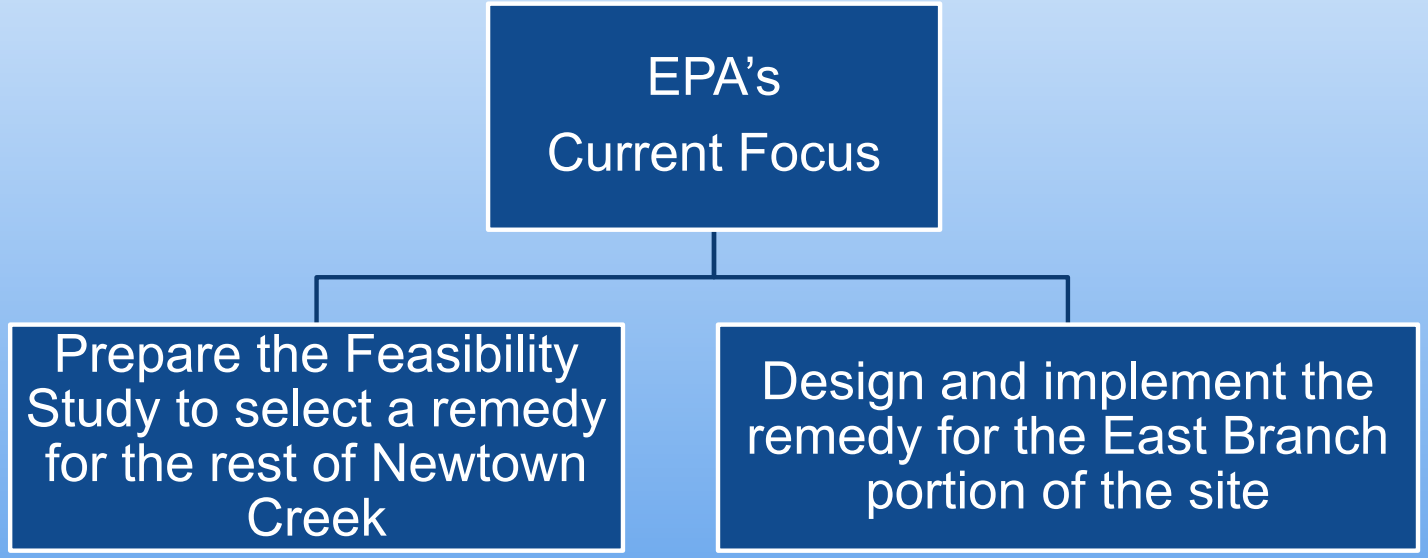
➢ All these estimates will be updated during and after conduct of the pre-design investigation

OU4 Current Status

- Negotiations with PRPs regarding an enforcement instrument to conduct the Remedial Design are ongoing
- Once signed, work plans will be developed and pre-design investigations (PDI) will begin
- The PDI will be developed to help fill data gaps and further refine our understanding of the CSM and will include, at a minimum, the following activities:
  - Collect additional sediment COC data to refine the remedial footprints and depths of the various remedy components and to delineate potential principal threat waste (PTW) and Toxic Substances Control Act (TSCA) materials;
  - Collect additional porewater and/or groundwater COC data to refine cap designs;
  - Collect data to further delineate non-aqueous phase liquid (NAPL), investigate NAPL mobility, and determine the constituents present in NAPL;
  - Collect geotechnical data to support dredge design, cap design and shoreline stability evaluations;
  - Conduct investigations (*e.g.*, systematic as well as opportunistic seep sampling) and surveys to inform decisions on the need for upland source controls [*e.g.*, sealed bulkheads]).

