Newtown Creek

Baseline Ecological Risk Assessment Comment and Response Matrix

ID No.	Reviewer	Comment Date	Section Name/Topic	Section/Table/ Figure No.	Page No.	Reviewer Comment No.	Comment Text	Category	Response/Proposed Path Forward	EPA Response
1.	USEPA	6/11/16	General Comments	--	--	1	The report needs to focus on risks posed by CERCLA hazardous substances. Discussions on the non- CERCLA stressors or confounding factors should be eliminated from the report or at least discussed in the uncertainty section. Additionally, in the current report format, uncertainties are presented in each evaluation section. A summary of key uncertainties should be provided in the report.	Disagree	The NCG believes that a discussion of non-CERCLA stressors or confounding factors is important to the interpretation of the risks posed by CERCLA hazardous substances, and should be transparent to the public. Therefore, such a discussion should not be confined to the uncertainty section of the report. See the responses to ID Nos. 58, 139, 228, 250, and 262 for additional information in response to specific comments on confounding factors.	Unacceptable. EPA stands by EPA original Comment. As specified in Dispute Resolution on PFA PF (comment No. 11) dated February 2014, confounding factors analysis is to be presented in the uncertainty section.
2.	USEPA	6/11/16	General Comments	--	--	2	The screening process in the BERA did not follow the process outlined in the BERA Problem Formulation (see page 6 Section 3 Identification of Preliminary COPECs). The COPECs identified in the SLERA TM2 were used as the definitive COPECs in the BERA risk analysis. In this BERA, the maximum concentrations of all detected chemicals in sediment and surface water from Phase 1 and Phase 2 investigations should be compared to screening levels to develop the definitive COPEC list. Subsequently, 95% UCLs of the COPECs should be used in the BERA risk analysis.	Clarification	USEPA may be confused between the risk screening presented in Section 5 of the report and the subsequent quantitative baseline risk assessments presented in Sections 6 through 11. The risk screening presented in Section 5 does follow the process outlined in Section 3 of the BERA PF. The COPECs identified in SLERA TM No. 2 were not used as the definitive COPECs in the BERA risk assessments. The risk screening was re-run, per USEPA's direction, using combined Phase 1 and Phase 2 surface water and sediment data, and for tissue, Phase 2 data. Per USEPA directive, the surface water and sediment re-screens were conducted using USEPA's hierarchy for screening levels. Lastly, as described in SLERA TM No. 1, SLERA TM No. 2, and the USEPA-approved Phase 2 RI Work Plan Volume 1, the risk screening was conducted in steps that included comparing maximum concentrations with screening levels and comparing 95% UCLs with screening levels to identify the final COPECs (see draft BERA report Figures 5-1 through 5-3). The NCG can provide further clarification in the draft BERA report on the distinction between the risk screening (the SLERA) and the baseline risk assessments.	Acceptable.
3.	USEPA	6/11/16	General Comments	--	--	3	Specific comments on the use of the reference areas are included below. All of the data collected from the four reference areas were used as a single reference envelope. Four different reference areas were chosen based upon physical characteristics (e.g., industrial, non-industrial, CSO, limited CSOs) to evaluate these conditions compared to the Study Area. The Study Area needs to be compared to individually to each reference area. Additionally, each data point in the reference areas needs to be screened against the chemical-based acceptability criteria outlined in the BERA Problem Formulation.	Comply/ Disagree	The sample design developed in the approved work plan was based on statistically pooling the data from all four of the reference areas, which were selected by USEPA to represent the range of conditions in the urban environment within which the Study Area is found. See the Phase 2 RI Work Plan Volume 1, on page 70, as follows: *Therefore, based on the results of the Phase 1 data and a review of the guidelines included in Version 5.0.00 of ProUCL, this Phase 2 RI Work Plan Volume 1 includes a minimum of 20 samples or tests in both the Study Area and*	Unacceptable. The statistical comparison of each of the four reference areas to the Study Area is required. Along with the comparisons of each reference area to the Study Area, the proposed sensitivity analysis is acceptable as a potentially valuable line of evidence. NCG correctly cited the language on page 70 of the P2WP Volume 1. However, also as NCG pointed out that the four reference areas were selected by EPA based on two-step process, representing four different areas based on physical characteristics. Having these four distinguished reference areas is important for the BERA to compare the data from the study area to that of each of the reference areas, since each reference area represents four different unique physical characteristics. Thus, the comparison of the study area data to each reference area will provide much more technically sound and complete evaluation so

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									in the reference areas (all reference areas combined)[1]. *This recommendation applies to the measurement of all CERCLA hazardous substances and conventional parameters in surface water, sediment, sediment porewater, sediment toxicity tests, bioaccumulation tests, benthic community assessments, and tissue. For most elements of the program, the sample sizes exceed this target value to ensure adequate spatial coverage in the Study Area and meet DQOs for other elements of the Phase 2 investigation (e.g., point sources or modeling).* Therefore, while the NCG believes that all data from all reference areas should be pooled for comparison with the Study Area, the NCG will conduct a sensitivity analysis on the outcome of the benthic community analyses and sediment toxicity test results using data for each of the four reference areas. Regarding screening each data point against chemical-based acceptability criteria, the NCG provided its rationale for using all the data from all four reference areas, in a March 3, 2016 memorandum to USEPA. The four reference areas were selected by USEPA as the result of a two-step process presented in the Phase 2 RI Work Plan Volume 1 that consisted of screening against the acceptability criteria including generic sediment quality guidelines in the form of probable effect concentrations (PECs). As noted in the draft BERA, the NCG believes it is not appropriate to screen these data against generic sediment quality guidelines given the availability of site-specific data including porewater data (Burgess et al. 2013). That said, the four reference areas were sampled in the Phase 2 field program and were used in the BERA. There is no discussion in the Phase 2 RI Work Plan Volume 1 regarding use of any two-step process after the Phase 2 field program was completed or after the BERA analyses were completed, to evaluate whether individual reference area stations sampled in the four reference areas meet the selection criteria. The Phase 2 sample design was to use each reference area in its entirety to reflect the full range of physical, chemical, and biological conditions within each of the four reference area categories.	that an effective and efficient remedial risk management can be made for the site. During the analysis of reference area data, comparisons should be made with reference area outliers removed (i.e., those stations that do not meet the chemical criteria established during the reference area selection). An additional comparison using all of the data for a single reference can be included during the discussion or uncertainty if desired.
4.	USEPA	6/11/16	General Comments	--	--	4	Weisberg Biotic Index was used as a metric for evaluating benthic impacts. Although this is a robust metric, summing the individual measurements to obtain this or any other individual metric score may obscure important differences between the site and reference areas. Additional discussion and evaluation of individual metrics, such as abundance, number of taxa, dominant taxa, should therefore also be included. A weight-of-evidence	Clarification	The BERA presented information on individual WBI metrics in Section 8.3.2.3. Further evaluation of the individual metrics is underway, the findings of which will be discussed in the revised BERA. See also response to ID No. 228. A weight-of-evidence approach will be used for the SQT that integrates each leg of the SQT.	Acceptable

[1] The one exception to this is caged bivalves, for which ten samples (plus one replicate) will be collected in the Study Area. The proposed program was provided to USEPA on February 28, 2014. USEPA provided comments on this program on March 27, 2014.

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							approach, for each leg of the sediment quality triad (SQT; chemistry, toxicity, community assessment) should also be included in the assessment, where applicable.			
5.	USEPA	6/11/16	General Comments	--	--	5	Selected TRVs, screening thresholds and alternative screening levels were used in screening and risk characterization in the BERA. In most cases, no rationale was given for the selected values. Tables must be presented listing values from all literature/studies reviewed and evaluated, with rationale for the selection or rejection of each value in all media, so that the values derived are transparent to readers/reviewers. Due to the lack of supporting documentation, the values presented in this version of the BERA were unable to be confirmed as appropriate. EPA will review the supporting documentation when it is submitted and provide input on the acceptability of the values. Submitting a technical memorandum focusing on the toxicity values used in the BERA may be advisable.	Clarification	Per USEPA directive, the surface water and sediment re-screens in Section 5 were conducted using USEPA's hierarchy for screening levels. The screening level TRVs used to evaluate wildlife are the same as those presented in SLERA TM No. 2. As is typical of a baseline risk assessment, alternative thresholds were selected as applicable. Alternative thresholds are selected for a number of reasons including: thresholds that are region specific rather than generic screening levels or benchmarks, thresholds that use LOAELs as opposed to NOAELs as used in the SLERA, thresholds that can be updated with new effects data reported in the peer-reviewed literature, or thresholds that are more applicable to the species being evaluated than the screening level value used. Further supporting information, where applicable, will be provided in a revised draft of the BERA report.	Partially acceptable. Addition of "further supporting information" is acceptable but it is still unclear if requested detailed table will be provided. These tables need to be provided per EPA's comment. Please provide all supporting information in the text/tables/appendices explaining how TRVs were derived.
6.	USEPA	6/11/16	General Comments	--	--	6	It is inappropriate to use geometric means of NOAELs and LOAELs as screening levels or TRVs. NOAELs and LOAELs should be used as evaluation criteria. Revise all tables and text where geometric means were presented.	Clarification	For the fish and wildlife screen, the NCG believes that the use of the geometric means of the NOAELs from EcoSSL is appropriate for the screening step in a CERCLA BERA and is consistent with the approach used by USEPA in EcoSSL to develop NOAEL-based TRVs for screening purposes (USEPA 2005a). Similarly, the NCG believes that the use of the geometric mean of the LOAELs is appropriate for the TRVs in the baseline assessments because, statistically, this value describes the central tendency of the datasets. A discussion will be provided in the uncertainty section of the BERA on the sensitivity of the risk estimates to using alternative LOAELs.	Partially acceptable. Sensitivity discussion is acceptable, but where data allow, appropriate NOAELs and LOAELs (not geo means) should be selected as TRVs. Appropriateness of TRVs should consider test species (relative to selected receptors), test endpoints, route of exposure, etc.
7.	USEPA	6/11/16	General Comments	--	--	7	NYSDEC sediment screening levels (1998, 1999, and 2004) used in the report are outdated. The most recent version (Screening and Assessment of Contaminated Sediment dated June 24, 2014) should be used. EPA had clearly directed NCG to use this updated NYSDEC sediment guidance in several occasions both verbally and in writing (email from Kwan to Haury, dated September 25, 2014).	Clarification	As presented in Table 5-2, the NYSDEC June 2014 sediment guidance was used. NYSDEC 1998, 1999, and 2004 refer to the sources used for the NYSDEC surface water screening levels, not sediment screening levels. BERA Table 5-2 presents the NYSDEC (2014) Saltwater Sediment Guidance Values (mg/kg) normalized to 1% TOC. These were calculated using information in Appendix D of NYSDEC (2014). Appendix D of NYSDEC (2014) presents the basis and calculation of sediment screening levels and includes the SW Class SGVoc (µg/gOC). For chlordane, the NYSDEC (2014) Appendix D value (0.421 µg/gOC) is incorrectly calculated and should be 3.165 µg/gOC. Therefore, the information in Table 5-2 will be updated to reflect the correct sediment screening level for chlordane of 0.0316 mg/kg.	Acceptable
8.	USEPA	6/11/16	General Comments	--	--	8	The report used the phrase "posing uncertain risk" for the impact of "uncertain COPECs" such as chemicals which lack screening levels and chemicals for which the	Agree	Terminology will be changed where appropriate.	Acceptable

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							reporting limits exceed the screening levels in all media on risks. Revise "posing uncertain risk" to "risk may be underestimated" throughout the report. Additionally, make sure to be consistent with the terminology used, whether "uncertain contaminants" and "uncertain COPECs".			
9.	USEPA	6/11/16	General Comments	--	--	9	There was no attempt to relate porewater chemistry to sediment chemistry. Since risk management decisions are typically based on sediment concentrations, this is an important analysis to conduct. Porewater analysis focuses on PAH toxic units and an approach for some metals (includes only divalent metals and excludes arsenic, chromium and mercury) which ignores all the additional information in the sediment chemistry data. Revise the text.	Clarification	The NCG recognizes the importance of relating porewater chemistry to sediment chemistry to develop PRGs and evaluate remedial alternatives. However, because of the complexity of the site, general descriptions of the relationship between porewater chemistry and sediment chemistry in the BERA would be of little use toward meeting these two objectives (see the response to ID No. 29). Meeting these objectives requires FS-level evaluations. The results of the BERA, including the toxicity confounding factors evaluation, provide the initial framework to relate porewater chemistry and sediment chemistry. None of the sediment chemistry data was ignored. The focused porewater evaluation was the result of evaluating all sediment information in accordance with the Phase 2 RI Work Plan Volume 1. At USEPA's request, the BERA screening process included an update to the Phase 1 SLERA using Phase 2 data applied to the established screening level hierarchy (see draft BERA report Figure 5-1). The outcome of this evaluation is a screening of all chemicals measured in bulk sediment and porewater and the identification of BERA COPECs using the most stringent screening criteria available. COPECs that were identified in bulk sediment were then evaluated using porewater data to assess actual bioavailability. There is no reason to further evaluate bulk sediment COPECs that were eliminated as risk drivers during the porewater screening process.	Partially acceptable. Although some aspects of the evaluation requested can be considered in the FS, the BERA should evaluate porewater and sediment data (1) Independently (i.e., compared to surface water thresholds or standards or criteria and compared to sediment thresholds or benchmarks, respectively); and (2) as potentially related exposure media. Contaminant concentrations in porewater may or may not be related to concentrations of contaminants in sediment, due to chemical-specific differences in bioavailability. Additional clarification is necessary based on EPA's comment.
10.	USEPA	6/11/16	General Comments	--	--	10	As described in the specific comments, there are instances where data is presented without interpretation, and instances where data is over interpreted in a potentially biased manner. Equal weight should be given to all of the lines of evidence to provide a balanced evaluation. In addition, risks should be identified as acceptable (HQ≤1) or unacceptable (HQ>1). Revise the text and state HQs throughout the report.	Objection/ Clarification	The NCG disagrees that the data are interpreted in a biased manner. The interpretations presented in the report are based on an extensive review of the data. The report will be reviewed and revisedonse to specific comments. HQs will be presented for the baseline risk assessments (not the screening level assessments), and the text will be revised to indicate whether HQs are <1 or >1, and will be interpreted based on a weight-of-evidence approach. See also the response to ID No. 165.	Acceptable
11.	USEPA	6/11/16	General Comments	--	--	11	The statements regarding the static conditions and the lack of feeding the standard 10-day Leptocheirus protocol should be removed from all sections except the uncertainty section.	Disagree	The NCG does not agree that statements regarding the static conditions and the lack of feeding in the standard 10-day *Leptocheirus* protocol should be removed from all sections except the uncertainty section. The notable variability of the 10-day test is important (Kennedy et al. 2009). In an ecological risk assessment, a 10-day test measuring acute effect is not as strong of a line of evidence as a 28-day test measuring chronic endpoints that include growth and reproduction.	Unacceptable. Acute and chronic toxicity tests each has merit and there is no reason to assume that a 10-day test with mortality endpoints is or is not a "strong" line of evidence compared to a chronic 28-day test.

