

EPA Responses to the Newtown Creek Community Advisory Group Remedial Investigation Report Comments
Newtown Creek Superfund Site
August 23, 2021

Comment ID	Comment	Response to CAG Comments
1	The RI Report is insufficient to achieve a remedy protective of present or future public use of Newtown Creek.	
1A.	<p>As drafted, the RI Report mischaracterizes how the public current uses the creek. The creek is currently used for fishing, boating, kayaking, and educational and other recreational shoreline activities. The RI Report wrongly states:</p> <p>"Access to the Study Area by the public is severely restricted on the land side by physical controls (e.g., fences) and security/surveillance controls maintained and operated by the industrial facilities along Newtown Creek. Currently, there are only three public access areas along Newtown Creek. The access restrictions present in the Study Area significantly limit the public's ability to engage in recreational activities along much of the shoreline of Newtown Creek (p. 462)."</p> <p>There are in fact roughly a dozen points where one can come into contact with the water and shoreline from public land that is not fenced off. These areas include:</p> <ul style="list-style-type: none"> • Hunters Point South Park (NYC Kayak Launch) • Box Street Park (planned) • The Manhattan Avenue Street End Park (NYC Kayak Launch) • Vernon Boulevard Street End • The Newtown Creek Nature Walk • Borden Ave Street End on Dutch Kills • North Henry Street (planned) • Apollo Street End • Penny Bridge Site (Brooklyn) • Under the K Bridge Park • Plank Road Site (Queens) • Maspeth Ave Street End • Metropolitan Avenue Bridge <p>This list does not take into account privately owned sites where individuals currently access the water for recreational or educational purposes. Additionally, community planning efforts, like the Newtown Creek Vision Plan (2018), have identified numerous areas where public/private access is feasible in the coming years, significantly increasing the public's ability to engage directly with the waterway in the future. It should be noted that access to the water from any of these points, by necessity, grants unfettered access to the entire waterbody, not just the access point.</p> <p>The RI Report's characterization of the Creek also does not acknowledge the significant amount of on- water activities at recreational hubs like the North Brooklyn Community Boathouse site, which typically puts over 1,000 people on the Creek per year. With a planned expansion (physical building) at this location, a planned boathouse at the Hunters Point South Development, and increasing demand for improved access in areas like Dutch Kills and English Kills, it should be noted not only that current recreational uses are severely undervalued in the current RI Report but also that use will likely grow significantly in the coming years.</p>	<p>EPA acknowledges that current recreational and education uses of the creek have not been fully described in the RI Report. As noted in the CAG comment, additional access points to Newtown Creek currently exist or are planned than were understood when the initial RI Report was prepared in 2016 and before the Newtown Creek Vision Plan was completed in 2018. EPA requested the RI Report be revised to include the additional information on current uses provided by the CAG. Risks identified in the HHRA will be used to support development of preliminary remediation goals that will be used to identify appropriate remedial alternatives in the FS that are protective of human health.</p> <p>Note that while site conditions do "constrain the opportunities for recreational anglers to fish and crab," angler exposure scenarios were still evaluated in the HHRA: Adult and adolescent exposures via dermal contact with surface water, inhalation of vapors, and ingestion of fish and crab. Young children (0 to 6 years old) were assumed not to participate in the angling, but their exposure was evaluated for ingestion of fish and crab. Additionally, a boating scenario was evaluated in the HHRA: Adult and adolescent exposures via ingestion and dermal contact with surface water and inhalation of vapors. The HHRA, which was prepared in accordance with EPA Guidance, adequately addresses risks to sensitive receptors and will not be revised.</p>

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	<p>The RI Report also wrongly states that fishermen do not use the creek for recreational or subsistence purposes:</p> <p>"Several important conditions are the following: the industrial nature of (Newtown Creek is a designated SMIA) and limited public access to the Study Area, which constrain the opportunities for recreational anglers to fish and crab within the Study Area (p. 479)."</p> <p>The RI Report also points to posted signage, claiming that it effectively deters fishermen. Given all of the public access points, and based on our observations of Creek use, these statements are misleading about current use, not indicative of potential future changes of use, and irrelevant in the context of protecting human health. Anglers are using the Creek now, and we expect more will in the future as more waterfront access space opens up.</p> <p>The RI Report does not acknowledge the educational uses of the creek. Student research on the creek is well established and ongoing. For example, in one recent study, mussels were collected from Newtown Creek and analyzed for their ability to help reduce bacterial contaminants (Sarah E. Durand et al.res, "Ribbed Mussel in an Urban Waterway Filters Bacteria Introduced by Sewage," Marine Pollution Bulletin 161, Part B [2020]: 111629, https://doi.org/10.1016/j.marpolbul.2020.111629). LaGuardia Community College runs frequent field trips to Newtown Creek, and students in the President's Society are currently working with elected officials, municipal agencies, and local businesses to transform an MTA Railroad right-of-way (now used for cars and trucks) into a public plaza that provides access to the Dutch Kills tributary shoreline, where the NYCDEP has installed tidal marsh habitats. These and other educational activities bring students and faculty into contact with the shoreline, sediments, and surface waters. There is every reason to expect these contacts to increase as the local population swells. Future water-quality and community-use goals for the Creek are also largely from the RI Report. Most in the surrounding communities support ongoing industrial uses in the creek and preserving its status as a Significant Maritime and Industrial Area (SMIA). We also believe that these uses can coexist sustainably with public park space. These mixed and compatible uses should be considered in the context of determining health risks. Indeed, Fresh Creek, one of the reference areas, is classified as a SMIA, hat has much less pollution, and is fishable. The RI Report even labels it "non-industrial/CSO" (p.162).</p>	
1B.	<p>Currently, combined sewer overflow (CSO) discharges, which contain fecal bacteria and other pollutants, are hampering safe use of the creek. We expect that, if successfully implemented, the New York City Department of Environmental Protection's (NYCDEP) Long Term Control Plan will significantly reduce the volume of those overflows and alleviate at least some of the CSO-related health dangers. That CSO reduction would leave the legacy toxic contaminants of concern (COCs) as the "but for" cause preventing further recreational use of the creek.</p>	Comment noted.
1C.	<p>The RI Report relies in part on the Baseline Human Health Risk Assessment, which examines risk to construction workers but not to children or elderly people using the shoreline for recreation, such as Plank Road end users. It is unclear whether sensitive receptors such as pregnant mothers and small infants are accounted for, especially those who may live near the site or access recreational opportunities at shoreline open spaces. The CAG is concerned that risks to these sensitive receptors will not be accounted for in the RI Report and remediation plans.</p>	<p>The human health risk assessment evaluated exposure to sensitive populations. Many assumptions included in the HHRA were meant to be conservative of possible exposures to the creek. The HHRA evaluated adult and adolescent recreational user exposures to sediment and surface water at Plank Road. Young children are not expected to access sediment and surface water at the shoreline with as great a frequency or duration as these older receptors. The adolescent and adult exposure scenarios are expected to provide a conservative basis for</p>