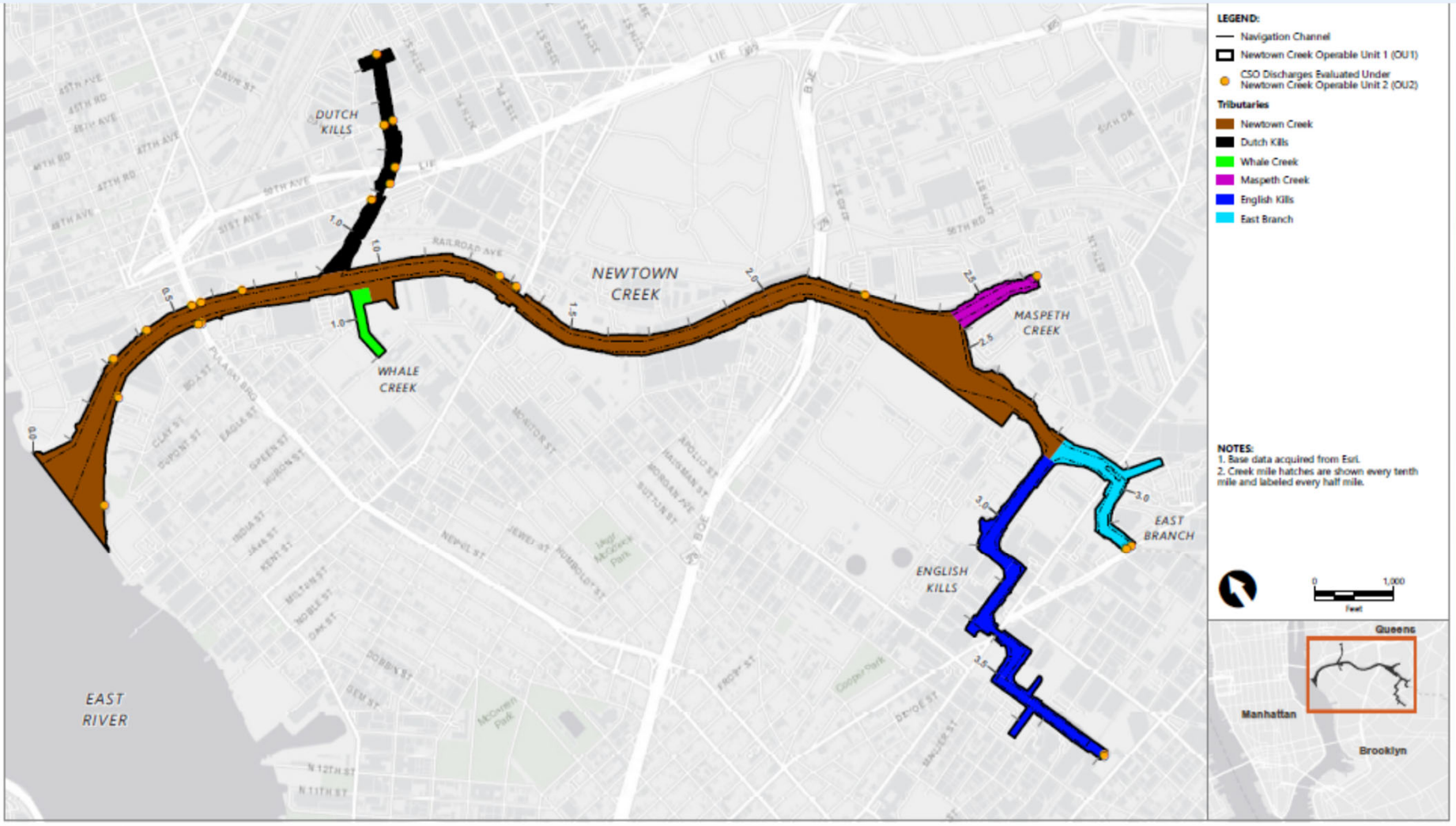
NEXT STEPS AND PATH FORWARD FOR SITE

Next Steps


EPA's
Current Focus
Prepare the Feasibility Study to select a remedy for the rest of Newtown Creek
Design and implement the remedy for the East Branch portion of the site

Next Steps

- Development of Adaptive Site Management Plan
  - Effort well underway
  - Overall idea is continuous review and updating of the site CSM
  - Will discuss this more in next presentation
- Develop and Finalize FS for next OU1 ROD
  - FS Workplan Under Review
  - Goal is to have draft FS Report for review by 2028
  - This work will be occurring concurrently with the design of the OU4 remedy
  - Current plan is that FS will evaluate cleanup options for the remainder of OU1
  - Implementation of the remedy would then take place in sections
    - Will allow time for ongoing review and modification of approach as needed
    - Consistent with Adaptive Site Management approach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ENGLISH KILLS
EAST RIVER
LEGEND:
Navigation Channel
Newtown Creek Operable Unit 1 (OU1)
CSO Discharges Evaluated Under Newtown Creek Operable Unit 2 (OU2)
Tributaries
Newtown Creek
Dutch Kills
Whale Creek
Maspeth Creek
English Kills
East Branch
NOTES:
1. Base data acquired from Esri.
2. Creek mile hatches are shown every tenth mile and labeled every half mile.
0
1,000
Feet
Queens
Manhattan
Brooklyn

QUESTIONS AND DISCUSSION

Thank You!

- For further information, please contact:
  - John Brennan, Remedial Project Manager, 212-637-3881 or brennan.john.f@epa.gov
  - Natalie Loney, Community Involvement Coordinator,212-637-3639 or loney.natalie@epa.gov
  - Stephanie Vaughn, Supervisor, 212-637-3914 or vaughn.stephanie@epa.gov
- Or visit EPA's Site Profile Page for Newtown Creek at

  www.epa.gov/superfund/newtown-creek