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12.	USEPA	6/11/16	General Comments	--	--	12	Each of the four reference areas represent four uniquely different categories based on presence or absence of industrial and CSO discharges. Study Area results should be compared to each of the individual reference area results. Study Area results should not be compared to reference areas as a whole. Much of the discussion should be moved to the Uncertainty section of the document. Additionally, statistical comparisons between the Study Area and reference areas should use comparable results from both the Study Area and reference areas. Non-comparable data should not be used for comparison. See specific comments.	Disagree	See the response to ID No. 3. The NCG also disagrees that much of the discussion should be moved to the uncertainty section. The risk questions included in Table 2-2 of the Phase 2 RI Work Plan Volume 1 explicitly include a comparison with reference areas. The BERA provides the analyses to answer the risk questions, and these analyses belong in the main body of the BERA.	Unacceptable. See EPA response to ID No. 3
13.	USEPA	6/11/16	General Comments	--	--	13	Summary tables should be provided in the report. Results are discussed in the text and often the report direct readers/reviewers to figures and attachments for results. Summary tables should be presented. See specific comments. Additionally, this report frequently presents the results of data evaluations by referring readers/reviewers to figures, tables, or attachments, with no discussion of results in the text. Results should be discussed and summarized in the text.	Agree	Summary tables and additional text will be provided where appropriate.	Acceptable
14.	USEPA	6/11/16	General Comments	--	--	14	Corrected Phase 1 TOC values, National Grid sediment data for the 0 to 4 and 4 to 8-inch sediment depth intervals, and sediment concentrations of total PCB congeners including the converted concentrations of Phase 1 Aroclors to congeners per EPA's directions should be used in the revised draft BERA report. The RI report and the BERA report should use the same sediment dataset.	Comply	National Grid sediment data for the 0- to 4-inch and 4- to 8-inch sediment depth intervals, and sediment concentrations of total PCB congeners including the converted concentrations of Phase 1 Aroclors to congeners per USEPA's directions will be incorporated in the revised SLERA and BERA analyses. Corrected Phase 1 TOC values will also be used in the screening of sediment data in the SLERA. See also the response to ID No. 111.	Acceptable
15.	USEPA	6/11/16	General Comments	--	--	15	Results of individual PAH and total PAH should be presented and discussed in the text, tables, and figures, and not presented as groups such as alkPAH, LPAH, and HPAH. Additionally, PAHs (17) or PAHs (16) were used in the SLERA. However, in this report, PAHs (34) were used in development of toxic units. An explanation that discusses the uncertainty associated with using only 17 PAHs in the SLERA should be provided.	Clarification	One reason the SLERA used PAH (17) is due to the fact that the sediment quality guidelines applied in the SLERA are relatively old (circa 1995) and based on the PAH (16/17) compared to the PAH (34) framework established in the USEPA Equilibrium Partitioning Sediment Benchmarks for PAHs (USEPA 2003) guidance. Individual PAH results were included in the draft BERA report bulk sediment screening and porewater summary tables. Broadening the discussion to include individual PAHs would do little to inform the BERA risk characterization because PAHs exist in mixtures in the environment and have a common mode of toxic action. USEPA guidance recognizes this fact in their report *Evaluating Ecological Risk to Invertebrate Receptors from PAHs in Sediments at Hazardous Waste Sites* (Burgess 2009) and in the Ecological Soil Screening Levels for PAHs (USEPA 2007), which are based on LPAH and HPAH sums.	Partially acceptable. While evaluating LMW PAH and HMW PAH has merit, the differences in toxicity of individual PAHs warrants evaluations of individual PAHs. Both approaches should be included in the BERA.
16.	USEPA	6/11/16	General Comments	--	--	16	For COPECs in sediment, this report only focuses on the SEM metals and total PAHs, and not individual identified	Disagree	The NCG applied a framework that uses bulk sediment screening values to screen contaminated sediment for	Unacceptable. See EPA response to ID No. 9.

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							COPECs, especially metals other than the six SEM metals. All identified COPECs, especially metals, in sediment should be evaluated and discussed, especially, in toxicity tests with toxic units above one.		potential toxic effects followed by more rigorous assessments of porewater. This is consistent with USEPA (2003 and 2005b) guidance and the best available science, which advocates for the initial use of sediment quality guidelines followed by refined exposure assessment through direct measurement of bioavailability (Burgess et al. 2013). All identified COPECs were evaluated. The BERA screening process applied the screening level hierarchy (see draft BERA report Figure 5-1) to all chemicals measured in bulk sediment and porewater. COPECs that were identified in bulk sediment were then evaluated using porewater data to assess actual bioavailability. Directly measured porewater concentrations are definitive exposure estimates. There is no reason to further evaluate bulk sediment COPECs that were eliminated as risk drivers during the porewater screening process.	
17.	USEPA	6/11/16	Executive Summary	--	--	1a	The Executive Summary should be revised to reflect changes in the document. Specific items are addressed below, but additional editing will be necessary. a. Delete boxes in this section. This is a technical document and not a public relations document.	Disagree	As for the BHHRA, text boxes are used in the Executive Summary to facilitate communicating key pieces of information and/or findings of the BERA.	Partially acceptable. Current text boxes are biased and misleading. If text boxes are to remain, they must all be unbiased statements of fact (i.e., complete statements not just the first part).
18.	USEPA	6/11/16	Executive Summary	--	ES-1	1b	b. Page ES-1, Second Paragraph, Last Sentence and Second Box: This sentence states "There are 22 CSOs along the creek that periodically release untreated industrial run-off and domestic sewage during rainfall events". The Box states "During rainfall events, Newtown Creek and its tributaries receive urban runoff and discharges from CSOs when the capacity of the local wastewater treatment plants are exceeded." Delete the box and add discussion on other discharges such as industrial, stormwater, permitted discharges to this paragraph.	Disagree/ Agree	The box will be retained, and the text will be revised to add a discussion on other discharges.	Partially acceptable. See EPA response to ID No. 17.
19.	USEPA	6/11/16	ES.1	Description of Study Area	ES-2	1c	c. Page ES-2, ES.1 Description of Study Area, First Complete Paragraph, First Sentence: It states ".....66% of this has no vegetation, with 33% supporting sparse non-native vegetation.....". However, on page 60 of Data Summary Report Submittal No. 1 states "....39,920 feet (67%) was identified as vegetated and 19,660 feet (33%) was identified as non-vegetated". Make necessary revision for consistency.	Agree	The text will be revised.	Acceptable. The paragraph shall also revise the language regarding "best use" to a direct quote from the NYSDEC guidance document: "The best usage of Class SD waters is fishing. These waters shall be suitable for fish, shellfish and wildlife survival. In addition, the water quality shall be suitable for primary and secondary contact recreation, although other factors may limit the use for these purposes. This classification may be given to those waters that, because of natural or man-made conditions, cannot meet the requirements for fish propagation (NYSDEC Chapter X, Division of Water, Part 701.14)."
20.	USEPA	6/11/16	ES.6	Fish Risk Assessment	ES-7	1d-i	d. Page E-7, ES.6 Fish Risk Assessment: i. First Complete Paragraph:	Agree	The text will be revised, as appropriate.	Partially acceptable, pending the text revision

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							• Specify the type of mummichog TRV for copper cited in this paragraph, i.e., whether it is it a dietary TRV or porewater TRV based on direct contact/ingestion. • State whether tissue contaminant concentrations and residue-based TRVs are based on whole body or other types of values (e.g., fillet or organ-specific).			
21.	USEPA	6/11/16	ES.6	Fish Risk Assessment	ES-7	1d-ii	ii. Second Complete Paragraph: • This paragraph includes too much interpretation at this stage..."only 6 locations and HQ of only 3" reflect opinions that should not be included here (italics added). • PCB concentrations should be summarized as "not exceeding surface water thresholds" rather than "not a concern for fish". • Last sentence: It states “Therefore, based on multiple lines of evidence, copper, PCBs, and PAHs are unlikely to pose a significant risk to fish in the Study Area as a result of porewater concentrations.” This statement is unclear and needs revision. The BERA uses a multiple lines of evidence approach, then states that one line of evidence is unlikely to pose risk because other lines of evidence do not appear to pose risk. Evaluation of fish exposure to porewater supports a conclusion of unacceptable risk to fish based on exposure to porewater regardless of the results of other lines of evidence. Additionally the term “a significant risk” should be revised to “acceptable risk” if it indeed is supported by the data.	Agree/ Disagree	The text will be revised to reduce the amount of interpretation. However, a discussion on the multiple lines of evidence will be retained.	Partially acceptable. The RTC states “a discussion on the multiple lines of evidence will be retained”. Note that EPA comment requires “Clarification”. Additional clarification is needed for the discussion on multiple lines of evidence.
22.	USEPA	6/11/16	ES.7	Wildlife Risk Assessment	ES-8	1e-i	e. Page ES-8, ES.7 Wildlife Risk Assessment, First Complete Paragraph: i. Revise this paragraph to clarify that risks are based on feeding guilds (see page 13 Section 3.1.2 Receptors). Risks are not evaluated just for these particular receptors.	Agree	The text will be revised.	Acceptable
23.	USEPA	6/11/16	ES.7	Wildlife Risk Assessment	ES-8	1e-ii	ii. This is a biased presentation of results. As written, it appears that PCBs and lead are unimportant, and HQs of about 2 mean	Objection/ Clarification	The discussion provided is not biased but reflects scientific opinion based on interpretation of the available data. However, the text will be revised to present HQs as greater	Partially acceptable. All HQs>1 should be identified as “unacceptable”. HQs = 1 and HQ <1 should be considered “acceptable”.

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							little. Delete the opinions and biased conclusions and present the results. All HQs exceeding one deserve full disclosure and evaluations, because higher HQs do not necessarily suggest more severe effects, and lower HQs do not necessarily preclude potential for serious or severe effects.		than or less than 1.0, and will be interpreted based on a weight-of-evidence approach.	Unacceptable portion of comment is retention of biased tone of presentation, while revisions to text are acceptable pending final review.
24.	USEPA	6/11/16	ES.8	Qualitative Evaluations	ES-8 and ES-9	1f-i	f. Pages ES-8 and ES-9, ES.8 Qualitative Evaluations, Second Paragraph: i. Page ES-8: Include scientific names for species listed upon first appearance.	Agree	The text will be revised.	Acceptable
25.	USEPA	6/11/16	ES.8	Qualitative Evaluations	ES-9	1f-ii	ii. Page ES-9, First Incomplete Sentence: It states that Gerritsen Creek had highest species richness and highest average salinity (~28 ppt); while the Study Area had the lowest species richness and lowest average salinity (~21 ppt). The differences of 21 and 28 ppt salinity may not account for large differences in taxa richness. The statement is opinion with no supporting data and should be deleted.	Disagree	The statement is supported by the analyses conducted in Section 10 of the BERA.	Partially acceptable. Acceptance of this response pending inclusion of additional supporting information.
26.	USEPA	6/11/16	ES.9	BERA Conclusions	ES-10	g-i	g. Page ES-10, ES.9 BERA Conclusions: i. Third Bullet: It states "There are low risks to resident fish from dietary copper and low risks to birds from dietary PCBs and lead." It is unclear what "low risks" due to exposure to these COPECs means. Risks should be identified as acceptable (HQ≤1) or unacceptable (HQ>1). Revise the text and list HQs. Additionally, note that on page ES-6, it states "no risks are identified for fish…" (first paragraph, first sentence). However, in this bullet it states "There are low risks to resident fish…". Make necessary changes for consistency, not only in Executive Summary, but also in the Fish Risk Characterization Section.	Clarification	The text will be revised to clarify what is meant by "low risk" based on a weight-of-evidence approach. The text on page ES-6 for fish is referring to the tissue residue approach, while the third bullet on page ES-10 for fish is referring to the fish dietary approach.	Partially acceptable. HQs>1 need to be identified as "unacceptable".
27.	USEPA	6/11/16	ES.9	BERA Conclusions	ES-10	g-ii	ii. Fifth Bullet: It states "For benthic macroinvertebrates, DO concentrations below 3 mg/L contribute non-CERCLA related stress….." Clarify the following: • Clarify whether the low DO threshold of 3 mg/L is based on a single point measurement, or some statistic such as daily or weekly average. • Specify the duration and frequency of low DO sufficient to adversely affect aquatic life.	Clarification	The DO threshold of 3 mg/L is referring to the surface water standards included in the NYCDEP SD waterbody classification for Newtown Creek. The text will be clarified to reflect this. A discussion on the effects of low DO to the benthic community is provided in Section 8.3.2 of the BERA; it is not appropriate to provide such details in an executive summary.	Partially acceptable. It is still necessary to state clearly in the BERA if the low DO is based on site-specific averages or on a measured minimum.

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							More information is necessary because a single short term exposure to very low DO can kill organisms (especially those with limited mobility) regardless of longer term average exposures.			
28.	USEPA	6/11/16	1.1	Background	2	2	Page 2, Section 1.1 Background, Second and Third Paragraph: Need to revise paragraphs to accurately reflect the role of background in the risk assessment. Use the following language in these paragraphs "A baseline risk assessment generally is conducted to characterize the current and potential threats to human health and the environment that may be posed by hazardous substances, pollutants, and contaminants at a site. EPA's 1997 Risk Assessment Guidance for Superfund (RAGS) provides general guidance for selecting COPCs, and considering background concentrations. In RAGS, EPA cautioned that eliminating COPCs based on background (either because concentrations are below background levels or attributable to background sources) could result in the loss of important risk information for those potentially exposed, even though cleanup may or may not eliminate a source of risks caused by background levels. In light of more recent guidance for risk-based screening (USEPA 1996; USEPA 2000) and risk characterization (USEPA 1995c), this policy recommends a baseline risk assessment approach that retains constituents that exceed risk-based screening concentrations. This approach involves addressing site-specific background issues at the end of the risk assessment, in the risk characterization. Specifically, the COPCs with high background concentrations should be discussed in the risk characterization, and if data are available, the contribution of background to site concentrations should be distinguished. When concentrations of naturally occurring elements at a site exceed risk-based screening levels, that information should be discussed qualitatively in the risk characterization. (USEPA 2002. Role of Background in the CERCLA Cleanup Program, April 26, 2002, OSWER 9285.6-07P)."	Clarification	Relevant USEPA guidance on the role of background in the risk assessment will be reviewed; the text will be revised if necessary.	Acceptable, pending details of revision.
29.	USEPA	6/11/16	1.2	Objective	3	3	Page 3, Section 1.2 Objective, First Paragraph: The objective of the BERA is to "1) identify and characterize the current and potential threats to the environment from a hazardous substance release, 2) evaluate the ecological impacts of alternative remediation strategies, and 3) establish cleanup levels in the selected remedy that will protect those natural resources at risk." (USEPA 1994e, OSWER Directive 9285.7-17). Replace the end of the paragraph with the language above.	Disagree	Objectives 2 and 3 are informed by the risk assessment but are FS-level evaluations. Therefore, the NCG does not agree that the end of the paragraph should be replaced with the suggested language.	Unacceptable. EPA stands by the original comment.
30.	USEPA	6/11/16	2.1.2	History and	6	4a	Pages 6 and 7, Section 2.1.2 History and Current Status:	Agree	The text will be revised.	Acceptable

ID No.	Reviewer	Comment Date	Section Name/Topic	Section/Table/ Figure No.	Page No.	Reviewer Comment No.	Comment Text	Category	Response/Proposed Path Forward	EPA Response
				Current Status			a. Page 6, Last Line: Circulation is described as being typically controlled by semi-diurnal tides. Given that this is a tidally-influenced waterbody, it is just controlled by the tides. Delete "typically controlled".			
31.	USEPA	6/11/16	2.1.2	History and Current Status	7	4b	b. Page 7, First Complete Paragraph, Third Sentence: Revise to read "The classification indicated the best usage of Class SD waters is fishing."	Agree	The text will be revised.	Acceptable. The paragraph shall revise the language regarding "best use" to a direct quote from the NYSDEC guidance document: "The best usage of Class SD waters is fishing. These waters shall be suitable for fish, shellfish and wildlife survival. In addition, the water quality shall be suitable for primary and secondary contact recreation, although other factors may limit the use for these purposes. This classification may be given to those waters that, because of natural or man-made conditions, cannot meet the requirements for fish propagation (NYSDEC Chapter X, Division of Water, Part 701.14)."
32.	USEPA	6/11/16	2.1.3	Available Habitat	7	5a-i	Pages 7 and 8, Section 2.1.3 Available Habitat: a. Page 7: i. First Paragraph, First Sentence: It states ".....66% of this area has no vegetation, with 33% supporting sparse non-native vegetation.....". However, page 60 of the Data Summary Report Submittal No. 1 states "....39,920 feet (67%) was identified as vegetated and 19,660 feet (33%) was identified as non-vegetated". Make necessary revision for consistency.	Agree	The text will be revised ("66% developed with sparse non-native vegetation, 33% developed with no vegetation").	Acceptable
33.	USEPA	6/11/16	2.1.3	Available Habitat	7	5a-ii	ii. Last Paragraph, Last Sentence: The sentence indicates that access to intertidal areas is limited, however, this is the ecological risk assessment and invertebrates, fish, birds and mammals are not limited in access to intertidal areas because of anthropogenic features. Revise the sentence.	Agree/ Clarification	The text will be revised, although access for the raccoon is likely limited.	Acceptable
34.	USEPA	6/11/16	2.1.3	Available Habitat	8	5b-i	b. Page 8: i. First Paragraph, Eighth Sentence: It states "However, even within these areas, there are several factors such as high turbidity and porewater sulfide that can limit the degree to which submerged macrophytes can establish". Provide references for the studies that show high turbidity and porewater sulfide limit submerged macrophytes.	Agree	References will be provided.	Acceptable
35.	USEPA	6/11/16	2.1.3	Available Habitat	8	5b-ii	ii. First Paragraph, Last Sentence: This sentence discusses porewater sulfide concentrations; however, it does not identify porewater sulfide concentrations in relation to areas that have sufficient light (i.e., >3.3 feet	Agree	Porewater sulfide by surface water depth will be evaluated.	Acceptable