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		evaluating potential exposures of young children at Plank Road. In addition, shoreline recreational users of all ages, including young children, were evaluated for inhalation exposures to air along Newtown Creek. Finally, the HHRA evaluated adult, adolescent, and young child exposures to surface sediment and surface water from throughout Newtown Creek in the flooding scenario. The exposure parameters and toxicity values used in the HHRA are developed to account for all populations, including sensitive populations.
1D.	The CAG demands that the Superfund pollutants be removed, not left where they are. Our goal is for Newtown Creek to be an enjoyable resource for all. The CAG outlined its twelve vision principles for Newtown Creek in 2016. The CAG therefore urges that EPA modify the RI Report to account for current use of the creek and acknowledge the community's future expected uses.	<p>Anticipated future uses of the Creek will be evaluated as part of the FS. However, the RI Report and supporting risk assessment documents do acknowledge the current and future uses of the creek, including the current and future uses described in this comment. Per comment 1A, the RI report will be revised to provide a more comprehensive discussion of community recreational and educational uses of the creek.</p> <p>Remedial alternatives to address the contamination are not evaluated in the RI Report. The evaluation of remedial alternatives to address contamination impacting the creek will be performed during the Feasibility Study. Note that the alternatives developed in the FS may include capping options, including capping in conjunction with other measures (for example dredging to a certain depth with capping). However, all alternatives considered in the FS will be evaluated to determine whether they will achieve the remedial action objectives and the remediation goals for the site under current and reasonably anticipated future uses.</p>
2.	The RI Report omits crucial data and analysis related to subsurface sediment contamination and wrongly suggests natural attenuation as the remedy for subsurface contamination, endangering benthic habitat and human health.	
2A.	<p>The RI Report describes subsurface contamination as clearly worse at depth, yet the focus of the report is on the "shallow" contaminants. The RI Report acknowledges "deeper, often higher concentrations in the subsurface sediment" (p. 537). There is insufficient sampling of fine sediments with higher thickness at depth to determine the true nature of non-aqueous-phase liquid (NAPL) and polycyclic aromatic hydrocarbon (PAH) contamination. We are concerned that the RI Report has not accurately described the risks of subsurface sediment contamination. This additional information is crucial to determine the appropriate depth for the remedy.</p> <p>As the concentration of COCs is higher in subsurface sediment than in surface sediments (see, e.g., p. 512: "concentrations of TPAH, TPCB, and CU in subsurface sediment are higher than in surface sediment"), EPA and the public need to better understand such contamination now to make better decisions for remediation and future use of the creek.</p>	The RI Report presents the nature and extent of contamination in both surface sediment and subsurface sediment. Nearly all (over 900) subsurface sediment samples (including native material) were analyzed for PAHs. In fact, more subsurface samples were collected and analyzed than any other medium at Newtown Creek. Any petroleum sheen or blebs entrained in or adhered to the subsurface sediments were included in the samples analyzed by the laboratory and, thus, are reflected in the chemical analysis results. Subsurface sediment chemical analysis results are fully described (on par with surface sampling results) in Section 4.3 of the RI Report.

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		<p>Consistent with EPA guidance, the risk assessments evaluated exposure to surface sediments as those are the sediments that are currently available for exposure to humans and ecological receptors. The remedial alternatives that will be developed in the Feasibility Study will address both surface and subsurface sediment, as appropriate.</p>
2B.	<p>The CAG also wants to understand the extent of contamination in reference area subsurface sediments, which seem to have been completely overlooked.</p>	<p>Reference areas were selected and sampled to support the risk assessments which use surface sediment data to support their evaluation. Therefore, because the main purpose of the reference areas is for use in the risk assessments, only surface sediment data was collected. The BERA and the BHHRA base their evaluations on concentrations in sediments that are currently available for exposure to receptors. Currently subsurface sediment may become available for exposure in the future and therefore, as discussed below, cleanup goals that are developed for the site would be applied to both surface and subsurface sediment, as appropriate.</p> <p>CERCLA is a risk-based program and once unacceptable risk is identified, remedial action objectives and cleanup goals are established, and remedial alternatives are developed to address those risks by meeting the cleanup goals and remedial action objectives. The remedial action objectives and cleanup goals apply to all sediment regardless of the sediment depth as appropriate to achieve protectiveness. Therefore, during the RI, data is collected from both surface and subsurface sediment to determine the full nature and extent of contamination at the site itself. The reference areas are not physically connected to the creek, and subsurface data from these areas is not needed for the development of remedial alternatives at the site.</p>
2C.	<p>Therefore, we urge EPA to incorporate into the RI Report a spatial display of surface and subsurface sediment contaminant concentrations using contours. That type or a similar type of display would be easiest for the public to understand and the most suitable and usable for continued assessment. The draft RI Report provides reach- and tributary-specific aerial maps (e.g., Figures 4-63a through j for total polychlorinated biphenyls) that show concentrations of measured contaminants by location and depth. This is a good first step in understanding contaminant occurrence. It would be useful if this information were presented using contaminant concentration contours at a given depth. This would enable reviewers to identify hotspots or zones of contaminant migration more easily. In addition, this would provide a baseline from which remedy approaches can monitor and measure effectiveness over time.</p>	<p>The comment is noted and will be considered when developing graphics to support identification of the target remediation areas during the FS. Additional spatial depictions of contaminant distribution and concentrations will be developed for the FS when data will be compared to PRGs to identify specific target remediation zones.</p>

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2D.	<p>The CAG also questions why 15 centimeters, or 6 inches is the chosen depth to evaluate surface sediments (section 4.1.3.4). This depth is not much when referring to surface sediments in a tidal estuarine system with frequent boat traffic and prop wash.</p>	<p>Surface sediments are the primary route of exposure to human and ecological receptors. The depth identified for surface sediments (0 to 15 centimeters) is based on ecological risk assessment considerations. EPA guidance identifies the sediment biologically active zone (BAZ) as the top 6 inches of sediment. Identification of the BAZ is the default rule-of-thumb and is supported by EPA's Determination of the Biologically Relevant Sampling Depth for Terrestrial and Aquatic Ecological Risk Assessments (2015) which presents a maximum of 15 centimeters as the biologically relevant sediment depth for decisions related to ecological assessment for estuarine and marine systems. The sampling that was conducted for the top 15 centimeters of the sediment provides an estimate of the surface sediment concentrations that currently exist and include transport of contaminants due to boat traffic, prop wash, ebullition, and other fate and transport mechanisms that are part of the system. The field investigation also included the collection of deeper sediment core samples and all of this information is included within the RI and will be addressed within the remedial alternatives in subsequent documents.</p> <p>The depth of contamination that is considered in the risk assessments should not be confused with the depth of contamination that will need to be addressed to meet remedial action objectives and cleanup goals. The appropriate depth of potential action will be determined through the FS process, and both current and reasonably anticipated future unacceptable risks (as might, for example, occur by exposure to deeper contamination through erosion) will need to be considered as part of the remedy development and evaluation process.</p>
2E.	<p>We also question why subsurface sediments seem to have been sparsely evaluated in heavily polluted areas of the creek where we could reasonably expect to find significantly elevated concentrations of NAPL, such as the Turning Basin adjacent to the National Grid site. The RI Report states:</p> <p>"Estimated dissolved phase TPAH [total polycyclic aromatic hydrocarbon] loading is the highest along the Brooklyn shoreline of Newtown Creek, just downstream of the confluence with English Kills in the Turning Basin (CM 2.3 to 2.7)" (Section 5.2.2.1)"</p> <p>If the turning basin groundwater is the most TPAH-polluted, the CAG questions why there wasn't more testing of subsurface sediments at that site. We believe more information is needed at the National Grid site before proceeding with the Feasibility Study.</p> <p>Even where subsurface COCs are found, the RI Report attempts to downplay them. Throughout the</p>	<p>Surface and subsurface sediment data were collected during multiple rounds of sampling. Much of the additional surface and subsurface sediment sampling beyond the Phase 1 data was collected to fill gaps in data remaining after the Phase 1 program was completed and assessed. Subsurface sediment data is available for approximately 140 sediment samples collected in the Turning Basin. Additionally, the RI sediment data was supplemented with data collected by National Grid which included samples collected from approximately 42 locations. The National Grid data was collected under a</p>

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	<p>RI Report there is improper reliance on Newtown Creek Group’s conclusory assumptions about attenuation from sorptive capacity of subsurface sediments. For example, the RI Report states: "Due to attenuation resulting from sorption processes (as well as dispersion and possibly degradation), these loads are not determined by deeper, often higher concentrations in the subsurface sediment, nor are they determined by contaminant concentrations in groundwater. (p.537; see also pp. 538 and 542-545)"</p> <p>It further argues that "due to attenuation within the subsurface sediment, the chemical loads associated with groundwater only indirectly contribute to the chemical loads to the biologically active surface sediment and surface water. (pp. 330-331)"</p> <p>We note that sorptive capacity is uncertain and, in any event, limited. The potential for desorption must also be evaluated.</p>	<p>work plan approved by NYSDEC and EPA reviewed the quality of the data and approved its use in the RI. Study Area sediment sampling stations are shown in Figures 2-17a through 2-17d. EPA thinks that sufficient sediment data has been collected to adequately define the nature and extent of contamination to support evaluation of remedial alternatives in the FS. Additional sediment data will need to be collected in the future to support the remedial design. Regarding sorption, the revised RI states "...this process is being further evaluated with the CFT modeling being developed to support the FS)."</p>
2F.	<p>Moreover, the RI Report should not point to the proposed remedy of natural attenuation. The RI Report is not the place to suggest remedies. Any purported remedy selection should be removed from the RI Report and left to future steps in the Superfund process. Potential remedies should be determined in the Feasibility Study after all information has been gathered. References to remedies now would short- circuit the process and prevent thorough analysis.</p> <p>The CAG urges EPA not to let Newtown Creek Group sweep its pollution responsibilities under the rug by pointing only to the surface sediments and effectively telling the public: “Don’t worry about what’s under there because it will somehow take care of itself.” The point of Superfund is to demand that the polluters clean up the mess they have made.</p>	<p>Natural recovery is evaluated in the RI to provide a summary of temporal changes in contaminant concentrations in sediment, not as a potential component of a remedy for the site. Additionally, the revised RI notes that the processes and loads impacting any natural recovery processes are still being evaluated. For example:</p> <ul style="list-style-type: none"> • Section 8.6 of the RI: “The effects of groundwater loadings on subsurface and surface sediment will be further evaluated and quantified using the CFT model that is being developed to support the FS.” • Section 8.6 of RI: “Many of the components of the mass balance have been quantified and integrated into discussions in this CSM (some others have not yet been quantified, such as gas ebullition and contaminant loadings from the East River, which will be evaluated during the FS).” • Section 8.6 of RI: “Changes in surface sediment concentrations will be evaluated as part of future chemical fate and transport modeling efforts.” <p>Furthermore, remedial alternatives are developed and evaluated during the FS stage of the RI/FS process. Any potential application of natural recovery as a FS remedial component will be evaluated during the FS and thoroughly vetted against existing data sets, calibrated/verified CFT models, and CSM understanding.</p>
3	Contaminant sources and fate and transport are not accurately described, and there are multiple data gaps.	

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3A.	<p>NAPL is left largely unanalyzed. Given that the industrial history of the Newtown Creek estuary is dominated by petrochemical (NAPL-associated) industries and that the principal contaminants of this industry segregate within the estuary ecosystem as NAPL, it would be expected that identification of NAPL residue and ongoing NAPL contamination would be a principal focus -- if not the principal focus -- of the RI Report. Furthermore, given that any one type of NAPL source is associated with a unique chemical profile and unique set of CERCLA COCs, then determination of NAPL sources would require chemical analysis of NAPL samples.</p> <p>These observations informed the approach of the RI Report for a neighboring Superfund site, the Gowanus Canal. Systematic and collaborative work by EPA and the New York State Department of Environmental Conservation mapped NAPL upland sources, fate, and transport from former MGPs, which are sources of dense coal tar NAPL. Chemical analysis of this NAPL revealed it to be the principal source of COCs in sediments of the Gowanus tidal waterway. Newtown Creek sediments of the Turning Basin region and into CM2+ are comparable to Gowanus sediments because they are in the path of NAPL migration from two former MGP sites, the Greenpoint Energy Center and Equity Works. The existence and operational timeline of these two MGPs are not represented in the Newtown Creek historic timeline offered in figure 3.6, "Human Use and Activities," and we question the reason for this omission.</p> <p>The Gowanus RI properly pursued the identification and quantification of NAPL COCs, which included semivolatile PAHs (e.g., naphthalene) and volatile organic compounds (BTEX chemicals), among others. Given the greater diversity of NAPL-emitting industries along Newtown Creek, a greater variety of NAPL chemical profiles would be anticipated relative to the Gowanus Canal. The absence of NAPL chemical analysis in the RI is of concern with respect to issues other than NAPL chemical profiles' being important indicators of NAPL sources. CERCLA COCs associated with oil and gas operations are hydrophobic/oleophilic; therefore, these COCs preferentially dissolve in NAPL and not pore water or other aqueous solutions. Confirmation of this observation is available in the Superfund RI Report for the Gowanus Canal, wherein it is reported that the highest concentrations of PAH compounds were associated with NAPL (EPA, Gowanus Canal Superfund Record of Decision, p. 21).</p>	<p>Significant sediment data has been collected on the distribution of NAPL in sediment and native material at the site including the location and lateral and vertical boundaries of significant NAPL areas (Category 2/3 NAPL), the distribution of observations of sheens and blebs in sediment throughout the Creek, and the mobility of NAPL in sediment throughout the creek (Appendix C of the RI Report). EPA required multiple rounds of investigation to better define the lateral and vertical boundaries of NAPL within the Creek. If NAPL blebs and/or sheens were present in subsurface sediment samples, those NAPL blebs and/or sheens were analyzed along with the sediment. Therefore, results from those sediment samples present chemical constituents of what may be present in any NAPL blebs and/or sheens in the sample. That said, also note that EPA did submit additional comments related to NAPL in the draft RI report to the NCG (see EPA Specific Comments on the RI Report Nos. 6, 19, 43, 44, 48, 62, 79, and 80 and those on Appendix C (dated December 8, 2020) regarding NAPL as a source of contamination to the creek, NAPL migration, and NAPL analysis).</p> <p>Overall, EPA has determined that sufficient information has been collected on the distribution of NAPL within the Creek for the remedial investigation and for development of remedial alternatives for the feasibility study. NAPL will be further discussed during the FS including how the various remedial alternatives developed will address NAPL and potentially the need for additional NAPL data collection to support a remedial design.</p>
3B.	<p>NAPL contamination in the draft RI Report for Newtown Creek is underreported as a result of bias introduced into the study "Nonaqueous Phase Liquid Evaluation," compiled in appendix C. This is the NAPL investigation that serves as the basis for all conclusions regarding NAPL contamination in the draft RI Report. NAPL underestimation bias is identified as follows.</p>	
3B.1	<p>Strategic use of Terminology to discount NAPL observations Misuse of technical terminology: Sheen on water and sediment surfaces is not recorded as NAPL in appendix C. Therefore, all references to NAPL in the main body of the RI Report, which are determined by the study in appendix C, do not reference this ubiquitous indicator of NAPL. Note that a critical conclusion regarding the absence of NAPL, stated on page 6 of appendix C, is based on this false premise that sheen is not NAPL: "NAPL was not observed in Dutch Kills or Whale Creek sediment, although sheen was observed."</p> <p>NAPL sheen should have been recognized as NAPL, and samples of the sheen should be collected in oleophilic nets and chemically analyzed for composition and relative concentrations of COC components. Once the chemical profile of the NAPL sheen (or any NAPL sample) is assessed, its</p>	<p>The approaches for NAPL identification and evaluation were developed during the work plan stages for the RI, approved by EPA with consideration of stakeholder comments. The approach is generally consistent with NYSDEC NAPL identification guidance. The RI Report describes the distribution of sheens and blebs in Newtown Creek (Appendix C). See EPA Comments on the RI Report Specific Comment 80 and those on Appendix C. The current understanding of the distribution of significant NAPL areas and sheen and bleb distribution in sediment is sufficient to support development of</p>