ID No.	Reviewer	Comment Date	Section Name/Topic	Section/Table/ Figure No.	Page No.	Reviewer Comment No.	Comment Text	Category	Response/Proposed Path Forward	EPA Response
							Secchi disk measurement). Porewater sulfide concentrations by depth should be provided to better reflect if porewater sulfide is associated with plant growth.			
36.	USEPA	6/11/16	2.1.4	Ecological Community	9	6a	Page 9, Section 2.1.4 Ecological Community: a. First Incomplete Paragraph: This paragraph describes results of Phase 1 sampling (no benthic invertebrates found) but fails to include results of Phase 2 sampling. The reporting is biased when all data are not described. Revise this paragraph.	Objection/ Clarification	The reporting is not biased since the paragraph, which starts on page 8, includes a discussion of Phase 1 and Phase 2 benthic community data.	Acceptable, if the revised BERA report includes discussion on both Phase I and Phase 2 sampling.
37.	USEPA	6/11/16	2.1.4	Ecological Community	9	6b-i	b. First Complete Paragraph: i. Confirm whether the order presented for the fish species correspond to actual abundance values measured.	Clarification	The dominant fish species were not listed in any particular order, but the text will be revised to list them in order of actual abundance (i.e., mummichog, Atlantic menhaden, and striped bass).	Acceptable
38.	USEPA	6/11/16	2.1.4	Ecological Community	9	6b-ii	ii. There are populations of mud, green, Asian and fiddler crabs (and potentially others) present in the intertidal zone that were not included in the benthic community surveys and likely overlooked during the wildlife surveys. Additional text should be added to explain this.	Disagree	The benthic community surveys were not designed to count epibenthic invertebrates. The fish and crab surveys did target crabs but only found blue crab and horseshoe crab in the Study Area. Other species that were found in the reference areas but not in the Study Area are calico crab, green crab, spider crab, and stone crab (see Table 10-11).	Unacceptable. The purpose of this comment is not being addressed. The area of the creek that is between the upland area and intertidal area has a number of organisms that are important in the food web of both aquatic and terrestrial organisms. These organisms include several species of crabs (mud, Asian, green, fiddler) that were not specifically included in either the wildlife surveys as they were focused on larger fauna such as birds and mammals, nor in the benthic community surveys, as these organisms do not spend time submerged. Thus, neither survey identified the potential species present. As seen in the photo below, there are a variety of species present that were not identified in the BERA. 

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39.	USEPA	6/11/16	2.1.4	Ecological Community	9	6c-i	c. Second Complete Paragraph: i. Descriptors, such as frequent and infrequent, are used in this paragraph. Quantitative terms, for example 5 out of 7 or 1 out of 100, should be used instead of subjective descriptions.	Clarification	Although the wildlife surveys were intended to be qualitative only, quantitative terms will be used if appropriate.	Acceptable
40.	USEPA	6/11/16	2.1.4	Ecological Community	9	6c-ii	ii. Change the scientific name for feral cats from “Felis sylvestries” to “Felis catus”.	Agree	The text will be revised.	Acceptable
41.	USEPA	6/11/16	2.2	Reference Areas	9	7a	Pages 9 and 10, Section 2.2 Reference Areas: a. Page 9, First Paragraph: Replace the first sentence with the following text “The CERCLA process uses background and reference information (USEPA 2002) to evaluate impacts to receptors from exposure to CERCLA hazardous substances and to determine naturally occurring and anthropogenic background levels of CERCLA hazardous substances.”	Agree	The text will be revised.	Acceptable
42.	USEPA	6/11/16	2.2	Reference Areas	10	7b	b. Page 10, First Paragraph, Last Sentence: As described in this paragraph, four types of reference areas were selected. The evaluation of reference areas should include comparison of Newtown Creek with each individual type of reference area.	Disagree	See the response to ID Nos. 3 and 12.	Partially acceptable. See EPA’s response to ID Nos. 3 and 12.
43.	USEPA	6/11/16	3	Problem Formulation	12	8	Page 12, Section 3 Problem Formulation, First Paragraph: Include additional text that indicates the SLERA addressed Steps 1 and 2 of the EPA ecological risk assessment paradigm.	Agree	The text will be revised.	Acceptable
44.	USEPA	6/11/16	3.1.1	Sources	12	9	Page 12, Section 3.1.1 Sources: Revise this paragraph to reflect contributions from high to low and to identify the release from industrial use, spills and discharges as the primary sources. Additionally, provide references or data that indicate, quantitatively, that “regional” contamination is a primary source (i.e., greater than the past industrial discharges or CSO inputs) to Newtown Creek. The text suggests “regional background” is a significant source; however, no data is presented to support this, and no mention is made of contaminants with initial sources in the creek being transported to other areas.	Agree	The text will be revised and data/references will be provided on regional background sources.	Acceptable
45.	USEPA	6/11/16	3.1.2	Receptors	13	10	Page 13, Section 3.1.2 Receptors, Third Bullet: White perch should also be included.	Disagree	As noted in the footnote on page 13, the risks to fish based on tissue residues, and risks to wildlife through the consumption of fish, are fulfilled by using other fish species collected during the Phase 2 fish and crab surveys.	Unacceptable. Risks to fish should be evaluated using all available data, including white perch data.
46.	USEPA	6/11/16	3.1.3	Exposure Pathways	13 and 14	11	Pages 13 and 14, Section 3.1.3 Exposure Pathways: The first sentence in this subsection states “The exposure pathways evaluated in this risk assessment are listed by receptor group in the following:” Nine pathways are listed, but two pathways on Table 3-1 are omitted:	Agree	Text will be revised to indicate that aquatic macrophyte, amphibian, and reptile exposure pathways were evaluated qualitatively.	Acceptable

ID No.	Reviewer	Comment Date	Section Name/Topic	Section/Table/ Figure No.	Page No.	Reviewer Comment No.	Comment Text	Category	Response/Proposed Path Forward	EPA Response
							exposure to aquatic macrophytes and exposure to amphibians and reptiles. Although these two pathways are listed as "qualitative evaluation", they should be included.			
47.	USEPA	6/11/16	4	Data Evaluation	16	12a	Pages 16 and 17, Section 4 Data Evaluation: a. Page 16, Second Paragraph, Last Sentence: Clarify what "but not subject to the same data usability criteria or data treatment methods" is describing.	Clarification	This is describing the biological surveys (fish and crab, wildlife, and habitat) in contrast to the analytical chemistry data.	Partially acceptable. Pending addition of clarifying text.
48.	USEPA	6/11/16	4	Data Evaluation	16 and 17	12b	b. Pages 16 and 17: Porewater was collected and was evaluated in this BERA. However, porewater was omitted in most of the discussion in this section, such as in the first paragraph on page 16 where it reads "for various media (surface sediment, surface water, and tissue)". Add "porewater" to appropriate subsections.	Agree/ Clarification	This particular sentence was referring to field-collected samples, rather than laboratory-based sample collection. The text will be revised as appropriate.	Acceptable
49.	USEPA	6/11/16	4.1	Data Usability	16	13a	Pages 16 and 17, Section 4.1 Data Usability: a. Page 16, First Paragraph, Third Sentence: It states "…to determine whether it was reasonable to include the data for use in the BERA." The objective of the data usability is to determine whether data meet DQOs including precision, accuracy, completeness, comparability, and representativeness. Thus, the objective of a data usability assessment is to determine whether data are usable for the intended purpose as described in the work plan and QAPP such as extent of contamination, risk assessments, modeling, and FS. To determine "whether the data is reasonable", is not one of DQOs. Revise the sentence.	Agree	The text will be revised.	Acceptable
50.	USEPA	6/11/16	4.1	Data Usability	17	13b	b. Page 17, First Sentence: This sentence concludes that all datasets were determined to be usable for the BERA….." Provide details to justify and support this conclusion, specifically, accuracy, the completeness of each dataset, comparability, and representativeness.	Clarification	A comprehensive data usability assessment is being completed and will be included in the revised Data Usability Assessment, Section 2, of the draft Phase 2 Data Summary Report, which will be included as an appendix to the draft RI Report.	Acceptable
51.	USEPA	6/11/16	4.2	BERA Dataset	17	14a	Page 17, Section 4.2 BERA Dataset, First Paragraph: a. Second Sentence: Add "porewater".	Agree	The text will be revised.	Acceptable
52.	USEPA	6/11/16	4.2	BERA Dataset	17	14b	b. Third Sentence: Add "consumption of plants (e.g., phytoplankton)".	Agree/ Clarification	If this comment is referring to the second sentence, the text will be revised.	Acceptable
53.	USEPA	6/11/16	4.2.2	Non-RI/FS Program Data	18 and 19	15	Pages 18 and 19, Section 4.2.2 Non-RI/FS Program Data: This section describes sediment data collection for National Grid, but does not provide any context for how the National Grid data are related to the BERA, such as whether this National Grid sediment dataset was included in the BERA evaluation and, if so, what specific data from this dataset were included in the BERA evaluation.	Agree	A brief description of the National Grid sediment program will be added.	Acceptable

ID No.	Reviewer	Comment Date	Section Name/Topic	Section/Table/ Figure No.	Page No.	Reviewer Comment No.	Comment Text	Category	Response/Proposed Path Forward	EPA Response
							Describing collection of National Grid data is meaningless without discussing the details of its use in the BERA. Provide details of how the National Grid dataset is used in the BERA.			
54.	USEPA	6/11/16	4.2.3	Surface Water Data	19	16	Page 19, Section 4.2.3 Surface Water Data, Second Paragraph: It states "…surface water dataset comprised 364 samples collected from 24 stations (see Table 4-2)". However, Table 4-2 lists 192 "Location Count". A footnote to the table is necessary to explain the differences between "location count" in the table and "station" in the text.	Agree	A footnote will be added to Table 4-2.	Acceptable
55.	USEPA	6/11/16	4.2.4	Surface Sediment Data	21	17	Page 21, Section 4.2.4 Surface Sediment Data, First Complete Paragraph: It appears that two different types of grab samples were included (i.e., ½ grab and entire grab) for evaluating benthic community. Add additional text to identify if using different volumes of sediment may have impacted the benthic metrics. For example, if more sediment was used, would the total count be comparable to a sample that used less sediment volume.	Clarification	Counts are area-based, not volume-based. In addition, the area sampled and volumes of sediment collected during Phase 1 and Phase 2 were similar. Most sediment samples were collected with a 0.052-m^2 Ekman grab during Phase 1. The area of one-half of the pneumatic van Veen power grab used during Phase 2 was 0.056 m^2.	Partially acceptable. Pending addition of clarifying text.
56.	USEPA	6/11/16	4.2.4.1	Surface Sediment Chemistry	22	18	Page 22, Section 4.2.4.1 Surface Sediment Chemistry, First Complete Paragraph: The depth of sediment samples in the National Grid GEC field program included in this BERA evaluation should be listed. As shown in Attachment A03 only 0-0.33 feet (0-4 inches) of sediment samples were included in the BERA. Per EPA's direction in the April 5, 2015 sediment comment/response matrix on the use of National Grid data in the RI Report, the length-weighted-average method be used to calculate 0 to 6-inch concentrations for the 22 locations where co-located 0 to 4-inch and 4 to 8-inch samples are available. For the remaining 8 locations that do not have co-located 0 to 4-inch and 4 to 8-inch samples, the 0 to 4-inch data should be used. The revised draft BERA report should use the same surface sediment dataset that is used in the RI report.	Agree	The revised draft BERA report will include the length-weighted-average method to calculate 0- to 6-inch concentrations for the 22 locations where co-located 0- to 4-inch and 4- to 8-inch samples are available.	Acceptable
57.	USEPA	6/11/16	4.2.4.3	Sediment Toxicity and Bioaccumulation Testing	24	19	Page 24, Section 4.2.4.3 Sediment Toxicity and Bioaccumulation Testing, Sixth Bullet: Add "(Alpha Analytical)" to the end of the bullet to be consistent with other bullets and Table 4-6.	Clarification	Alpha Analytical is included in the parentheses at the end of the sixth bullet.	Acceptable
58.	USEPA	6/11/16	4.2.4.3.2	Porewater	25	20a	Pages 25 and 26, Section 4.2.4.3.2 Porewater: a. Page 25, First Sentence: Revise this sentence to "As described in Section 8, in addition to using bulk sediment to evaluate toxicity, sediment porewater was also used in conjunction with sediment toxicity test data to provide another measure of contaminants contributing to benthic macroinvertebrate risk." And add "This method may provide a more definitive identification of benthic impacts." A reference(s) that supports this statement will need to be included if the NCG wishes to use this rationale.	Agree/ Clarification	Suggested text will be considered and references to support the use of a porewater approach will be added. Examples include USEPA (2003, 2005b, 2012) and Burgess (2009). Sulfide is a well-recognized confounding factor that is addressed explicitly in many sediment management testing programs. Caldwell (2005) is a gray literature presentation made at the Sediment Management Annual Review Meeting (SMARM), which is a joint meeting of the U.S. Army Corps of Engineers Dredged Material Management Program (DMMP) and the Washington State Department of Ecology's Sediment Management Standards (SMS) Program, and is a	Acceptable. Concerns about sulfide should be presented in the uncertainty section.

ID No.	Reviewer	Comment Date	Section Name/Topic	Section/Table/ Figure No.	Page No.	Reviewer Comment No.	Comment Text	Category	Response/Proposed Path Forward	EPA Response
							The sulfide "threshold" (pages 25 and 81) is derived from an unpublished presentation made at a private industry association meeting (Sediment Management Workgroup). Although the basis for the "threshold" is not well documented, results from the toxicity tests shows that this "threshold" provides no explanatory power. This section states, "In the 10-day and 28-day tests, porewater sulfide levels exceeded 20 mg/L in two samples (EB006SG and MC017SG) and six samples (EB006SG, EB036SG, MC005SG, NC071SG, WE010SG, and WE011SG), respectively. All 28-day test samples with sulfide above 20 mg/L have reduced survival, growth, and reproduction" (page 81). Sample EB006SG had a probability of toxicity (p_{max}) (Field & Norton, 2014)=0.95 and ERMq=2.5; sample MC017SG had p_{max}=0.97 and ERMq=1.9 (max=10). The 28-d samples from NC (EB006SG, EB036SG, MC005SG, NC071SG) had 10-d survival ranging from 0- 7% and 28-d survival from 0-26% and a $p_{max}24 \geq 0.95$, while the Westchester Creek sample had 10-d survival of 87-91% and 28-d survival of 81-90%, 28-d biomass of 97%, and $p_{max} \leq 0.4$. We conclude from these results that the samples with "elevated" porewater sulfide levels with very high levels of other contaminants were highly toxic, while those Westchester Creek samples with "elevated" porewater sulfide levels had much lower levels of other contaminants and had little to no toxicity in 10-d or 28-d survival or 28-d biomass endpoints.		helpful review done in support of an inter-agency testing program for sediment management. Other gray-literature sources are available and will be provided (e.g., Gardiner et al. 2007). Additional discussion will be provided to clarify thresholds for sulfide toxicity and interpretation of sulfide porewater measured in the *Leptochieirus* tests.	
59.	USEPA	6/11/16	4.2.4.3.2	Porewater	26	20b	b. Page 26, Last Sentence: It states "The porewater data are presented in Attachment A8." The porewater data should be summarized in a table and presented.	Agree	A table will be included that summarizes the porewater data.	Acceptable
60.	USEPA	6/11/16	4.2.4.3.4	Bioaccumulation Testing	27	21	Page 27, Section 4.2.4.3.4 Bioaccumulation Testing, Second Paragraph: Add additional text that describes why bioaccumulation testing was not conducted in the reference areas.	Agree	Bioaccumulation tests were conducted for the Study Area using sediment samples with a range of bioaccumulative COPEC concentrations. It was anticipated that the results could be used to predict tissue chemical concentrations from sediment chemical concentrations in the reference areas if necessary. However, because risk estimates using polychaete tissue data were not conducted for the reference areas, predicted tissue concentrations were not needed.	Acceptable
61.	USEPA	6/11/16	4.2.5.1	Fish and Crab	27 and 28	22a	Pages 27 and 28, Section 4.2.5.1 Fish and Crab: a. Information on individual fish included in each composite should be provided (e.g., length,	Disagree/ Clarification	For purposes of selecting fish for composite samples, the only "evaluation" that was conducted was to ensure that the composite sample provided enough tissue mass to	Partially acceptable, provide additional text to clarify the criteria for determining the acceptability of composite samples.