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	<p>chemical signature can then be applied to determination of source.</p> <p>Use of ambiguous terminology: Ambiguous terms such as “apparent NAPL” and “potential NAPL” are inappropriate in the RI data report, given there has been adequate time to employ available EPA- approved technology to distinguish apparent and potential from real NAPL. Ambiguity is introduced in multiple contexts. For example, appendix C, page 16, describes the visual observations of core sediments categorized as “potential sheen or NAPL (if present)” (emphasis added). If there is observable sheen in a waterway industrialized by fossil fuel industries, then how is this sheen “potential”? If sheen is present, then NAPL is present, there is no scientific basis for “or” and “if present.”</p> <p>The terms “apparent NAPL” and “potential NAPL” and “potential sheen” are not found in the Gowanus Superfund RI nor in the NYCDEP NAPL investigation of the Creek. They should be deleted from the Newtown Creek RI Report.</p> <p>Creation of false distinctions: Oil is a non-aqueous-phase liquid. Said again, oil is NAPL. However, consider the following quotation from appendix C, page 8: “During Phase 1 of the RI, when visual observations such as the presence of an oil-like material on sampling equipment suggested that NAPL may be present, a shake test was performed.” Oil-like material is NAPL, so NAPL was present; there is no scientific basis for stating “may be.”</p> <p>Selective omission of NAPL confirmation tests, deriving from the misuse of terminology in the draft RI, underestimates NAPL impact. This underestimation of NAPL provides an argument against inclusion of NAPL in the Newtown Creek Conceptual Site Model (CSM). Omission of NAPL from the CSM would stand to substantially reduce remediation costs for the Superfund commercial PRPs, thereby explaining what appears to be the deliberate introduction of data-collection bias by manipulation of terminology.</p>	<p>remedial alternatives in the FS.</p>
3B.2	<p>Failure to collect NAPL data from sediment samples:</p>	
3B.2.a	<p>Phase 1 sediment cores were not assessed for NAPL: Phase 1 sediment cores, n=142, collected by the Newtown Creek Group were included as a component of the NAPL evaluation study compiled in appendix C, and Phase 1 “data” are referenced with NAPL observations from Phase 2 and Feasibility Study sampling in RI sections 4 and 6. The RI concludes that significant NAPL contamination is restricted to only three regions in the Newtown Creek estuary. But the NAPL evaluation study of appendix C on which this claim is based is flawed, and therefore so is this conclusion.</p> <p>The 142 Phase 1 cores, collected over two years, were not evaluated for NAPL as specifically noted appendix C, page 9: “Phase 1 field methods for documenting visual observations were not designed to specifically investigate the presence and extent of NAPL.” Therefore, NAPL observations made in reference to the 142 Phase 1 core samples were not collected according to the scientific method, i.e., were not collected according to any scientific protocol, whether EPA-approved or not. Although Phase 1 sediment cores were not assessed for NAPL, as stated in appendix C, Phase 1 observations are the basis for the first point of information offered in the summary overview in RI Report page 213: “During Phase 1, the presence of NAPL in sediment and underlying native material was confirmed at four locations in the Study Area.”</p> <p>On what basis were four locations, and only these locations, confirmed for NAPL out of the 142 Phase 1 core locations, given that Phase 1 sediment samples were not designed to specifically investigate the presence and extent of NAPL? The observation used to confirm NAPL at Phase 1 core locations was the presence of an oily substance on core sampling equipment, not an oily substance in core sediments: “During Phase 1 of the RI, when visual observations such as the presence of an</p>	<p>Visual observations of the characteristics of sediment in cores including indicators of NAPL were documented in the 142 Phase 1 sediment cores. These documented NAPL indicator observations included identification of sheen, oil staining, oil coating, and oil-wetted observations in sectioned cores. When the Phase 1 sediment investigation identified NAPL/NAPL indicators in sediment cores, additional sediment investigations were undertaken in Phase 2 to provide additional information on the lateral and vertical distribution of significant NAPL areas (Category 2/3 area) and the distribution of sediments with sheens and blebs.</p> <p>Based on NYSDEC guidance for identification of NAPL at MGP sites, a standard methodology for visual observations of NAPL in sediment and a standard method for shake testing sediment were developed and described in the Phase 2 planning documents. The NAPL identification methods were reviewed and approved by EPA. In Phase 2, over 160 cores were collected and processed using Phase 2 methods based on NYSDEC</p>

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	<p>oil-like material on sampling equipment suggested that NAPL may be present, a shake test was performed” (appendix C, page 8); similarly: “In total, shake tests were only performed on 5 of 142 Phase 1 cores. These tests were performed on an ad hoc basis and were not conducted using a standardized procedure” (appendix C, page 8).</p> <p>Oil sheen and other oil-like materials associated with sediments were disregarded as NAPL. The biased, nonscientific approach to NAPL evaluation in service to the commercial interest of grossly underestimating NAPL contamination has no place in an RI report and constitutes a betrayal of Newtown Creek communities.</p>	<p>guidelines for evaluating NAPL (terminology for visual observations and shake testing of sediment samples). Sixteen archived Phase 1 cores were re-evaluated for NAPL using Phase 2 methods. In addition, 194 Phase 2 surface grab samples were processed using Phase 2 visual identification terminology. Based on evaluation the Phase 2 RI core data (including 42 National Grid cores), as part of the FS Field Investigation program, EPA directed the NCG to collect and characterize additional cores in Category 2/3 areas to further delineated the lateral and vertical extent of NAPL in sediment and native material. Additional cores were collected from 21 locations. Further, cores from 5 step-out locations were also collected for a total of 26 locations (30 cores) processed using Phase 2 methods. EPA used an unbiased and accepted approach based on NYSDEC methods for identification of NAPL/ NAPL indicators. The NAPL data collected during the RI are considered sufficient to develop remedial alternatives in the FS.</p>
3B.2.b	<p>Data gap not adequately addressed: The data gap resulting from Phase 1 and Phase 2 sampling was not adequately addressed by the subsequent NAPL Distribution Refinement study because sheen continued to be unrecognized as NAPL. Shake tests were not refined by inclusion of oleophilic dye to visualize colorless NAPL. Critically, no chemical analysis of NAPL composition was performed. Thus, source of the NAPL could not be investigated and the potential of the NAPL as a source of CERCLA COCs could not be quantified. Omission of these data is contrary to the intent of CERCLA legislation.</p>	<p>Sheen was identified and observations of sheen were reported in Appendix C of the RI Report. This information is used to understand the spatial distribution of NAPL in the RI Report and will be used moving forward in the FS. Oleophilic dye was not required by EPA; the method to identify NAPL during the RI was based on the NYSDEC protocol for identification of NAPL which does not include the use of oleophilic dye. As previously noted, any NAPL entrained in or adhered to surface or subsurface samples was analyzed along with the sediment matrix and is reflected in the concentrations of contaminants reported in the analytical data. Additionally, the distribution of sheen in sediment has been documented in the RI Report and will be included in the FS evaluations. Further, floating NAPL (i.e., sheens), while important, is a consequence of releases of NAPL from upland sources (e.g., banks, point sources, releases of spilled product, etc.) and from in-creek processes (e.g., ebullition and physical disturbance of sediment). Controlling the NAPL sources in the sediments and upland areas will likely be an important focus of the CERCLA remedy because controlling those sources are key to reducing or eliminating the floating NAPL. These control mechanisms will be evaluated as part of the FS.</p>
3B.3	<p>Failure to include available NAPL data:</p>	
3B.3.a	<p>The CAG has had the opportunity to review the evaluation of NAPL contamination conducted by NYCDEP contractor the Louis Berger Group (LBG, which has since been acquired by the Canadian</p>	<p>When parties other than the performing PRPs collect data at the site EPA follows a consistent process for</p>

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	<p>company WSP). Two sets of LBG investigations, sediment core sampling and seep sampling, address the biases and data gaps outlined above: NAPL sheen was not only correctly categorized but also chemically evaluated; chemical composition was quantified and levels of toxicity identified; data collection controls were implemented, including duplicate sampling and inclusion of blank and duplicate samples; and data analysis controls were implemented, with duplicate chemical analysis by different labs. Finally, preliminary study of sediment cores identified, as would be anticipated, NAPL-rich sediments outside the three sites recognized in the RI Report (“Category 2/3” sites). Most notably, the results of chemical analysis were similar to those obtained for the Gowanus Canal: contaminant concentrations in NAPL were “several orders of magnitude higher than all other sampled sources to the Creek” (NYC Department of Environmental Protection, 2017 NAPL Seep Sampling Data Summary Report, The Newtown Creek Superfund Site, Kings County & Queens County, New York City, NY, September 2020, page 21).</p> <p>In addition to providing chemical analysis and quantitative data, the DEP NAPL evaluation provides a clear mapping of current sites of NAPL seeps, obtained by a systematic low-tide survey of the Creek shoreline and the inclusion of seep data available from the NYSDEC. In contrast, in the draft RI Report, no systematic surveys were conducted to map current NAPL seeps. Compare that omission to appendix E, which maps point sources under the responsibility of city and state agencies. This omission is in contradiction to the 2015 CSTAG recommendations, which seek to understand the extent of NAPL contamination, its phase, and the pathway by which it is entering the Creek:</p> <p>"It is important to determine where the coal tar/NAPL is located within the study area (i.e., behind the bulkhead, under the sediments, upland pools), what phase it is in, the location of any pressure gradients, and how it is entering the Creek and its tributaries. Understanding how the coal tar is entering the Creek will be critically important for evaluating effective remedies in the FS to contain, treat, or remove it. CSTAG recommends that Region 2 identify where the mobile fraction of coal tar is located in the subsurface. Technologies that can evaluate the mobile fraction of coal tar have been found to be useful at some sites and should be considered."</p> <p>The DEP’s NAPL study provides us with results consistent with those obtained for the Gowanus Canal RI, wherein the threat of NAPL seeps and other forms of transport are recognized. Compare the attached Gowanus CSM diagram against that of the Newtown Creek CSM for the Creek CM2+ region (site of two former MGPs). The Gowanus Canal diagram depicts NAPL seeps, advection, and ebullition, forms of NAPL contamination absent from the Newtown Creek CM2+ diagram. No valid argument can be claimed for ignoring evidence of NAPL contamination that is relevant to the remediation of the estuary.</p> <p>The NAPL investigation conducted by LBG was paid for with NYC taxpayer money and as such should serve to benefit New York City residents and workers. This NAPL evaluation offers a counterweight to the bias introduced into CERCLA implementation by commercial concerns (i.e., profit margin and capital accumulation).</p>	<p>determining how it should be considered in the Remedial Investigation process. If the data support the findings of the RI/FS then it provides another line of evidence supporting the conclusions made at the site. If the data does not support the findings of the RI/FS then EPA would either determine that additional sampling should be conducted to evaluate the discrepancy or it may, after careful review, determine that the data should be included in the RI/FS for the site. In some cases, EPA may determine that the data is not consistent with the purposes of the RI/FS and that the additional data is not needed for the RIFS.</p> <p>EPA has accepted data and information related to Newtown Creek from outside parties, including NYSDEC and NYCDEP. As an example, EPA reviewed the City’s results of field survey observations of sheens and sheen blossoms related to gas ebullition and found that the ebullition survey data collected by the NCG was inconsistent with City’s ebullition field survey data. EPA used the City’s data to identify gaps in the NCG data and required the NCG conduct additional field ebullition surveys in the creek to further characterize the distribution of sheens and sheen blossoms related to gas ebullition. The additional field ebullition data provided a firm basis to support implementation of the gas ebullition pilot study and the full-scale gas ebullition investigation. EPA notes that certain data collected by the NCG outside the RI/FS (not collected under an EPA approved work plan and QAPP) was not accepted by EPA and was not used in the RI Report. EPA also notes that the City of New York is a respondent to the AOC and a responsible party for the Newtown Creek Superfund Site. See response to comment 3B.3.b below regarding the use of National Grid sediment data.</p> <p>Regarding the NYCDEP NAPL Investigation Study Data, EPA reviewed the data and provided the report to the NCG. NYCDEP’s study was not performed under a work plan or quality assurance project plan (QAPP) approved by EPA or NYSDEC and was not designed with the purposes of supporting the RIFS (note that the City of New York is a respondent at the site). Further, the data collected does not fill any data gaps that would help to support development of a remedy for the site. A full accounting of every NAPL seep is not needed to select a</p>