ID No.	Reviewer	Comment Date	Section Name/Topic	Section/Table/ Figure No.	Page No.	Reviewer Comment No.	Comment Text	Category	Response/Proposed Path Forward	EPA Response
							weight, gender). Data should also be evaluated and interpreted.		complete the chemical analyses and that the smallest fish in the composite was longer than 75% of the length of the largest fish (see Phase 2 RI Work Plan Volume 1). In all but one or two instances, this 75% rule was met. The USEPA-approved Phase 2 RI Work Plan Volume 1 did not contemplate any additional "evaluation" or "interpretation" of individual fish.	
62.	USEPA	6/11/16	4.2.5.1	Fish and Crab	28	22b	b. Page 28, First Paragraph: Include the formula used to reconstitute whole body residues.	Clarification	The equations for calculating whole-body tissue concentrations are provided in Section 4.3.4.4 on pages 36 and 37.	Acceptable. Add text to guide reader to these equations.
63.	USEPA	6/11/16	4.2.5.2	Bivalves	29	23	Page 29, Section 4.2.5.2 Bivalves, First Paragraph, Last Sentence: It states "Bivalves were not deployed in the reference areas". Add a statement to the text to support not deploying bivales in reference locations.	Agree	A caged bivalve study in the Study Area was requested by USEPA during development of the Phase 2 RI Work Plan Volume 1. In recognition of the "at risk" nature of such an undertaking (e.g., vandalism, ship and boat traffic disruption), the study was confined to the Study Area. The study design was described in an addendum to the Phase 2 RI Work Plan Volume 1.	Acceptable, pending additional clarifying text.
64.	USEPA	6/11/16	4.3.1	Field Duplicates	32	24	Page 32, Section 4.3.1 Field Duplicates: Although field duplicates were not used for the risk estimates, additional text should be included to describe if the duplicates were similar to the samples that were used, and if not, then a discussion regarding over- or under-estimation of risk should be included in the uncertainty section.	Agree	Additional information on field duplicates will be added to Section 4.3.1. Field duplicate RPDs were calculated in each data validation report. Overall, Phase 2 field precision was assessed in the data usability assessment, Section 2, of the draft Phase 2 Data Summary Report, which will be included as an appendix to the draft RI Report. In summary, field duplicates indicate generally good field precision.	Acceptable
65.	USEPA	6/11/16	4.3.2, 4.3.2.1, 4.3.2.2, 4.3.2.3 and 4.3.3	Method Selection Protocol	33	25	Page 33, Sections 4.3.2 Method Selection Protocol: For each subsection in this section (4.3.2, 4.3.2.1, 4.3.2.2, 4.3.2.3 and 4.3.3), additional text should be included to discuss the impact on exposure point concentrations and risk estimates that may occur from following the methods identified. The discussion should include whether risks estimates would be over- or under- estimated or not impacted.	Agree	Text will be added in the uncertainty section to discuss potential impacts on risk estimates from following the methods presented in Section 4.3.2.	Acceptable
66.	USEPA	6/11/16	4.3.4.2	Kaplan-Meier Method	36	26	Page 36, Section 4.3.4.2 Kaplan-Meier Method, Second Bullet: This bullet discusses rejected values. Provide information on rejected data, such as how many and in what media since rejected data was not discussed in Section 4.1 Data Usability. Therefore, identification and discussion of rejected (unusable) data should be part of data usability assessment.	Clarification	A comprehensive data usability assessment is being completed and will be included as Section 2 of the draft Phase 2 Data Summary Report, which will be included as an appendix to the draft RI Report. Section 4.3.4.2 will be revised to reference this document.	Acceptable
67.	USEPA	6/11/16	5	Phase 2 Risk Screening	40	27	Page 40, Section 5 Phase 2 Risk Screening: As General Comment No. 2 noted, the screening process described in this section did not follow the process outlined in the BERA Problem Formulation (see page 6 Section 3 Identification of Preliminary COPECs). The COPECs identified in the SLERA TM2 were used as the definitive COPECs in the BERA risk analysis. In this BERA, the maximum concentrations of all detected chemicals in sediment and surface water from Phase 1 and Phase 2 investigations should be compared to screening levels to develop the definitive COPEC list. Subsequently, 95% UCLs of the COPECs should be used in the BERA risk	Disagree	See the response to ID No. 2.	Acceptable

ID No.	Reviewer	Comment Date	Section Name/Topic	Section/Table/ Figure No.	Page No.	Reviewer Comment No.	Comment Text	Category	Response/Proposed Path Forward	EPA Response
							analysis.			
68.	USEPA	6/11/16	5.1	Introduction	40	28	Page 40, Section 5.1 Introduction, First Paragraph: All compounds that were initially screened out using a frequency of detection of 5% should be included in the uncertainty section of the BERA. Inclusion should include a table listing all compounds screened out using this criterion, and a text discussion regarding potential hotspots associated with specific compounds even if those compounds were infrequently detected.	Disagree	Figure 5-1 depicts the surface water and sediment screening process. This figure also was included in the BERA PF as part of the USEPA-approved Phase 2 RI Work Plan Volume 1. Compounds that are screened out following this process do not need to be included in the uncertainty section.	Unacceptable. EPA stands by initial comment.
69.	USEPA	6/11/16	5.2	Data Used and Data Treatment	41	29	Page 41, Section 5.2 Data Used and Data Treatment, First Incomplete Paragraph, Last Sentence: It states "Exposure concentrations were represented either as the maximum value (based on detected or non-detected results or as the 95% UCL). Revise sentence to clearly state how to determine when the maximum detected concentration or 95% UCL is used as the EPC. All EPCs should be clearly identified as maximums or 95% UCLs.	Clarification	See the response to ID No. 2. The text will be revised to clarify.	Acceptable
70.	USEPA	6/11/16	5.3.2	Surface Sediment	41 and 42	30a	Pages 41 and 42, Section 5.3.2 Surface Sediment: a. Prior to re-screening, sediment data should be normalized with approved TOC values adjusted in accordance with EPA's direction in the March 1, 2016 background data presentation comment/response matrix for locations where archived cores were not available for reanalysis. Similarly, National Grid surface sediment (0 to 4-inch and 4 to 8-inch) data should be adjusted in accordance with EPA's direction in the April 5, 2015 sediment data presentation comment/response matrix (comment No. 3) and be re-screened.	Comply	See the response to ID No. 14.	Acceptable
71.	USEPA	6/11/16	5.3.2	Surface Sediment	42	30b	b. Page 42: NYSDEC sediment screening levels (1998, 1999, and 2004) used in the report are outdated. The most recent version (Screening and Assessment of Contaminated Sediment dated June 24, 2014) should be used.	Disagree	See the response to ID No. 7.	Acceptable
72.	USEPA	6/11/16	5.3.3	Aquatic Organism Tissue	42	31	Page 42, Section 5.3.3 Aquatic Organism Tissue: This section states "For screening purposes, the minimum of the geometric mean of the no observed adverse effect level (NOAELs) for survival, growth, or reproduction was selected". It is inappropriate to use geometric mean for screening.	Disagree	For the fish and wildlife screen, the NCG believes that the use of the geometric means of the NOAELs from EcoSSL is appropriate for the screening step in a CERCLA BERA and is consistent with the approach used by USEPA in EcoSSL to develop NOAEL-based TRVs for screening purposes. See also response to ID No. 6.	Partially acceptable. The NCG response states that the approach used was "consistent with the approach used by USEPA in EcoSSL". Please include all pertinent information regarding your development of NOAEL-based TRVs, to show that the EcoSSL TRV derivation method was followed, including selection of appropriate studies, the data evaluation process, exposure dose modeling, and TRV derivation (EPA's 2005 Guidance for Developing Ecological Soil Screening Levels). See EPA response to ID No. 6.
73.	USEPA	6/11/16	5.4	Screening Results	43	32	Page 43, Section 5.4 Screening Results: The primary goal of the screening process was to ensure that there were no additional COPCs identified from the Phase 2 data. Section 5.4 should be revised to reflect this purpose. Only	Clarification	See the response to ID No. 2. The text will be revised to clarify.	Acceptable

ID No.	Reviewer	Comment Date	Section Name/Topic	Section/Table/ Figure No.	Page No.	Reviewer Comment No.	Comment Text	Category	Response/Proposed Path Forward	EPA Response
							contaminants that were not identified in Phase 1 need to be discussed in this section.			
74.	USEPA	6/11/16	5.4.2	Surface Sediment	45	33	Page 45, Section 5.4.2 Surface Sediment, First Bullet: Add "alpha and beta" to chlordane.	Agree	The text will be revised.	Acceptable
75.	USEPA	6/11/16	5.4.3	Aquatic Organism Tissue	46	34	Page 46, Section 5.4.3 Aquatic Organism Tissue: Detected chemicals in all biota tissues for which there are no screening levels must be retained and discussed in the Uncertainty section.	Agree/ Clarification	Chemicals on the USEPA list of bioaccumulative compounds that were detected in tissue, but for which there are no SLs, will be discussed in a separate uncertainty section.	Acceptable
76.	USEPA	6/11/16	6	Surface Water Risk Assessment	48	35a	Page 48, Section 6 Surface Water Risk Assessment: a. The title of this section should be revised to "Phytoplankton and Zooplankton Risk Assessment". Subsequently, discussion in this section should be focused on these two receptors since the other three receptors (bivalves, benthic macroinvertebrates and fish) were discussed in separate subsections of this section.	Disagree	The intent of this section is to evaluate risks to aquatic life in general. As stated in the following from page 48: *This section addresses the following risk question:* • *Are the levels of contaminants in surface water from the Study Area greater than surface water toxicity-based values for the survival, growth, or reproduction of phytoplankton, zooplankton, bivalves, benthic macroinvertebrates, and fish?*	Partially acceptable, pending addition of text clarifying link to this specific risk question.
77.	USEPA	6/11/16	6	Surface Water Risk Assessment	48	35b	b. Page 48, Section 6 Surface Water Risk Assessment, Second Paragraph: Change "Section 5" to "Section 5.4.1" to be more specific.	Agree	The text will be revised.	Acceptable
78.	USEPA	6/11/16	6.1	Exposure Assessment	49	36	Page 49, Section 6.1 Exposure Assessment, First Paragraph: It states "…in general there are no areas with elevated concentrations that warrant examination on a small spatial scale (see Figures 6-1 through 6-5)". This statement may be true for total DDx, and carbon disulfide. However, it is not true for copper. Figure 6-2 shows copper concentrations are higher at Whale Creek, RM0.9, RM2.2 and RM2.8 than other RM and tributaries. Revise this statement. Additionally, this paragraph discusses total cyanide and free cyanide concentrations and focuses only on free cyanide for the quantitative analysis. Both total and free cyanide concentrations should be presented in the risk characterization section, with additional discussion in the uncertainty section.	Clarification	The surface water dataset is a robust dataset with many measurements made over many months. As a result, the 95% UCL concentration, which is used to assess potential risks, is the most reliable value and any isolated maximum value does not warrant examination on a smaller spatial scale. For copper in surface water, there are scattered lower and higher values throughout the Study Area, which in general exceed the majority of the values by less than a factor of 2. One value, at CM 2.42 (90.2 µg/L), exceeds all other values by a factor of approximately 4 (next highest value is 25.1 µg/L). The text will be revised to make note of this one value. Because this is part of the baseline risk analyses, it is appropriate to focus on free cyanide. However, additional discussion will be included in the uncertainty discussion.	Acceptable
79.	USEPA	6/11/16	6.2	Measures of Effect	49 to 51	37	Pages 49 to 51, Section 6.2 Measures of Effect: Alternate screening values were used in COPEC selection for surface water and thus, eliminates several COPECs from risk assessment which should be evaluated. See comments below.	Clarification	Section 6 is part of the baseline risk assessments, not the risk screening. As such, the use of alternative threshold values is valid.	Partially acceptable, pending addition of clarifying text.
80.	USEPA	6/11/16	6.2.1	Cyanide	49	38a	Page 49, Section 6.2.1 Cyanide: a. This section discusses studies that evaluated toxicity of cyanide to a variety of crab species. The conclusion provided is that a higher TRV should be used because there were studies that showed toxicity at higher levels than those developed by EPA 1985a. However, there is no discussion regarding the sensitivity of the species used or the ranges of toxicity observed in the Gensemer study. Both values should be used as a	Disagree	The Gensemer study is a thorough evaluation of the toxicity data conducted on behalf of the Water Environment Research Federation. Given the confidence around the threshold values presented in the study, it is not necessary to bound the risk estimates.	Unacceptable. Toxicity data for crabs are limited, and the majority of taxa are untested for contaminant sensitivity. Bounding estimates are appropriate given the lack of toxicity information for most taxa.

ID No.	Reviewer	Comment Date	Section Name/Topic	Section/Table/ Figure No.	Page No.	Reviewer Comment No.	Comment Text	Category	Response/Proposed Path Forward	EPA Response
							bounding estimate.			
81.	USEPA	6/11/16	6.2.1	Cyanide	49	38b	b. Last Sentence: It states "The marine acute criterion was increased from 1.0 µg/L to 5.5 µg/L, and the chronic criterion was increased slightly from 1.0 µg/L to 1.1 µg/L." As the report specified, EPA-directed hierarchy of screening levels (SLs) is used in the report. Thus, Region 3's SL for cyanide (1.0 µg/L), which is the first source on the hierarchical order should be used. Revise this section and associated tables and attachments. The other alternative will be to have both 1 and 1.1 µg/L as a range of SL.	Disagree	Section 6 is part of the baseline risk assessment, not the risk screening. USEPA-directed screening levels were used in the screening (Section 5). Use of alternative threshold values is valid for the baseline risk assessment. See the response to ID Nos. 2, 5, and 80.	Partially Acceptable, pending addition of clarifying text and inclusion of SLs per comment.
82.	USEPA	6/11/16	6.2.2	Copper	50	39	Page 50, Section 6.2.2 Copper: It states that EPA Region 3 marine SL for copper (3.1 µg/L) was not selected as the SL even though EPA Region 3 SL is the first source in the hierarchical order. Instead, a higher level (5.6 µg/L) from NYSDEC was used as the SL for copper. The EPA-directed hierarchy of SLs, which is consistently used for Region 2 Superfund sites, should be used. Especially, a Region 3 SL for copper is available, it should be used in the BERA. Or alternatively, have both 3.1 and 5.6 µg/L as SLs indicating a range.	Disagree	Section 6 is part of the baseline risk assessment, not the risk screening. USEPA-directed screening levels were used in the screening (Section 5). Use of alternative threshold values is valid for the baseline risk assessment. See the response to ID Nos. 2 and 5.	Acceptable, pending addition of clarifying text.
83.	USEPA	6/11/16	6.2.3	Barium	50	40	Page 50, Section 6.2.3 Barium: Similar to the comment above, EPA Region 3 SL for barium (4 µg/L), rather than the value derived (404 µg/L) should be used. Furthermore, the information used to derive the value of 404 µg/L for barium was from newer studies and is based on four taxa and not eight tax as required for criteria development. Thus, the SL of 4 µg/L and not 404 µg/L should be used. Or alternatively, have both 4 and 404 µg/L as a range of SL.	Disagree	Section 6 is part of the baseline risk assessment, not the risk screening. USEPA-directed screening levels were used in the screening (Section 5). Use of alternative threshold values is valid for the baseline risk assessment. See the response to ID Nos. 2 and 5.	Acceptable, pending addition of clarifying text.
84.	USEPA	6/11/16	6.2.4	Total DDx	51	41	Page 51, Section 6.2.4 Total DDx: The section states that the SL of 0.0001 µg/L should be replaced by 0.0073 µg/L. However, per EPA-directed hierarchy of SLs which is consistently used for Region 2 Superfund sites, the SL of 0.0001 µg/L should be used, especially, since both the NYSDEC guidance and National Recommended Water Quality Criteria state the SL of 0.0001 µg/L.	Disagree	Section 6 is part of the baseline risk assessment, not the risk screening. USEPA-directed screening levels were used in the screening (Section 5). Use of alternative threshold values is valid for the baseline risk assessment. See the response to ID Nos. 2 and 5.	Acceptable. Pending addition of clarifying text.
85.	USEPA	6/11/16	6.3	Risk Characterization	52	42	Page 52, Section 6.3 Risk Characterization, First Incomplete Paragraph: Outliers that are identified in a data set from the contaminated portion of a site are likely hot spot areas that need additional investigation and attention. Simply removing outliers and recalculating hazard values is not appropriate. The conclusion for cyanide in this section is that the concentrations detected are above the chronic threshold and that there may be several areas that serve as hot spots and therefore additional focus is needed on these areas. This would also change the discussion in Section 6.4.1, which indicates that there were no spatial variations in the surface water data set that require subarea evaluation.	Disagree	Because of extensive tidal mixing, individual water column measurements cannot be ascribed to sources at the sampling location. Furthermore, except for the outliers at three locations, other estimated free CN concentrations at these three locations are consistent with data collected throughout the Study Area, which show no spatial patterns.	Partially acceptable. There is no evidence that contaminant concentrations in the water column are or are not associated with specific source areas (including underlying or nearby sediments). Given the uncertainties with linking SW data to specific locations, it is prudent to at least consider the possibility of hot spots that may be linked to SW measurements. Because the degree of tidal mixing has not been determined, do not use "extensive tidal mixing" as an explanation. Outlier discussion can be included in the uncertainty section.

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86.	USEPA	6/11/16	6.4.1	Uncertainty with Exposure Assessment	52	43	Page 52, Section 6.4.1 Uncertainty with Exposure Assessment: The carbon disulfide discussion needs to have additional information provided, such as specifically how many samples were non- detect, detect and above the comparison value. Terms such as "mostly" are not relevant.	Agree	The text will be revised.	Acceptable
87.	USEPA	6/11/16	6.4.2	Uncertainty with Measures of Effect	53	44	Page 53, Section 6.4.2 Uncertainty with Measures of Effect: It is unclear if this section is referring to the SLERA or BERA evaluation. As noted elsewhere, the distinction between screening level evaluations and the baseline evaluation needs to be clear and transparent.	Clarification	This section is referring to the BERA (see page 48, first sentence). The text will be revised to clarify.	Acceptable
88.	USEPA	6/11/16	7	Epibenthic Bivalve Risk Assessment	54	45	Page 54, Section 7 Epibenthic Bivalve Risk Assessment, First Paragraph after Bullets: The survey methods that were employed for Phase 1 and Phase 2 (e.g., grab samples for benthic community, wildlife and avian surveys) were not focused on identifying or enumerating bivalves; thus concluding that bivalves were only found at a few locations is misleading, and is counter to the information provided to EPA by the Community Advisory Group, who provided information on bivalve distribution in Newtown Creek. In addition to the ribbed mussel, numerous other species, such as oysters, clams and snails were also observed.	Disagree	Sediment grab samples in Phase 1 and Phase 2 did not find many bivalves, particularly of a size that could support collection for tissue analysis. This was discussed with USEPA over several months between October 2013 and February 2014. A February 11, 2014 statement of resolution of dispute issues included that USEPA required a caged bivalve study, preferably using mussels.	Unacceptable. Caged bivalve study is intended to evaluate bioaccumulation of contaminants for food chain models and is not intended as a component of bivalve community evaluation. Any statement about low bivalve populations must be accompanied by a disclaimer that the benthic sampling methods utilized were not designed to enumerate bivalves, and that failure to collect bivalves during benthic sampling does not indicate that bivalves are not present. Additionally, since many of the bivalve species observed by EPA (ribbed mussels, softshell clam, oysters) have been seen on vertical structures, such as bulkheads, the sampling methods employed (i.e., Eckman dredge) would not have collected bivalves attached to vertical structures, again making a statement that bivalves are only found in a few locations inaccurate.
89.	USEPA	6/11/16	7.3	Overall Risks to Bivalves	55	46	Page 55, Section 7.3 Overall Risks to Bivalves: This section will need additional information to discuss the difference between exposure point concentrations using filtered and unfiltered samples, dissolved and total concentrations, and the potential uptake of contaminated sediment by bivalves or mollusk species that are in contact with the sediment (e.g., clams, snails).	Disagree	Because the ribbed mussels that were observed in the Study Area were in bulkhead crevices or attached to pilings, the caged bivalve study was specifically designed so that the bivalves would not contact sediment. That is, the study would only be evaluating a surface water exposure pathway. A caged bivalve study design was submitted to USEPA on February 28, 2014. In providing comments on March 27, 2014, the only clarification from USEPA was that the cages not be fixed to docks or pilings because these are typically constructed of preserved wood. Lastly, because risks to bivalves were also evaluated using a tissue residue approach, it is not necessary to include a discussion of total versus dissolved or filtered versus unfiltered surface water samples.	Partially Acceptable. EPA is requesting a detailed discussion on the uncertainty associated with the bivalve evaluation, not stating that the evaluation was inadequate. The issues listed in EPA's original comment are valid discussion points for exploring the relationship between different bivalve species, such as oysters which may have more exposure to sediments than mussels, and to establish relationships between surface water measurements and further modeling of bivalve exposure using total or dissolved measurements. EPA maintains its original comment.
90.	USEPA	6/11/16	7.3	Overall Risks to	56	47	Page 56: An additional section should be added to discuss	Clarification	Text is included in the BERA PF relevant to this comment.	Acceptable. Revised text should reference this

ID No.	Reviewer	Comment Date	Section Name/Topic	Section/Table/ Figure No.	Page No.	Reviewer Comment No.	Comment Text	Category	Response/Proposed Path Forward	EPA Response
				Bivalves			life histories, habitat needs, water quality needs (DO, TSS, etc.) of the mollusk species that are present or could be present in Newtown Creek.		The BERA PF is included as an appendix to the USEPA-approved Phase 2 RI Work Plan Volume 1.	appendix.
91.	USEPA	6/11/16	8	Benthic Macroinvertebrate Risk Assessment	57	48	Page 57, Section 8 Benthic Macroinvertebrate Risk Assessment: The evaluation focuses on porewater concentrations of selected metals and PAHs without making any attempt to use the bulk sediment data to relate to the porewater measurement (for the samples where both measurements were conducted) and, as result, many contaminants that are present at highly elevated concentrations are ignored (e.g., most pesticides).	Clarification	The best available science is that porewater is the primary route of exposure to chemicals in sediment. USEPA scientists (Burgess et al. 2013) have developed guidance that recognizes the limits of bulk sediment-based evaluations and recommends porewater-based bioavailability evaluations for benthic organisms (USEPA 2003, 2005b, 2012; Burgess 2009). Also see the response to ID No. 29. It is not uncommon to have elevated bulk sediment concentrations and low bioavailability due to partitioning to carbon. Newtown Creek has high natural and anthropogenic TOC, so it is logical that porewater concentrations of many chemicals are low. The chemicals that are elevated in porewater—PAHs and metals—are also associated with high concentrations of these compounds in bulk sediment. This is not the case with other CERCLA chemicals. The benthic invertebrate evaluation focused on PAHs and metals through a rigorous screening process that identified them as bioavailable COPECs. For example, pesticides were not detected in porewater at concentrations that pose a risk because they are not bioavailable.	Partially acceptable. While porewater may be a primary route of exposure for many sediment-associated contaminants, it must be recognized that exposure to particulate-sorbed contaminants can also be important. Revision of the text is needed.
92.	USEPA	6/11/16	8.1	Surface Water Chemistry	58	49	Page 58, Section 8.1 Surface Water Chemistry, First Incomplete Paragraph: Reference the table that shows this comparison.	Agree	The text will be revised to include a reference to the appropriate table.	Acceptable
93.	USEPA	6/11/16	8.2	Benthic Biota Tissue	58	50	Page 58, Section 8.2 Benthic Biota Tissue, Last Paragraph: Add “represented by polychaetes” to the end of the paragraph, since test organisms represent Study Area BMI.	Agree	The text will be revised.	Acceptable
94.	USEPA	6/11/16	8.3	Sediment Quality Triad	59	51a	Pages 59 and 60, Section 8.3 Sediment Quality Triad: a. Page 59, First Incomplete Paragraph, Last Sentence: It states “The surface sediment chemistry, benthic community, sediment toxicity, and porewater chemistry data are described in Sections 4.2.4.1, 4.3.4.2…..”. Revise this sentence. Those subsections (e.g., Section 4.2.4.1) describe what samples were collected, what the results of samples were used for, and how the toxicity tests were run. There is no discussion of data. Revise this sentence to be more specific.	Agree	The text will be revised to be more specific.	Acceptable
95.	USEPA	6/11/16	8.3	Sediment Quality Triad	60	51b	b. Page 60, First Incomplete Paragraph: The reference envelope approach, which treats all reference areas as a single group, needs to be refined to provide a comparison against the four categories of reference areas also.	Disagree	See the response to ID Nos. 3 and 12.	Unacceptable. See EPA responses to ID Nos. 3 and 12.

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96.	USEPA	6/11/16	8.3.1.1	Sediment Chemistry	61	52	Page 61, Section 8.3.1.1 Sediment Chemistry, Fourth Bullet: Add "(alpha and beta)" to the bullet after "chlordane". Additionally, indicate if individual PAHs and dioxin/furans were identified also.	Agree	The list of sediment COPECs will be updated.	Acceptable
97.	USEPA	6/11/16	8.3.1.2	Porewater Chemistry	62	53	Page 62, Section 8.3.1.2 Porewater Chemistry: This section is confusing. Revise to clarify what porewater chemistry data were used in the evaluation. Additional information that compares bulk sediment to porewater also needs to be included in the document. In addition, the first paragraph identifies an extensive data set, however, it consists of an n = 32. Although this may be more than typical, it is not extensive.	Clarification	Additional discussion will be provided to clarify what porewater data were used in the evaluation. **Clarification**: The BERA triad dataset represents the entire Study Area and four reference areas. The sample data consist of high-resolution analytical chemistry data for porewater metals, PAHs, pesticides, and PCBs. Data include field samples and toxicity test replicate beaker samples. In addition, these data are synoptic with other triad data. This is truly more than typical. Also see the response to ID No. 91.	Partially acceptable. Pending inclusion of text comparing porewater contaminant concentrations to those in bulk sediment.
98.	USEPA	6/11/16	8.3.2.1	Benthic Community Data	64	54	Page 64, Section 8.3.2.1 Benthic Community Data, Last Sentence: It states "……. The Phase 2 benthic community data provided in Attachment A5." This sentence direct readers/reviewers to raw data, it should also direct readers/reviewers to the summary tables. Summary tables should be prepared and presented in the report.	Agree	Summary tables will be presented in the main body of the draft BERA report.	Acceptable
99.	USEPA	6/11/16	8.3.2.3	Benthic Community Results	65 to 67	55a	Pages 65 to 67, Section 8.3.2.3 Benthic Community Results: a. This section is very difficult to follow. It appears intended to present benthic community results including richness, abundance, percentage of pollution-indicative benthic community, and WBI scores. With the exception of the reference to Table 8-2 on benthic community dominance (Table 8-2), readers/reviewers are directed to figures and attachment C1 for results. Results must be summarized and presented in table(s) for the Study Area and for individual reference areas. If results are presented in tables discussed in other sections, then the text should direct readers/reviewers to those tables. For example Tables 8-3a and 8-3b present WBI scores, which are not mentioned in this section at all. These two tables should be referenced in this section.	Agree	The report will be revised to present summary tables and clarify text where appropriate.	Acceptable
100.	USEPA	6/11/16	8.3.2.3	Benthic Community Results	65 to 67	55b	b. Confirm that Leitoscoloplos robustus is "Not Pollution Indicating or Sensitive".	Clarification	Confirmed. Adams et al. (1998) indicates that *Leitoscoloplos robustus* is neither Pollution Indicating nor Sensitive.	Acceptable
101.	USEPA	6/11/16	8.3.2.3	Benthic Community Results	66	55c	c. Page 66, Second Bullet: The discussion on amphipods, bivalves and gastropods is biased in the conclusion reached. None of the collection methods specifically targeted amphipods, bivalves or gastropods. Given this, a value of less than 3% for observations is not a reliable value.	Disagree	The NCG believes the grab sample collection method used will collect/target amphipods, bivalves, or gastropods. References and supporting documentation will be included where appropriate.	Partially acceptable. Pending additional text supporting assumptions that sampling methods are appropriate for these organisms due to many of the organisms being on vertical structures. See EPA responses to ID No. 38 and ID No. 88.
102.	USEPA	6/11/16	8.3.2.3	Benthic Community Results	66	55d	d. Page 66, Third Bullet: Discuss if low values may have been outliers or related to collection	Agree	The text will be modified to include a discussion of these results.	Acceptable

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							methods.			
103.	USEPA	6/11/16	8.3.2.3	Benthic Community Results	67	55e	e. Page 67, First Paragraph, Third Sentence: It states "Another polychaetes, Eteone heteropoda, is an important carnivore/omnivore in the Study Area (see Table 8-2)". Revise this sentence. This species was present (>1%) in Newtown Creek and tributaries and Turning Basin in 2012 spring and 2014 summer. It was also present in reference areas in both spring and summer 2014 (also shown in Table 8-2). Additionally, the last sentence indicates that the WBI score is strongly influenced by a few species, which may indicate that this is not the best method to use for the evaluation.	Clarification	The text will be revised as appropriate. However, the taxa listed are the most dominant taxa. Other taxa are less dominant. In addition, the WBI score will be affected by the dominance of taxa, especially if pollution tolerant. The abundance metric itself will be influenced by dominant taxa. The dominance of a few taxa shows that the area is stressed.	Acceptable
104.	USEPA	6/11/16	8.3.2.3	Benthic Community Results	67	55f-i	f. Statistical comparisons of results collected should be performed to verify the conclusive statements made in this section such as "similar to the reference areas", "spring 2014 generally was not different from that observed in spring 2012". Specifically the following statistical comparisons should be made: i. Study Area Spring 2012 vs. Study Area Spring 2014	Disagree	See the response to ID Nos. 3 and 12.	Unacceptable. EPA stands by original comment. Also see EPA response on ID No. 3 and 12.
105.	USEPA	6/11/16	8.3.2.3	Benthic Community Results	67	55f-ii	ii. Study Area Summer 2012 vs. Study Area Summer 2014	Disagree	See the response to ID Nos. 3 and 12.	Unacceptable. EPA stands by EPA original comment.
106.	USEPA	6/11/16	8.3.2.3	Benthic Community Results	67	55f-iii	iii. Study Area 2014 Spring vs. Reference Areas 2014 Spring • Study Area vs. Westchester Creek • Study Area vs. Head of Bay • Study Area vs. Spring Creek • Study Area vs. Gerritsen Creek	Disagree	See the response to ID Nos. 3 and 12.	Unacceptable. EPA stands by EPA original comment.
107.	USEPA	6/11/16	8.3.2.3	Benthic Community Results	67	55f-iv	iv. Study Area 2014 Summer vs. Reference Areas 2014 Summer • Study Area vs. Westchester Creek • Study Area vs. Head of Bay • Study Area vs. Spring Creek • Study Area vs. Gerritsen Creek	Disagree	See the response to ID Nos. 3 and 12.	Unacceptable. EPA stands by EPA original comment.
108.	USEPA	6/11/16	8.3.2.4	Study Area and Reference Area Benthic Community Comparison	67	56a	Page 67, Section 8.3.2.4 Study Area and Reference Area Benthic Community Comparison: a. First Paragraph: The WBI scores presented for the reference areas of 1.13 need to be reassessed to determine if there are outliers or sample locations that do not meet acceptability criteria. Additionally, results from Newtown Creek need to be compared to each reference category.	Disagree	See the response to ID Nos. 3 and 12.	Unacceptable. EPA stands by EPA original comment.
109.	USEPA	6/11/16	8.3.2.4	Study Area and Reference Area Benthic Community	67	56b	b. First and Second Bullets: These two bullets direct readers/reviewers to Figure 8-1 for the results. However, Table 8-3a lists results. Add "Table 8-3a" to these two bullets.	Agree	The text will be revised to add the correct citations.	Acceptable