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		remedy for the site, and the need to address individual seeps would be determined during the remedial design. Therefore, the information was not included in the RI Report.
3B.3.b	In contrast to the omission of the comprehensive NAPL dataset compiled by LBG, we note that the draft RI Report includes data from a separate contractor (GEI) in service of a commercial potentially responsible party, National Grid. If some potentially responsible parties are allowed to contribute data outside the approved work plan, then the NYC DEP's data should be included as well. LBG has successfully served (and is serving) the EPA and United State Army Corps of Engineers and has no record of failed remediation projects.	The National Grid data was collected in accordance with a work plan reviewed and approved by NYSDEC. As part of the 2014 Phase 2 Work Plan Appendix V, EPA reviewed the data quality assessment prepared for the National Grid sediment data. The quality and usability of the sediment data from the National Grid study were assessed and deemed acceptable by EPA for inclusion in the RI Report. Use of the National Grid data was discussed with all parties (Respondents to the AOC, NYSDEC, and EPA partner agencies) prior to EPA approving its use in the RI Report. All parties agreed to the use of the National Grid data in the RI Report. As noted in comment 3B.3.a above, EPA reviews all data submitted by outside parties and determines the appropriate uses of such data within the context of the RI/FS.
3B.3.c	Associated with the absence of CSM inclusion of the Creek's NAPL contamination is the absence of mobility studies for Creek miles 2+. Was NAPL mobility data for the Turning Basin, English Kills, and other areas collected? If not, why not? If so, it seems to have been inexplicably excluded from the RI Report.	NAPL mobility testing was performed for CM 0-2 (Part 1 of the FS investigations); the results of this testing are discussed in Appendix C (Section 4.4) to the RI Report. NAPL mobility testing for CM 2+ was performed during Part 2 of the FS investigations and will be included in the FS Report.
3B.4	<p>Historical COC sources should be attributed where feasible. We question why historical contamination sources are left unexamined as "too complex" though such sources were attributed to adjacent businesses at the Gowanus Canal Superfund site. The RI Report says:</p> <p>"the locations of impacts observed today cannot necessarily be directly linked to proximate upland sites (p. 526)"</p> <p>and</p> <p>"Contaminants in the Study Area cannot necessarily be attributed to proximate upland sites, due to the complex patterns of development and use . . . and the complex history. (p. 272)"</p> <p>The CAG urges EPA to attribute COC contamination to sources where possible. The Gowanus RI did not invoke "complexity" as an excuse for failure to determine sources of NAPL migration into soft sediments and underlying native sediments from former manufactured gas plants (MGPs). The NAPL samples do not seem to have been evaluated for type, potential source, or how behavior. For instance, whether</p> <p>NAPL is heavy or light or whether it is coal tar, heating oil, or gas could help identify the culprit polluter. In addition, it is not "speculative" to attribute pollution to site proximity; rather, it is one line of evidence that could make culpability more probable. The RI Report mentions multiple tributary areas (e.g., sections 5.4.2.1, 5.4.2.2, 5.4.2.3, and 5.4.4) where contaminant levels were elevated. Surely, the location and conditions point to certain prior and/or ongoing uses as the polluters most responsible.</p> <p>We urge EPA to undertake the evaluations to attribute pollution. At the very least, this and similar</p>	<p>Given the complex history of legacy (historic/past/not ongoing) contamination in the creek, attribution to specific sources is highly uncertain and, more importantly, is not required to develop and evaluate remedial alternatives in the FS and select a remedy. EPA has identified multiple responsible parties that are responsible for the RI/FS and cleanup of the site under CERCLA. Additionally, the process of identifying potentially responsible parties is ongoing at the site. Expending additional time and resources directed toward attribution of contamination is not required for the CERCLA process to move forward.</p> <p>Investigations of ongoing sources of contaminants to the creek are in process. NYSDEC is conducting upland evaluation and investigation activities, and EPA is planning a study to collect supplemental data to address the uncertainty and significance of shallow lateral</p>

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	<p>statements should be removed from the RI: "Discussions are not centered around proximity to upland sites or other potential sources, because to do so would be speculative (Section 4.1)."</p>	<p>groundwater discharge loading to Newtown Creek. These additional evaluations are important to determine the nature and extent of ongoing sources of contamination to the Creek, and to determine what additional cleanup actions may be needed to address them.</p>
3B.5	<p>Upland sites should be addressed, potentially through an additional operable unit. Data in the RI Report do not fully encompass potential ongoing sources of pollution from adjacent properties. The CAG requests greater consideration of these sources, and the designation of a new operable unit to address upland contaminated sites. Studies of these sites should incorporate all potential pollution sources to the Creek, including all known seeps and direct and piped stormwater discharges, as well as groundwater discharges from areas in and upland of the intertidal zone. For example, there are known oil spills polluting the creek (Scott Enman, "There Are 3 Active Oil Spills on Newtown Creek," Brooklyn Eagle, May 20, 2019, https://brooklyneagle.com/articles/2019/05/20/there-are-3-active-oil-spills-on-newtown-creek). Information on the upland impacts on the Creek should be collected especially in areas known for oil and gas refining and manufacturing. Failure to incorporate evaluation of these ongoing COC sources into the RI Report could result in a deficient remedy or its long-term failure.</p>	<p>Upland properties that are contributing or potentially contributing contaminants to the creek or could impact a future remedy are being evaluated by NYSDEC and coordinated with EPA. EPA is also working with NYSDEC to review existing information on upland properties to evaluate the potential for ongoing discharges or releases that could impact a future remedy.</p> <p>The upcoming lateral groundwater study that EPA is conducting directly may also identify some significant ongoing sources of contamination that will need to be addressed as part of a comprehensive cleanup of the site.</p>
3B.6	<p>Navigational and surface dredging impacts should be reevaluated. The CAG seeks further clarity on the methods and conclusions for the assessment of the "Impact of Recent NYC Navigational Dredging on Surface Sediment Chemical Concentrations" (section 4.2.4). The CAG's TASC consultant could not verify the dredging assessment's methods and conclusions with the information presented in the RI. Some of the supporting data do not appear to be correctly presented or could benefit from additional explanation. For example, the "Range of Surface Sediment Concentrations in the First Mile" data (table 4-11a, first column) actually present the range of concentrations in the first two miles for all the chemicals except total polycyclic aromatic hydrocarbons. In addition, the text indicates there are multiple samples available for "locations with only sand cover," yet only one result is presented (table 4- 11a).</p>	<p>For more information on the NYC navigational dredging project, see reference provided in the RI Report. A summary of this work is not appropriate for the RI Report. Post- dredging sampling was conducted as part of the RI only to understand the impact of the dredging on previous sampling results. Additionally, we do not understand the penultimate sentence of the comment since all sampling for this effort was performed within the first mile of the Creek. Regarding the last sentence of the comment, it is also not clear where the RI Report says "locations with only sand cover." Let's discuss this comment further so we can better understand the concern.</p>
3B.7	<p>Aeration is not thoroughly sampled or discussed. The CAG reiterates its concern that the Department of Environmental Protection's aeration system is causing the resurfacing of pollutants and potentially aerosolizing them. This is possible when the aeration system is operating properly, but we also note that the aeration system is often broken, malfunctioning by emitting high-volume blasts of gas in concentrated areas on the Creek, aerosolizing whatever is in the water column. The pipes sit on the bottom of the Creek and have been documented to get buried by sediment during periods of inactivity. Additional prop wash in the aeration zones can disturb nearby sediment and allow the aerators to bring these potential contaminants not just to the surface waters but also the air column. Most concerning is the fact that aeration pipes run in areas of the Creek where both sediment contamination by COCs is highest and the presence of NAPL on surface waters via ebullition is most concerning (Turning Basin and English Kills).</p> <p>The CAG firmly believes that the potential exposure to COCs, via surface waters and aerosolization, for Creek users who may be recreating or working near the aeration pipes needs to be addressed as a pathway for human health risk. The air quality and surface water monitoring done as part of the RI was not conducted to properly evaluate the potential impacts of the aeration system, and only a</p>	<p>As has been previously discussed with the CAG, no additional air or surface water sampling related to this concern is planned at this time. EPA does not think the additional sampling and evaluation is needed for the following primary reasons:</p> <ul style="list-style-type: none"> - The BHHRA evaluated exposure to ambient air surrounding the creek. Data that was used in the risk assessment included air sample results that were collected when the aeration system was operating. The results indicate that the concentrations do not result in an unacceptable risk or hazard. - The BHHRA also estimated risks from direct exposures of boaters and swimmers (among others) via incidental ingestion of and dermal contact with