ID No.	Reviewer	Comment Date	Section Name/Topic	Section/Table/ Figure No.	Page No.	Reviewer Comment No.	Comment Text	Category	Response/Proposed Path Forward	EPA Response
				Comparison						
110.	USEPA	6/11/16	8.3.2.4	Study Area and Reference Area Benthic Community Comparison	67	56c	c. Third and Fourth Bullets: Same as above. Add "Table 8-3b" to these two bullets.	Agree	The text will be revised to add the correct citations.	Acceptable
111.	USEPA	6/11/16	8.3.2.5	Benthic Community Stressors; **and Table 8-3c**	68	57a	Pages 68 to 70, Section 8.3.2.5 Benthic Community Stressors **(This comment also applies to Table 8-3c)**: a. Page 68, Second Paragraph: It states "…percent fines and TOC,…". Phase 1 TOC values should be adjusted per EPA's direction, then the relationship between the benthic community and TOC should be re-evaluated.	Comply	We presume USEPA is referring to Figure 8-9. Although the NCG does not agree with using adjusted Phase 1 TOC data because the original Phase 1 data were rejected, to be consistent with the approach in the RI, the NCG will present the information in Figure 8-9 two ways; one by deleting samples for which no TOC re-analyses were performed, and two, by using adjusted Phase 1 TOC data. The relationship between benthic community and TOC will then be re-evaluated.	Acceptable
112.	USEPA	6/11/16	8.3.2.5	Benthic Community Stressors	68	57b	b. Page 68, Third Paragraph: The figures referenced do not support the conclusion that DO is the primary factor related to WBI. This line of evidence needs to be revised. The subsequent paragraphs that discuss the DO in this section are also very weakly supported by the data.	Disagree	The NCG believes that the data support a conclusion that low DO is an important factor contributing to poor health of the benthic community at some locations/seasons. The text and figures will be revised to clarify this line of evidence.	Partially acceptable. Pending revisions to text and figures. See response to ID No. 250 for specific issues to address.
113.	USEPA	6/11/16	8.3.2.5	Benthic Community Stressors	68 to 70	57c	c. Discussions on relationship between WBI and DO, and taxa richness, percentage of pollution-indicative taxa should be revised following the comments below.	Comment Noted	See responses to ID Nos. 114 through 116.	Unacceptable. EPA stands by EPA original comment. See responses to ID Nos. 114 – 116.
114.	USEPA	6/11/16	8.3.2.5	Benthic Community Stressors	68 to 70	57d	d. Statistical approach for comparisons of WBI, richness, abundance, and DO at the Study Area and reference areas may not be totally appropriate. Reference areas were only sampled in 2014 during Phase 2; the Study Area was sampled in 2012 and 2014 during both Phase 1 and Phase 2. Existing data from reference area are may not be fully comparable to that from the Study Area. Therefore, comparisons between the Study Area and reference areas other than 2014 data should be interpreted with caution, and uncertainties associated with these comparisons should be discussed in the Uncertainty section of the document. Additionally, for statistical comparison, the stations at the Study Area were divides into two sets (Newtown Creek from CM 2.26 to the mouth, and Tributaries and Turning Basin) due to "evident" differences in DO and WBI relationship. However, the four reference areas were combined and treated as one dataset to compare with Newtown Creek and Tributaries and the Turning Basin statistically. The report should not ignore the fact that these four reference areas represent four distinctive areas	Agree/ Disagree	The NCG agrees that Study Area and reference area comparisons other than for 2014 data should be interpreted with caution, and uncertainties associated with these comparisons should be discussed in the uncertainty section of the document. Also see the response to ID Nos. 3 and 12.	Unacceptable. EPA stands by EPA original comment. Also see EPA response on ID Nos. 3 and 12.

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							with different characteristics. The Study Area should be compared with data from individual reference areas rather than the combined data from the four reference areas.			
115.	USEPA	6/11/16	8.3.2.5	Benthic Community Stressors	68 to 70	57e-i	e. Make the following changes: i. When statistically compared with reference areas, only the following comparisons can be made: • Study Area Spring 2014 vs. Reference Areas Spring 2014 o Newtown Creek (from CM 2.26 to the mouth) vs. Westchester Creek o Newtown Creek (from CM 2.26 to the mouth) vs. Head of Bay o Newtown Creek (from CM 2.26 to the mouth) vs. Spring Creek o Newtown Creek (from CM 2.26 to the mouth) vs. Gerritsen Creek • Study Area Summer 2014 vs. Reference Areas Summer 2014 o Newtown Creek (from CM 2.26 to the mouth) vs. Westchester Creek o Newtown Creek (from CM 2.26 to the mouth) vs. Head of Bay o Newtown Creek (from CM 2.26 to the mouth) vs. Spring Creek o Newtown Creek (from CM 2.26 to the mouth) vs. Gerritsen Creek • Tributaries and Turning Basin Spring 2014 vs. Reference Areas Spring 2014 o Tributaries and Turning Basin vs. Westchester Creek o Tributaries and Turning Basin vs. Head of Bay o Tributaries and Turning Basin vs. Spring Creek o Tributaries and Turning Basin vs. Gerritsen Creek • Tributaries and Turning Basin Summer 2014 vs. Reference Areas Summer 2014 o Tributaries and Turning Basin vs. Westchester Creek o Tributaries and Turning Basin vs. Head of Bay o Tributaries and Turning Basin vs. Spring Creek o Tributaries and Turning Basin vs. Gerritsen Creek	Disagree	See the response to ID Nos. 3 and 12.	Unacceptable. EPA stands by EPA original comment. Also see EPA response on ID Nos. 3 and 12.
116.	USEPA	6/11/16	8.3.2.5	Benthic Community	68 to	57e-ii	ii. When statistically compare with reference areas, delete the following comparisons:	Disagree	See the response to ID Nos. 3 and 12.	Unacceptable. EPA stands by EPA original comment. Also see EPA response on ID Nos. 3

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				Stressors	70		• Newtown Creek Spring 2012 and 2014 vs. Reference Areas Spring 2014 • Newtown Creek Summer 2012 and 2014 vs. Reference Areas Summer 2014 • Newtown Creek Spring 2012 vs. Reference Areas Spring 2014 • Newtown Creek Summer 2012 vs. Reference Areas Summer 2014 • Tributaries and Turning Basin Spring 2012 and 2014 vs. Reference Areas Spring 2014 • Tributaries and Turning Basin Summer 2012 and 2014 vs. Reference Areas Summer 2014 • Tributaries and Turning Basin Spring 2012 vs. Reference Areas Spring 2014 • Tributaries and Turning Basin Summer 2012 vs. Reference Areas Spring 2014			and 12.
117.	USEPA	6/11/16	8.3.2.5	Benthic Community Stressors	68 to 70	57e-iii	iii. State the p-value for statistical significance in the text.	Agree	The text will be revised to include the p-value, which was 0.05.	Acceptable
118.	USEPA	6/11/16	8.3.2.5	Benthic Community Stressors	68 to 70	57e-iv	iv. Since statistical analyses were performed, revise sentences such as ".. differences were not apparent" to ".. no significant differences".	Agree	The text will be revised as appropriate.	Acceptable
119.	USEPA	6/11/16	8.3.2.5	Benthic Community Stressors	70	57f	f. Page 70, First Complete Paragraph: This paragraph presents NYCDEP's DO data trend from 2011 to 2015, showing seasonal changes. Note that monthly DO values, while important, should be supplemented by lowest observed values. BMI and other aquatic life are most affected by critical minimums, even if exposure duration is short. For example, if a monthly average DO is within acceptable limits, a short term (a day or two) exposure to critical minimum DO can cause mortality and can have longer term impacts on BMI abundance and diversity. In addition to average DO values by month, lowest DO values by month (or by week or day, if available) should be provided.	Agree	Data will be supplemented and evaluated where available and applicable.	Acceptable

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120.	USEPA	6/11/16	8.3.3	Toxicity	71	58a-i	Pages 71 and 72, Section 8.3.3 Toxicity, Second Set of Bullets: a. Page 71: i. First Bullet of Second Set of Bullets: EqP is not fully applicable to metals. This sentence should refer to organic chemicals specifically.	Disagree	Equilibrium partitioning (EqP) is applicable to metals. USEPA has an EqP document for metals: *Procedures for the Derivation of Equilibrium Partitioning Sediment Benchmarks (ESBs) for the Protection of Benthic Organisms: Metal Mixtures (Cadmium, Copper, Lead, Nickel, Silver, and Zinc)* (USEPA 2005b). The tiered evaluation hierarchy for chemical measurement is identical for metals and non-polar organics: bulk sediment screening, then EqP, then direct porewater measurement (Burgess et al. 2013).	Partially acceptable. While EPA's EqP may be generally applicable to metals, it is important to note the substantial uncertainty in this approach. Metals bioavailability and toxicity is highly site-specific, and depends on numerous factors that are to be considered in these evaluations. See EPA response to ID No. 9.
121.	USEPA	6/11/16	8.3.3	Toxicity	71	58a-ii	ii. Third Bullet: Porewater collection is associated with uncertainties, so the accuracy of porewater analyses may be low (i.e., may not accurately reflect in-situ conditions). Uncertainty associated with porewater collection should be discussed in the uncertainty section. The use of porewater may under estimate the contaminants ingested through feeding on contaminated sediment.	Clarification / Disagree	All analytical measurements have some uncertainty; however, the state-of-the-art porewater sampling and analysis methods applied in the BERA have substantially less uncertainty than other estimates of porewater exposure, such as EqP. See USEPA (2012) tiered approach for implementing site-specific equilibrium sediment benchmarks (EPA/600/R-02/012) and Burgess et al. (2013). Regarding the use of porewater and ingested sediment, the following is an excerpt from Burgess et al. 2013: *Equilibrium partitioning asserts only that any simultaneous exposure through ingested sediment reflects the same degree of chemical activity (i.e., bioavailability) indicated by the concentration in interstitial water, assuming that no transformations occur within the gut that significantly change chemical activity. Thus, EqP predicts bioavailability using partition coefficients between sediment particles (including binding phases contained therein) and the interstitial water. With this information, an accurate estimate of a sediment contaminant's bioavailable concentration can be generated and the likelihood of adverse effects due to that chemical can be predicted.* The porewater data collected for the BERA is a direct measure of the contaminant's bioavailable concentration and is an important line of evidence in assessing ecological exposure and risk. See also the response to ID No. 91.	Partially acceptable. Pending addition of expanded discussion of uncertainty.
122.	USEPA	6/11/16	8.3.3	Toxicity	72	58b	b. Page 72, First Bullet of First Set of Bullets: This bullet should discuss the potential effects of cumulative exposures to all potentially hazardous chemicals (even if concentrations of individual chemicals are below selected benchmarks, thresholds or TRVs). Additionally, the term "unresolved complex mixtures" (UCMs) and the associated evaluation should be moved entirely to the uncertainty section as UCMs are not CERCLA wastes.	Disagree	The purpose of screening COPECs prior to conducting the baseline risk assessment is to focus the work to refine the extent that potential risk drivers actually contribute to quantifiable risk. In order to meet the three objectives USEPA identified in ID No. 29, it will be necessary to conduct the evaluations of relationships between bulk sediment and porewater and address confounding factors that modify that relationship. See also the responses to ID Nos. 29 and 91.	Unacceptable. EPA stands by EPA original comment.
123.	USEPA	6/11/16	8.3.3.1 and 8.3.3.2	Toxicity Test Data and Toxicity	72 to	59a	Pages 72 to 75, Section 8.3.3.1 Toxicity Test Data and Section 8.3.3.2 Toxicity Reference Area Envelope:	Agree	The report will be revised to include data summaries and discussions where appropriate.	Acceptable

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				Reference Area Envelope	75		a. Both of these sections mainly present toxicity testing procedures and do not discuss results, but direct readers/reviewers to tables/figures. Data should be summarized and discussed in the text.			
124.	USEPA	6/11/16	8.3.3.1	Toxicity Test Data	72	59b	b. Page 72, Section 8.3.3.1 Toxicity Test Data, Last Paragraph: Delete "Table 8-4c". This table lists porewater chronic threshold values and does not present any test data.	Clarification	Table 8-4c presents the TRVs that are the basis of the screening of the porewater data that are summarized in Tables 8-4a and 8-4b.	Acceptable. Pending addition of clarifying text.
125.	USEPA	6/11/16	8.3.3.2	Toxicity Reference Area Envelope	74	59c	c. Page 74, Section 8.3.3.2 Toxicity Reference Area Envelope, First Paragraph: This paragraph indicates that the four selected reference areas were considered a single data set, however, the reason four areas were selected that represented four separate categories was to collect data to determine if specific sources of contamination (i.e., industrial discharges and CSO discharges) could be distinguished from each other. Site data should be compared individually to each reference area.	Disagree	See the response to ID Nos. 3 and 12.	Unacceptable. EPA stands by EPA original comment. Also see EPA response on ID Nos. 3 and 12.
126.	USEPA	6/11/16	8.3.3.2	Toxicity Reference Area Envelope	74	59d	d. Page 74, Section 8.3.3.2 Toxicity Reference Area Envelope, Second Paragraph: The reference comparison statistic that was chosen was the 95% lower confidence limit on the 5% percentile. Provide a reference for using this statistic.	Agree	Additional rationale for selecting the statistic and supporting reference will be provided.	Acceptable
127.	USEPA	6/11/16	8.3.3.2	Toxicity Reference Area Envelope	75	59e	e. Page 75, Section 8.3.3.2 Toxicity Reference Area Envelope, First Paragraph: The reference data needs to be screened against acceptability criteria (i.e., the numeric comparisons used in work plan phase) to identify any stations that do not meet the criteria.	Disagree	See the response to ID Nos. 3 and 12.	Unacceptable. EPA stands by EPA original comment. Also see EPA response on ID Nos. 3 and 12.
128.	USEPA	6/11/16	8.3.3.3.1	Bulk Sediment Chemistry	76	60a	Page 76, Section 8.3.3.3.1 Bulk Sediment Chemistry: a. In this Section and in the rest of the BERA Report, TOC values and total PCB congener concentrations need to be adjusted based on EPA's direction.	Comply	See the response to ID No. 14.	Acceptable
129.	USEPA	6/11/16	8.3.3.3.1	Bulk Sediment Chemistry	76	60b	b. Second Paragraph, Last Sentence: It states "Table 8-8b indicates that the probability that the observed correlations are random are very low." However, this table shows correlation probability values for total fine (%) are high, especially with nickel (0.9894), copper (0.925), and 10-day survival (0.8727). Revise this sentence.	Agree	The text will be revised.	Acceptable
130.	USEPA	6/11/16	8.3.3.3.1	Bulk Sediment Chemistry	76	60c	c. Last Paragraph, Last Two Sentences: It states "Although increasing bulk sediment COPEC concentrations are associated with increasing toxicity, the actual exposure to the test organisms may not be best explained from bulk sediment data." This may be true; however, the fact that increasing sediment COPEC concentration are associated with increasing	Clarification	See the response to ID No. 91. The text will be revised.	Acceptable. Pending review of revised text.

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							toxicity cannot be ignored. More justification is need to support this statement.			
131.	USEPA	6/11/16	8.3.3.3.2	AVS, SEM, and Metal Speciation	77	61	Page 77, Section 8.3.3.3.2 AVS, SEM, and Metal Speciation, Second Paragraph: This paragraph states "statistically significant" between pre-test and post-test for ΣSEM-AVS and in situ ΣSEM-AVS. Direct readers/reviewers to the section and tables where the results of statistical analyses are presented.	Agree	The text will be revised to reference appropriate data tables.	Acceptable
132.	USEPA	6/11/16	8.3.3.4	Toxicity and Porewater Chemistry	78 to 80	62a	Pages 78 to 80, Section 8.3.3.4 Toxicity and Porewater Chemistry: a. This section only discusses TU above 1 for total PAH and total SEM metals. However, there are individual chemicals having TU above 1. They should be discussed and not ignored.	Disagree	The list of chemicals in porewater analyzed in Section 8.3.3 was established in the COPEC screening step. PAHs and SEM were addressed as sums consistent with USEPA guidance rather than as individual chemicals within those groups. Also, see the response to ID No. 15.	Partially acceptable. Pending inclusion of additional text that discusses potential toxicity of individual metals and PAHs. This discussion is critical because toxicity based on simultaneous exposure to multiple potentially toxic chemicals may be influenced by synergistic or antagonistic effects. Assuming additivity is appropriate, but additivity may or may not describe actual conditions.
133.	USEPA	6/11/16	8.3.3.4	Toxicity and Porewater Chemistry	78	62b-i	b. Page 78: i. Second Paragraph, First Sentence: It states to see Table 8-4c for detected porewater chemicals exceeding the chronic thresholds. Present the correct table number for this information. Table 8-4c only lists the porewater chronic threshold values and there are no porewater concentrations and no comparison with chronic thresholds.	Agree	The text will be revised to reference the correct table.	Acceptable
134.	USEPA	6/11/16	8.3.3.4	Toxicity and Porewater Chemistry	78	62b-ii	ii. Second Paragraph, Second Sentence: It states "chemicals having exceedance". Provide table presenting this information.	Agree	The text will be revised to clarify what is being referred to and a table will be provided if appropriate.	Acceptable
135.	USEPA	6/11/16	8.3.3.4	Toxicity and Porewater Chemistry	79	62c-i	c. Page 79: i. First Complete Paragraph: Same comment as above. Total PCB congener concentrations and comparisons with chronic threshold maximum concentrations should be presented in a table.	Clarification	We are not sure if this reviewer meant "comparisons of chronic threshold to maximum concentrations." This is presented in Table 8-4a.	Acceptable
136.	USEPA	6/11/16	8.3.3.4	Toxicity and Porewater Chemistry	79	62c-ii	ii. Bullets: The table number referred in these two bullets (Table 8-4c) is incorrect. Cite the correct table number for these two bullets.	Clarification	The bullets are referring to the chronic values.	Partially acceptable. Pending addition of clarifying text.
137.	USEPA	6/11/16	8.3.3.4	Toxicity and Porewater Chemistry	80	62d	d. Page 80, First Paragraph, Last Sentence: It states "Without site-specific toxicity identification data, assuming additivity is a reasonable approximation of these and other porewater chemical contributions to toxicity." Define "site-specific toxicity identification data". Additionally, as stated earlier, the contribution of individual COPECs to toxicity should not be ignored.	Agree/ Clarification	The toxicity identification evaluation definition will be provided. We are unclear about the comment regarding individual COPECs. PAHs and metals are assumed to be additive, consistent with USEPA sediment assessment guidance.	Partially Acceptable Also, see response to ID No. 132. Proposed revision to text is acceptable, but contribution of individual COPECs to toxicity needs to be considered.
138.	USEPA	6/11/16	8.3.3.5.1	Standard Confounding Factors	80	63	Page 80, Section 8.3.3.5.1 Standard Confounding Factors, Second Paragraph, Third Sentence: Section 8.3.3.3, Toxicity and Sediment Chemistry, shows the high degree of correlation between toxicity and bulk sediment	Disagree	The BERA used site-specific porewater, a direct measurement, as the primary measurement endpoint, consistent with USEPA guidance (USEPA 2003, 2005b, 2012) and Burgess (2009). As noted in the response to ID No. 91,	Unacceptable. All discussion on confounding factors should be presented in Uncertainty Section. In addition, response appears to assume that porewater contaminant

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							chemistry for individual contaminants (PAHs, PCBs, Pesticides, Metals). Although not reported, there is also a high degree of correlation with chemical indices such as logistic regression models (LRMs) (Field and Norton, 2014; Field et al 2002), mean ERM and PEC quotients, or PAH34 toxic units (EPA 2003). However, the BERA ignores magnitude of exceedance of sediment benchmarks. The sentence about organic carbon and grain size correlations with bulk sediment concentrations making it difficult to use sediment chemistry should be removed. The predictive power of chemical indices in Newtown Creek (and the reference areas) is strong.		it is not uncommon to have high bulk sediment chemical concentrations and low porewater concentrations for those same chemicals due to partitioning to carbon for non-polar organic compounds or binding with sulfides for metals. Newtown Creek has high TOC and AVS. Because of partitioning and binding, high bulk sediment concentrations do not always result in elevated porewater exposure, as was the case for pesticides and PCBs in Study Area sediment. Generic sediment benchmarks like ERMs were correctly used in the BERA as conservative screening benchmarks and used to identify COPECs. Bulk sediment correlations with toxicity (e.g., Field and Norton 2014) are associations and provide limited information about the chemical exposures actually causing toxicity. It is well established in the scientific literature that bulk sediment alone is an incomplete measure of exposure (Burgess et al. 2013). Only porewater provides the ability to empirically measure exposure and is, therefore, the most robust line of evidence. The predictive power of bulk sediment chemical indices are actually weak compared to direct porewater measurement. Bulk sediment assessment approaches using occurrence-based benchmarks, like the LRMs and mean ERM quotient, are among the weakest lines of evidence because they do not address sediment complexity and true exposure. The apparent "predicative power" is misleading because the causative agent cannot be established, only an association can be made. While bulk sediment measures and toxicity are correlated, the chemicals are also highly correlated among themselves. Without a mechanistic approach, like equilibrium partitioning, or better yet, direct porewater measures, actual exposure cannot be estimated or known. The planning for the BERA toxicity assessment recognized this fact and applied the best available science, consistent with USEPA guidance, to develop a program that directly measured porewater to establish exposure. With regards to the correlation of toxicity and bulk sediment PAH (34) toxic units (USEPA 2003), yes, it is significant. In fact, so are the correlations between other generic PAH benchmarks. However, not surprisingly, the relationship between porewater PAH (34) TU and bulk sediment PAHs shows that site-specific exposure cannot be predicted using bulk sediment measures. This example demonstrates the pitfalls of bulk sediment chemical indices and why direct porewater measures are the strongest line of evidence for establishing exposure. See the responses to ID Nos. 9 and 91.	concentrations are stable and are the only sediment-associated exposures of concern. Ingestion of particulate-sorbed contaminants is also a concern for some receptors, and sediment porewater contaminant concentrations likely vary temporally and spatially. Sediment bulk chemistry data provides a general indication of level of "potentially bioavailable contamination", and as such should not be ignored. Both sediment bulk chemistry and sediment porewater contaminant concentrations should be viewed as important, related but independent lines of evidence.

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139.	USEPA	6/11/16	8.3.3.5.2	Anthropogenic Confounding Factors	82 to 85	64	Pages 82 to 85, Section 8.3.3.5.2 Anthropogenic Confounding Factors: This entire section provides a lengthy discussion on non-CERCLA hazardous substances such as petroleum-based hydrocarbon unresolved complex mixture, and mineral oil. This section implies that these non-CERCLA hazardous substances are unique and have great impact on sediment toxicity and should be evaluated independent of CERCLA hazardous substances. As previous discussions between NCG/the City and EPA on BERA PF, EPA made it very clear that for Superfund sites, only CERCLA hazardous substances are to be evaluated in the BERA. If NCG feels strongly that these "anthropogenic confounding factors" should be included in the BERA, the discussion should be presented in the uncertainty section. Additionally, the 10-day test data should be presented, in spite of arguments made in the report that they are biased toward low survival. The discussion of anthropogenic confounding factors, such as non-PAH petroleum hydrocarbons and sulfide, is distracting and largely irrelevant. There is no evidence provided to support that toxicity is more likely due to mineral oil or sulfides, rather than the extremely high concentrations of hazardous substances such as PAHs, PCBs, and copper.	Disagree/ Clarification	We understand that the focus of the risk assessment is to address CERCLA hazardous substances. To accurately describe the risk contribution of CERCLA hazardous substances, it is also necessary to address confounding factors. The identification of confounding factors was done in an iterative, scientific process that was performed in order to refine the concentration-response relationship for the CERCLA hazardous substances. Separating the discussion of anthropogenic confounding factors into the uncertainty section would unrealistically constrain the analysis of sediment toxicity. As demonstrated in the BERA, the rate of decision errors is substantial when confounding factors are not addressed. Not addressing confounding factors with CERCLA hazardous substances impedes the ability to address comments such as ID Nos. 9 and 29. (In ID No. 9, USEPA requested additional analysis of the relationship between porewater and bulk sediment chemistry. In ID No. 29, USEPA noted that the BERA should provide the basis for developing cleanup levels.) The comment regarding presenting 10-day test data in Section 8.3.3.5.2 is unclear. The Section 8.3.3.5.2 discussion does not specifically address either the 10-day or 28-day test results but provides the basis for the anthropogenic confounding factors analysis that is conducted in Section 8.3.3.6. The impact of the anthropogenic confounding factors analysis on the interpretation of the 10-day test results are presented in Section 8.3.3.6.	Unacceptable. EPA stands by the original comment.
140.	USEPA	6/11/16	8.3.3.6	Toxicity Concentration-Response Evaluation	86 to 87	65a	Pages 86 to 87, Section 8.3.3.6 Toxicity Concentration-Response Evaluation: a. There is no summary table listing TUs. The text simply directs readers/reviewers to figures. Although figures (Figures 8-25 and 8-26) give general overview, there are no TU values by location to verify statements listed on these pages, especially Figure 8-25, which is on log scale. Tables showing TUs by triad location for PAH, SEM metals, and COPECs must be provided.	Agree	Tables will be added.	Acceptable
141.	USEPA	6/11/16	8.3.3.6	Toxicity Concentration-Response Evaluation	86 to 87	65b	b. Provide a clear description of the purpose, content, and results of Table 8-9 Summary of Concentration-response Prediction Error Rates with or without Confounding Factor Stations. The text directs readers/reviewers to Attachment D2. However, this attachment only shows input and output of the software.	Agree	The text will be added to provide the requested information.	Acceptable
142.	USEPA	6/11/16	8.3.3.6.1	Concentration-Response Evaluation and Contingency	91	66	Page 91, Section 8.3.3.6.1 Concentration-Response Evaluation and Contingency Analysis: This subsection attributes "error rates" to samples that do not correspond to the predictions based on PAH toxic units	Disagree/ Clarification	PAHs and SEM were identified as the only bioavailable COPECs with measured concentrations exceeding conservative toxicity reference values. There is no reason to include "all other contaminants present in elevated	Unacceptable. Bioavailability can be estimated but is likely highly variable and for the most part unknown. Contaminants associated with elevated concentrations may or may not be

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				Analysis			and SEM metals toxic units which essentially ignores all other contaminants present at elevated concentrations in the sediment.		concentrations in sediment" because only PAHs and metals are bioavailable in porewater.	bioavailable at any particular location or time, and these should be considered potentially bioavailable.
143.	USEPA	6/11/16	8.4	Overall Benthic Macroinvertebrate Risk Characterization	92	67	Page 92, Section 8.4 Overall Benthic Macroinvertebrate Risk Characterization: Add "porewater" to the sentence.	Agree	The sentence will be revised as requested.	Acceptable
144.	USEPA	6/11/16	8.4.1	Chemistry	92	68	Page 92, Section 8.4.1 Chemistry, Second Bullet: This bullet states "The accumulation of bioaccumulative contaminants in polychaetes is not sufficient to cause an adverse effect to Study Area polychaetes, and therefore, to Study Area benthic macroinvertebrates." Add text to clarify that this conclusion is based on the assumption that polychaetes are toxicologically representative of (or would respond to exposure similarly to) other non-polychaete BMI. In addition, the utility of evaluating the accumulation of bioaccumulative contaminants in polychaetes was to evaluate the trophic transfer to upper-level consumers, such as fish, birds and mammals.	Clarification	It is true that one of the uses of the data is to evaluate the trophic transfer to upper-level consumers. However, the data were also collected to answer one of the risk questions in the USEPA-approved Phase 2 RI Work Plan Volume 1—*Is the accumulation of contaminants from Study Area surface sediments in Nereis sufficient to cause adverse effects to receptors represented by test organisms?* The text will be modified to acknowledge the uncertainty associated with extrapolating the evaluation of polychaete tissue effects to non-polychaete BMI.	Acceptable
145.	USEPA	6/11/16	8.4.2	Benthic Community	93	69a	Page 93, Section 8.4.2 Benthic Community: a. First Bullet, Second Sentence: This sentence would be clearer if the last part of the sentence simply stated "No BMI were observed".	Agree	The sentence will be clarified as requested.	Acceptable
146.	USEPA	6/11/16	8.4.2	Benthic Community	93	69b	b. Fourth Bullet: DO is not a CERCLA hazardous substance, but low DO can result from multiple sources, including nutrient enrichment and degradation of organic contaminants that may fall under CERCLA. This should be discussed. Also, as mentioned in previous comments, the association with DO is not as evident as described in this report.	Clarification	It is not clear how nutrient enrichment is related to the CERCLA contaminants. However, the NCG agrees that causes of low DO can be added to the discussion. Additional text will be added to strengthen the discussion regarding the association between DO and the health of the benthic community.	Acceptable
147.	USEPA	6/11/16	8.4.3	Toxicity	93	70a	Pages 93 and 94, Section 8.4.3 Toxicity: a. Page 93, First Bullet: Add names of test organisms, and add that samples are sediment samples. This comment also applies to subsequent bullets.	Agree	The text will be added to address this comment.	Acceptable
148.	USEPA	6/11/16	8.4.3	Toxicity	94	70b	b. Page 94, Fourth Bullet: This bullet should be revised to clarify that static and unfed conditions refer to the 10-day toxicity test, not the 28-day toxicity test.	Agree	The text will be revised.	Acceptable
149.	USEPA	6/11/16	8.4.4	Overall Summary of Sediment Quality Triad Results	95	71	Page 95, Section 8.4.4 Overall Summary of Sediment Quality Triad Results, First Incomplete Sentence at Top of Page: It states "… they are likely related to low DO concentrations that are less than 3.0 mg/L". This conclusion may be true for individual COPECs, but adverse effects may also be due, in part, to the cumulative effects of simultaneous exposure to multiple chemicals (even if concentrations of individual chemicals are below thresholds or SLs). This potential should be recognized and discussed, especially given the number of chemicals detected for which SLs are unavailable.	Clarification	The analysis of the benthic community data included an evaluation of the potential for COPEC-related impacts to the benthic community. This evaluation was conducted in the Study Area and all the reference areas, over a wide range of COPEC concentrations. Regardless of concentrations of the sediment COPECs evaluated, there is no clear relationship between COPEC concentrations and WBI scores as indicated by BERA Figures 8-7 and 8-8 and Attachment C2. The uncertainties associated with detected chemicals for which SLs are unavailable will be discussed in the uncertainty section.	Partially acceptable. Pending text revisions.