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	<p>smaller portion of the actual system was even operating during phase 1 and 2 of sampling. We ask that aeration be evaluated in the FS as a mechanism for resuspension and migration of COCs (just as issues like prop wash are given consideration) and a potential pathway for human health exposure. In order to do so, proper data must be collected in regards to how the operation of the aeration system may be affecting surface water and air quality in the immediate area.</p>	<p>surface water using chemical contaminant concentrations measured in surface water. Estimated risks for these receptors were very low (cancer risk of 1E-7 or lower, noncancer hazard index of 0.01 or lower).The BHHRA did not specifically quantify risks from exposure to chemical contaminants in aerosolized droplets, but such exposures are expected to be less than the surface water exposures evaluated in the BHHRA since the exposure pathways for aerosolized droplets would be similar to those for surface water, the amount of aerosolized droplets incidentally ingested is likely to be much less than the amount of surface water that may be incidentally ingested, and dermal contact with aerosolized droplets is likely to be less than direct dermal contact with surface water.</p> <ul style="list-style-type: none"> - TSS data collected in English Kills adjacent to the aeration system over a number of years was evaluated and compared to the TSS data elsewhere in the creek. No significant difference in TSS levels was identified. <p>Overall, while we understand the CAG’s concerns around this issue, NYC is under order by NYSDEC to maintain DO levels within the Creek. In the long term, addressing the contaminated sediment in the creek will reduce any potential impacts to the community from the aeration system. In the short term, none of the evaluations conducted during the RI/FS process for the site indicate that there is an immediate health concern. That said, we will continue to explore ways to consider this issue during the ongoing Superfund process.</p>
3B.8	<p>Tributary inflows, groundwater seeps, illicit discharges, and CSO discharges are not studied and described accurately. The RI Report says there are no natural tributary inflows (e.g., p. ES-2), but some inflows have been documented, such as in English Kills and Maspeth Creek (see photos at https://www.flickr.com/photos/76572518@N04/albums/72157641840652343). Moreover, the RI Report states without justification that groundwater seeps are not responsible for significant pollution: "contaminant seeps are minor sources of contaminants to the surface water and surface sediment. (p.532)"</p> <p>Even though thirty-one seeps were identified, only nine were sampled. The potential contaminant contribution from the nonsampled seeps remains unknown; they have not been studied by Anchor QEA. Therefore, it is premature to conclude that groundwater seeps are only “minor” sources. Members of the CAG have witnessed extensive sheens on surface water, apparently emanating from seeps. We believe these sources are significant. Will further evaluation of the shoreline seeps</p>	<p>EPA reviewed the photos provided on the flickr page. However, what the photos are showing is unclear as no additional information is provided for the photos. Based on the available information, there is no significant remaining natural stream flow into the creek. Section 3 of the RI Report describes water inputs to the creek in more detail than the executive summary. Water flows into the creek are dominated by point source discharges of various types (e.g., storm water, CSO discharges, treated water discharges, etc.), and include overland flow during wet weather events, and groundwater discharges to the study area through the sediment and seeps.</p>

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	<p>be addressed as part of the forthcoming lateral groundwater studies? The RI Report indicates that sampling of the opportunistic shoreline seeps was problematic because of access and safety considerations.</p> <p>The RI Report also omits discussion of unlawful industrial stormwater and other discharges as a source of contaminants. (see, e.g., sections 8.3 and 8.5.2.1). It is unclear whether such discharges have been factored into the RI Report. CAG members have identified dozens of unlawful discharges on the creek over the past two decades and continue to do so.</p>	<p>During the shoreline surveys 10 shoreline seeps were identified; of these ten locations, nine were sampled. The tenth location was not sampled due to unsafe conditions for the field team. Of the seep data collected, the results showed that only two seep samples contained contaminant concentrations that were elevated compared to the range of creek water samples in the reach where the seep sample was collected. This information is presented in Section 5.7.1 and on Figure 5-47 through 5-49 of the RI Report.</p> <p>You are correct that the planned shallow lateral groundwater discharge investigation will help further define the impact of seeps to the Creek, as will the additional investigations planned by NYSDEC to support the upland evaluation. That said, a full accounting of every seep is not needed to select a remedy for the site. EPA is aware that there are additional seeps that are not, or will not be, accounted for in these surveys that discharge contamination to the creek on an intermittent or ongoing basis. It is not necessary to have each of these seeps accounted for and sampled in order to develop remedial alternatives that would take into account seeps at the site. Rather, the need to address individual seeps would be determined during the remedial design.</p> <p>EPA thinks that sufficient seep data has been collected to determine if an action needs to be taken and to develop and evaluate remedial alternatives in the FS. The details of the FS alternatives, such as addressing individual seeps, will be addressed during the remedial design phase.</p> <p>Also, note that NAPL seeps are addressed in EPA Comments on the RI Report General Comment No. 6 and Specific Comment Nos. 19, 33, 38, 39, 41a, 47, and 55. In general, these comments request revisions to the RI Report to identify NAPL seeps/NAPL seeping from upland properties as a potential source of sheen, organic carbon, and contaminants to the Study Area.</p> <p>Finally, EPA requests clarification on the reference to unlawful industrial stormwater and other discharges that have been omitted from the RI Report. From where was the information regarding the 31 seeps derived?</p>
3B.9	The RI Report also seems to avoid accurately modeling CSO discharges, failing to capture the difference between dry and wet weather:	There are no CSO discharges during dry weather events. Wet weather events were performed as planned and

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	<p>"Wet weather sampling program design could not include sampling of ambient conditions prior to the onset of the precipitation event. Whale Creek was not sampled during wet weather. (sections 4.7.2.3 and 8.4.3)"</p> <p>Why were samples of all reaches not taken before, during, and following wet weather?</p>	<p>included samples collected one day and two days after the event. Surface water samples were collected during 5 wet weather events, concurrent with wet weather point source samples events. The intent was to observe the effects on the creek of point source and overland flow discharges during wet weather events.</p> <p>Samples were collected under ambient conditions (dry weather) during a year-long surface water sampling effort that included over 12 events. EPA requests clarification on this comment.</p>
4	The use of unprotective benchmarks derived by Newtown Creek Group should be removed.	
4A	<p>Newtown Creek Group refers to its own benchmarks, including "critical body residue" levels and "lowest observed effect concentration." All suggested benchmarks or targets suggested by Newtown Creek Group should be deleted from the RI Report. This includes "critical body residue" figures, which are calculated to repeatedly and unsurprisingly fail to recognize significant pollution concentrations:</p> <p>"There is no evidence of harm to bivalves and mummichog when NCG CBRs were used in the tissue residue approach. (p. 483)"</p> <p>Where EPA reference concentrations find significant levels of contamination, Newtown Creek Group finds none:</p> <p>"For blue crab, all HQs were less than 1 when using the NCG LOECs. When using USEPA Region 2 LOECs, Study Area-wide HQs were 1.6 for Cu and 8.8 for TPCB congeners. (p. 492)"</p> <p>These Newtown Creek Group figures should be removed from, among other places, pages 145, 483, 490, 492 in multiple places, 502, and 547.</p>	<p>EPA's ecological risk assessment guidance allows risk assessors to propose alternative toxicity values (e.g., a toxicity value derived for a site-specific species of concern, as opposed to a conservative screening value derived from a species not present on the site) in order to develop a more representative risk assessment. During the BERA reporting process, EPA provided the NCG with a conservative set of Toxicity Reference Values (TRVs) and Critical Body Residues (CBRs) that had been developed by a technical working group for another EPA Region 2 Superfund sediment site. The NCG accepted and used those conservative values, but also proposed an alternative set of TRVs and CBRs that they asserted were more representative of the species present in Newtown Creek. EPA verified that each of the proposed TRVs and CBRs were appropriately derived by reviewing the scientific literature citations provided by the NCG, and allowed the NCG to incorporate them as alternative values. EPA did not approve the NCG's alternative values as acceptable for use at Newtown Creek or for use at other sites. However, EPA allowed the NCG to include them as alternative values to demonstrate a potential range of ecological risks. During EPA review of the Newtown Creek BERA, EPA relied on the more conservative TRVs and CBRs to make risk decisions.</p>
4B	<p>Newtown Creek Group also substitutes its own hypothetical datasets by performing hypothetical analyses excluding values that tend to show pollution. For instance, Newtown Creek Group makes conclusions about cyanide concentrations based on the hypothetical "if these two sample results are not included in the dataset" (pp. 147 & 484). Any reference to these hypothetical analyses should be deleted.</p>	<p>The NCG did not include "hypothetical" datasets. Where a set of concentration data had one or two results that were significantly higher than the others, the NCG provided an alternative assessment in the text (along with the complete dataset) to show that elevated locations were not representative of the entire area. However, the RI Report included both the original (including all results) and the alternative data set analysis.</p>
5	Tributary areas are so isolated, contaminated, and unique that they need their own site-specific	The RI report provides the physical description and

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	<p>conceptual site models.</p> <p>A key finding of the RI Report is that the reaches of the Study Area (Creek Miles 0-2, Creek Miles 2+, and each tributary) differ materially in physical characteristics, tidal action, contaminant distributions, sources of solids and contaminants, relative contributions of historical versus ongoing sources, fate and transport processes, and risk. Those differences will play an important role and will pose unique challenges when developing and assessing remedial alternatives in the Feasibility Study (see section 9.2). The major reaches are so different that each one deserves its own conceptual site model. As drafted, the RI Report has only one conceptual site model, in which it assumes conditions are the same throughout the entire study area:</p> <p>"The hydrodynamics of the Study Area are dominated by twice-daily tides and by rainfall-related flows from point sources and overland flow. (section 8.3)"</p> <p>This description highlights the problem of using a single CSM. Some reaches are less affected by the tides, such as English Kills. Some are less impacted by overland flow (Creek Miles 0-1). Thus, CSM should be divided by specific reaches to account for their individual conditions. CSMs are "living documents" and are regularly updated throughout the RI/FS process and serve to identify source areas, fate and transport pathways, and suitable current and future-exposure pathways. The tributaries of the Creek have distinct and unique features, including conditions of sediment depth, bathymetry, spatial contaminant occurrence, sources of scour, and influence from the mainstem. Given the variability of these features among the tributaries (for instance, the sediment depth profile in Maspeth Creek versus English Kills), it will be useful to construct a more-specific CSM for each tributary and each reach within the mainstem.</p> <p>The conceptual diagram for "all tributaries" (shown in figure 38-3) does not capture the uniqueness of each tributary. More defined CSMs could help reviewers more fully envision the nature and extent of contamination within a defined piece of the site. Depending upon data availability, a "loading-based" depiction of estimated sources (point and nonpoint sources inclusive of groundwater when the information becomes available) would be beneficial to show conditions for each reach and tributary. In addition, characteristics including sediment depth, water depth, occurring seeps, erosional shorelines, and access points would help maximize the understanding of exposure conditions for each tributary or reach.</p>	<p>chemical characteristics (e.g., contamination concentrations) of each tributary and sources in each tributary. During the FS phase of the work, each tributary will likely be considered separately and, where appropriate, even sub-portions of tributaries may be considered separately, if appropriate. Additionally, when identifying target remediation areas during the FS, contamination data and site-specific characteristics (e.g., geotechnical properties, GW impacts, contaminant distributions, etc.) will be evaluated to a greater level of detail down to specific areas within tributaries, as appropriate. Any remedial technology/approach evaluated during the FS will consider the characteristics of each tributary and the heterogeneity of those characteristics across that single tributary to identify specific areas.</p> <p>The CSMs for the tributaries are similar to one another and thus, are adequately represented in the CSM by a single CSM for the purposes of the RI Report.</p>
6	<p>The Conceptual Site Model should acknowledge likely future conditions. The CSM does not account for expected changes in conditions, such as climate change, population growth, decrease in upriver polychlorinated biphenyl (PCB) contamination, local green infrastructure development, etc. These likely changes in conditions should be acknowledged and assessed. If future conditions are not incorporated into the CSM, the CAG urges EPA to factor them into the Feasibility Study and Remedy Selection.</p>	<p>Conceptual site models are based on the current available information on waste sources, pathways, and receptors at a site. A conceptual site model does not include potential future use or future conditions. The CSM is updated as additional data or information become available. Anticipated future conditions that could impact the remedial alternatives are considered in the feasibility study and the remedial design.</p>
7	<p>The COCs driving the RI Report analysis are too narrowly circumscribed. The CAG questions why the COCs are narrowed to only three contaminants. These include total polycyclic aromatic hydrocarbon (TPAH); total polychlorinated biphenyl (TPCB); and copper. Secondary contaminants summarized in the RI Report include 2,3,7,8-tetrachlorodibenzo-p-dioxin (2,3,7,8TCDD); lead (Pb); and dieldrin. In Gowanus Canal, EPA evaluated BTEX, PAHs, PCBs, barium, cadmium, copper, lead, mercury, nickel, and silver (see attached table from the Gowanus Record of Decision). Given similar</p>	<p>Contaminants for discussion in the RI Report are based on contaminants identified as contaminants of concern/contaminants of potential concern in the human health and ecological risk assessments. This is EPA's approach for identifying contaminants of concern at all Superfund sites and was the approach used at the Gowanus Canal site. The Gowanus Canal and</p>

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	industrial uses and CSO discharges in Gowanus and Newtown Creek, why were different constituents selected as the primary drivers for the RI?	Newtown Creek are different sites with different conditions; contaminants of concern are determined on a site-specific basis. Additional contaminants – C19-C36 aliphatic hydrocarbons and TPAH (34) – were found to be correlated with ecological risk and will be included in the next version of the RI Report. This is discussed in the following EPA Comments on the RI Report: General Comment No. 1a and Section 4 General Comment No. 8.
8	The selected Phase 2 reference areas are some of the most polluted waterbodies in New York City.	
8A	The CAG questions why the RI Report relies only on tidal inlets as reference areas. The RI Report relies too heavily on these sites to determine risk (see, e.g., section 8.4.1.1). Specifically, why were Gerritsen Creek, Westchester Creek, and Spring Creek chosen as the Phase 2 reference areas (section 8.7). Many of these waterbodies are highly polluted and in need of cleanup in their own right, especially Westchester Creek. What about other, closer areas of the harbor, such as the East River? Did EPA rely on only polluted tidal inlets for the Gowanus Canal Superfund? The CAG is concerned that comparison to these polluted waters will undermine the strength of the cleanup and fail to meet the community’s goals for the Creek. We reiterate that to the extent these reference areas will factor into the remedy, their subsurface sediments should be evaluated.	Reference areas are not used to determine risk at the site. They are simply used as points of comparison in the risk assessments for the site. As such, EPA selected as reference areas waterbodies with similar physical characteristics to Newtown Creek representing a range of contaminants and sources. Risk calculations are based on exposure to contaminated media at the site and not on comparison to reference areas. Additionally, reference areas are not considered background (see EPA Comments on the RI Report General Comment No. 2a) for the Newtown Creek site. See EPA’s Executive Summary General Comment No. 4.
8B	The RI Report says the Phase 2 reference areas were selected because “they exhibited generally lower levels of contamination in surface sediment than other reference areas” (p. 550). This is incorrect and should be deleted.	The CAG is partially correct. The Phase 2 reference areas were not only selected because they had lower levels of surface sediment contaminants than other reference areas. The Phase 2 Reference Areas were selected as representative dead-end creeks in NY Harbor that were: 1) industrial with CSOs; 2) non-industrial with CSOs; 3) industrial without CSOs; and 4) non-industrial without CSOs. Other factors including the physical and general chemical characteristics of the areas were also considered. The reference areas within each category with the lowest concentrations were then selected. EPA requested that NCG address this comment in the Revised RI Report.