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150.	USEPA	6/11/16	9	Epibenthic Decapod Risk Assessment	100	72a	Page 100, Section 9 Epibenthic Decapod Risk Assessment: a. This section is incomplete due to sediment not being evaluated, no discussion of how TRVs or CRBs were derived/chosen, no information regarding life histories or habitat needs.	Disagree	As presented in the USEPA-approved Phase 2 RI Work Plan Volume 1, the only measurement endpoint to be evaluated for the blue crab is the concentration of bioaccumulative contaminants in tissue (see Table 2-2, and BERA PF Table 7-1). Because no COPECs were identified for the blue crab in the tissue screening (Section 5), it was not necessary to discuss tissue thresholds in Section 9. Life history information for blue crab is included in Attachment F.	Unacceptable. EPA directs the NCG to the data quality objective for blue crabs in Table 2-2 in the work plan which states, "Evaluate the potential effects of contaminants on epibenthic invertebrates in the Study Area; evaluate the relationship between sediment and blue crab contaminant concentrations, including calculation of BSAFs and including uncertainty analysis associated with various mathematical formulations of the relationship; and provide input to food web models." Based upon this, the relationship of blue crabs to both surface water and sediment should be discussed in the BERA.
151.	USEPA	6/11/16	9	Epibenthic Decapod Risk Assessment	100	72b	b. First Bullet: The evaluation should be from exposure to surface water and sediment.	Disagree	See the response to ID No. 150. Surface water is only included as part of the assessment for aquatic life in general.	Unacceptable. See EPA response to ID No. 150.
152.	USEPA	6/11/16	9	Epibenthic Decapod Risk Assessment	100	72c	c. Second Bullet: Add "....represented by blue crabs." to the end of the sentence.	Agree	The text will be revised.	Acceptable
153.	USEPA	6/11/16	9	Epibenthic Decapod Risk Assessment	100	72d	d. Paragraph below Bullets: Additional information should be included that explains which species were represented by the other 46% of the shellfish that were caught.	Agree	The text will be revised.	Acceptable
154.	USEPA	6/11/16	9.4.2	Uncertainties with Measures of Effect	101	73	Page 101, Section 9.4.2 Uncertainties with Measures of Effect: Confirm that ERED and other tissue SLs are species specific. If not, then add species-to-species extrapolation of toxicity data as a source of uncertainty. This comment applies to all sections where tissue data from ERED or similar databases are discussed.	Clarification	ERED contains specific data on individual tissue vs. effect studies for many species and endpoints. Each study is species specific. SLs can be derived from the database using a variety of decision criteria. If adequate species-specific information is available, that is used. If not, it is appropriate to use an SL derived from a suitable combination of studies and species. For the blue crab, the SLs include *Daphnia magna* (water flea), *Mytilus edulis* (blue mussel), midges, and amphipods for invertebrates. Uncertainties associated with species-to-species extrapolation will be noted in this section and in others as appropriate.	Acceptable
155.	USEPA	6/11/16	10.1	Surface Water	103	74	Page 103, Section 10.1 Surface Water, Second Sentence: This sentence is only true if the most conservative threshold value was utilized. This should be discussed in the uncertainty section.	Agree	Uncertainties related to any SLs that are not derived from NRWQC will be discussed in the uncertainty section.	Acceptable
156.	USEPA	6/11/16	10.2	Porewater	104	75a	Page 104, Section 10.2 Porewater: a. First Paragraph, Seventh Sentence: Add "directly to pore water in the Study area."	Agree	The text will be revised.	Acceptable
157.	USEPA	6/11/16	10.2	Porewater	104	75b	b. Last Paragraph, Last Sentence: It states that a chronic threshold value of 50 nanograms per liter was selected to evaluate the adverse effects of porewater PCB congeners to mummichog. Additional discussion on the two tests that this value was based on should be provided.	Agree	The report will be revised to include additional discussion on the two tests relevant to the development of this threshold.	Acceptable

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158.	USEPA	6/11/16	10.3.3	Measures of Effect	105	76a	Pages 105 and 106, Section 10.3.3 Measures of Effect: a. Page 105, Footnote No. 10 and 11: Footnote 10 indicated only striped bass and mummichog were identified in the CSM. Spot, which was replaced with white perch, was also included. Footnote 11, the text indicates there were 17 studies with LOECs found in the database. Confirm whether the footnote is referring to NOECs.	Clarification	Perch did not replace spot in the BERA. The footnote is referring to LOECs.	Unacceptable. White perch did replace spot, since spot were not collected. White perch need to be evaluated.
159.	USEPA	6/11/16	10.3.3	Measures of Effect	106	76b	b. Page 106, Last Sentence: It states "Using LOECs is appropriate to assess effects at an assumed population level rather than the NOECs used in the risk screening." Rationale for this assertion is not provided. Appropriateness for "population level" is related to the specific endpoints evaluated: it is not related to the choice of effect level to use as the quantitative basis for the toxicity assessment.	Agree	Additional text will be provided on the rationale for the use of growth/reproduction/survival-based LOECs to evaluate potential population-level effects. According to Landis et al. (1993), it is assumed that a few deaths at the population level due to exposure to a chemical would not adversely affect a healthy reproducing population of organisms. Therefore, for the risk assessment, it is appropriate to use NOAELs in a screening to be protective of all individuals, and it is appropriate to use LOAELs in the baseline analyses to be protective of a healthy reproducing population of organisms, recognizing that not every individual will be protected.	Acceptable
160.	USEPA	6/11/16	10.4.2	Exposure Model	107	77a	Page 107, Section 10.4.2 Exposure Model: a. First Paragraph: Although it is difficult to quantify, the text should recognize that surface water ingested or passing over gills may also contribute to exposure and in some cases total dose. Revise this paragraph.	Agree/ Clarification	Text will be added noting this uncertainty and will be included in the uncertainty section.	Acceptable
161.	USEPA	6/11/16	10.4.2	Exposure Model	107	77b	b. Second Paragraph, Last Sentence: Add "as adults (i.e., 4-5 years of age and older)" to the end of the sentence as young and juvenile striped bass spend the first three years of their life in smaller estuary systems, such as small streams and rivers like Newtown Creek, before joining the migration pattern observed in adult fish.	Clarification	As presented in a 7/20/16 dispute letter to USEPA, it is likely that both the Study Area and regional sources contribute to body burdens, but quantification of the proportions is premature: during the development of the bioaccumulation model, this issue will be investigated further. It is proposed that the sentence in question be revised as follows: *As described in Attachment F, research on the Hudson River stock of striped bass indicates that adult striped bass (ages 4 and above) found in the Study Area are likely part of larger sub-populations that potentially range throughout the East River, Hudson River, New York Harbor, Long Island Sound, and possibly the coastal ocean. The extent of movement, and thus the contributions of Study Area and regional COPEC exposure, for both juvenile and adult striped bass, will be evaluated during the development of the bioaccumulation modeling.*	Acceptable, pending revised text.
162.	USEPA	6/11/16	10.4.4.1	Exposure Assessment	108	78	Page 108, Section 10.4.4.1 Exposure Assessment, Last Paragraph: Provide additional justification for the best professional judgment of 1% of the diet. If specific values cannot be found, then additional estimates of sediment	Clarification	The sensitivity of the risk estimates to a range of sediment ingestion rates will be discussed in the uncertainty section. Based on the work of Booth and Gary (1993), a range of up to 2.5% will be used.	Acceptable

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							ingestion rate (i.e., 5%, 10%, 15%) should be included to bound the estimate.			
163.	USEPA	6/11/16	10.4.4.1	Exposure Assessment	110	79	Page 110, Section 10.4.4.1 Exposure Assessment, First Complete Paragraph: Additional information should be included in this paragraph to provide COPC concentrations below CM 2 and above CM 2 to explain the terms “little variation” and “increase”.	Agree	The text will be revised.	Acceptable.
164.	USEPA	6/11/16	10.5	Overall Fish Risk Characterization	111 and 112	80a	Pages 111 and 112, Section 10.5 Overall Fish Risk Characterization: a. Last Bullet starts on Page 111 and ends on page 112: Revise this bullet. Qualifiers such as "only" should be eliminated from this and all similar presentations to reduce biased interpretations. Also, stating “maximum exceedances of 3 or 9” is unclear and must be more specific. Assuming these numeric values are referring to HQs, HQs of 3 or 9 are significant and indicate unacceptable risk.	Objection/ Clarification	This bullet does not present a biased interpretation, it is based on the outcome of multiple lines of evidence used in the BERA. Multiple lines of evidence are used to increase the confidence of the risk estimates. See response to ID No. 165.	Unacceptable. EPA stands by EPA original comment.
165.	USEPA	6/11/16	10.5	Overall Fish Risk Characterization	112	80b	b. Page 112, Top Paragraph, Last Sentence: This sentence should be revised. Each line of evidence should be evaluated independently of other lines of evidence. Elevated porewater PAH concentrations are important whether or not surface water, tissue, or dietary lines of evidence are associated with exceedances. Final concluding sentence should simply state which lines of evidence suggest unacceptable risk, and which do not.	Clarification	The NCG recognizes the importance of evaluating each line of evidence independently. Conversely, there is also value in an overall weight-of-evidence approach to evaluating risks to a particular receptor group. That is why multiple lines of evidence are employed in risk assessment—to increase the confidence in the risk estimates. This section will be modified to clarify the results of each line of evidence; however, the overall weight-of-evidence discussion will also be modified to include a discussion of the relative weights that should be applied to each line of evidence so that the overall weight-of-evidence approach is relevant for decision-making.	Partially acceptable. Pending additional clarification of the text.
166.	USEPA	6/11/16	10.7.3	Fish and Crab Community Metrics – Methods	115	81	Page 115, Section 10.7.3 Fish and Crab Community Metrics – Methods: There are methods available to compare catch per unit effort which may be useful in reducing the uncertainty associated with the species richness estimates.	Comment Noted	No specific reference to a method is provided by this comment. For this reason, it is difficult to determine how CPUE can be potentially used to increase precision in species richness estimates. In general, CPUE is an index of relative abundance that accounts for differences in fishing effort by assuming constant catchability for a fish species. CPUE is typically used to compare different stocks of the same species or a fish stock over time but not different species, in part because gear performance is species and habitat specific (Hubert and Fabrizio 2007). Relative abundance as measured by CPUE (an index of abundance—the number of individuals in the population of each species) is a distinct metric from species richness (the number of species in the community). Relative abundance is only related to species richness in that if more individuals are sampled, either because effort or catchability is greater, then the number of species observed in the sample tends to increase. The methods of Chao et al. (2014) standardize this relationship to enable comparison among different areas, while controlling for the effect, observing more species in larger samples. Rarefaction curves are considered the	Partially acceptable. Pending addition of clarifying text.

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									state-of-the-art methods in ecological literature for comparing species richness, and the methods of Chao et al. are the most current and robust methods for estimating rarefaction curves.	
167.	USEPA	6/11/16	10.7.5	Fish and Crab Community Evaluation	118	82	Page 118, Section 10.7.5 Fish and Crab Community Evaluation: This discussion should include information on mobility and home/foraging ranges. For example, it is expected that crabs are less mobile than most fish species, and crabs and other invertebrates may be more closely linked to sediments at specific locations. In contrast, most fish are expected to move within larger areas, precluding close associations with local sediments. Crab abundance and diversity can therefore be compared to sediment chemistry at specific locations, while such comparisons are less informative for most fish species (except for mummichogs). Revise this section.	Disagree	As described in the USEPA-approved Phase 2 RI Work Plan Volume 1, the fish and crab surveys were designed for a qualitative comparison with the reference areas. The surveys were not designed for a quantitative evaluation of fish or crab abundance and diversity with sediment chemistry.	Unacceptable. EPA comment does not suggest revising purpose of sampling, but asks that additional discussion on potentially useful home/foraging ranges be included.
168.	USEPA	6/11/16	11	Wildlife Risk Assessment	121	83	Page 121, Section 11 Wildlife Risk Assessment: In the current BERA evaluation, risks for piscivorous mammals were not included. In order to have consideration of wildlife consuming fish at the Newtown Creek, add fish to raccoon's diet in risk calculations.	Disagree/ Comply	As discussed in the BERA, the scientific literature indicates that urban raccoons readily forage on garbage and discarded human food waste. Studies of raccoon scat by Hoffmann and Gottschang (1977) revealed the presence of aluminum foil, cellophane wrappers, string, paper, cloth, bits of plastic, and rubber bands, indicating that the raccoons in their study were eating garbage. However, in response to USEPA's request, fish will be added to the raccoon's diet and risk calculations will be included in the uncertainty section. See also response to ID No. 179.	Acceptable
169.	USEPA	6/11/16	11.1.1.2	Habitat Surveys	123	84	Page 123, Section 11.1.1.2 Habitat Surveys, Second Paragraph, Last Sentence: The BERA does not need to compare Phase 1 and Phase 2 data. For the BERA, data from both Phases have been combined to evaluate the risk to ecological receptors.	Clarification	The comparison is needed to verify that the observation methods used for both Phase 1 and Phase 2 are similar.	Acceptable. Pending additional clarifying text.
170.	USEPA	6/11/16	11.1.2.1.1	Study Area	125	85	Page 125, Section 11.1.2.1.1 Study Area, First Incomplete Paragraph: Intertidal areas are identified in this paragraph. It would be helpful to include the estimated area of intertidal habitat present in Newtown Creek and the associated reference areas. Additionally, the name common reed and phragmites are used interchangeably in Section 11.1.2. One name should be used consistently within the document.	Agree	The estimated area of intertidal habitat present in the Study Area and the associated reference areas will be included. The term phragmites will be used in the text.	Acceptable.
171.	USEPA	6/11/16	11.1.2.2.1	Estimated Avian Diversity and Abundance	128	86a	Pages 128 and 129, Section 11.1.2.2.1 Estimated Avian Diversity and Abundance: a. Page 128: A summary table should be embedded in this section that ranks each feeding guild by waterbody for all of the parameters discussed.	Agree/ Clarification	A summary table will be included. A summary table of this type is a logical extension of the existing Section 11 tables, and therefore, it is recommended that this table be included with all of the Section 11 tables and not embedded in the Section 11 text.	Acceptable.
172.	USEPA	6/11/16	11.1.2.2.1	Estimated Avian Diversity and Abundance	129	86b	b. Page 129: An additional paragraph should be included that compares the study area to reference areas for all birds combined.	Agree	The text will be revised to include a paragraph that makes this comparison.	Acceptable
173.	USEPA	6/11/16	11.1.2.2.2	Avian Foraging Activity	129	87a	Pages 129 to 131, Section 11.1.2.2.2 Avian Foraging Activity: a. Page 129, First Paragraph: This text should clarify how these estimates are derived. Table 11-7 and	Agree	The text and table will be revised to clarify that the estimates are based on field observations.	Acceptable

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							the text below suggests that all these estimates are based on field observations of birds foraging, but confirmation is needed.			
174.	USEPA	6/11/16	11.1.2.2.2	Avian Foraging Activity	130	87b	b. Page 130, First Paragraph, Last Sentence: It states "Foraging in the Study Area likely represents only a fraction of their daily dietary requirement". This should be qualified as being based on the time of the surveys. We have no idea of foraging behavior at other times. Additionally, without using marked birds or radio telemetry it is not clear if the same birds are using small areas for foraging (i.e., using Newtown Creek exclusively), flying to feeding their young and returning or if birds are using larger areas for foraging and only visiting Newtown Creek infrequently. The only conclusion that can be made based on the observations are that double- crested cormorants forage in the study area and nest roost in other locations.	Agree/ Clarification	The NCG understands the overall level of uncertainty associated with observations of this type. However, the NCG also believes that the incremental effort spent observing double-crested cormorants generated valuable information about foraging behavior for this species and feeding guild and should be considered. Additional text will be added in support of the value of these observations, in addition to the qualifications requested in the comment.	Acceptable
175.	USEPA	6/11/16	11.1.2.2.2	Avian Foraging Activity	131	87c-i	c. Page 131: i. First Bullet: Belted kingfishers also like to use pilings, posts and other structures as perches while foraging. The lack of trees is not a limiting factor for foraging.	Comment Noted	The bullet will be revised to reflect the comment.	Acceptable
176.	USEPA	6/11/16	11.1.2.2.2	Avian Foraging Activity	131	87c-ii	ii. Second Bullet: In addition to more types of prey species, there should be mention of relative prey abundance between reference areas and the Study Area. Presence or abundance of piscivorous birds is probably influenced more by fish abundance than fish diversity. Revise this bullet. Additionally, Atlantic silversides were observed in Newtown Creek, along with grass shrimp.	Agree	The text will be revised.	Acceptable
177.	USEPA	6/11/16	11.3	Approach	132	88a	Page 132, Section 11.3 Approach: a. First Paragraph: Both NOAELs and LOAELs should be used in the BERA to bound the risk estimates.	Disagree	It is a standard approach in an ecological risk assessment to use NOAELs in the screening process to identify COPECs for the wildlife risk assessment. This effectively provides a lower bound on risk estimates. LOAELs are appropriate for the baseline risk assessment estimates. See also response to ID No. 6.	Unacceptable. EPA stands by EPA original comment.
178.	USEPA	6/11/16	11.3	Approach	132	88b	b. Bulleted Text: Clarify if the screening identified is related to the SLERA. Another term should be used, such as "baseline risk for wildlife", if the bullets are describing the results from the BERA. This is applicable throughout the document. Screening should only be used when discussing the SLERA.	Clarification	In this instance, the results refer to the screening conducted as part of the BERA. A SLERA was completed during the BERA PF development process after the Phase 1 data collection program was complete. USEPA did not want to re-issue the SLERA after the Phase 2 data collection program was complete. It directed the NCG to incorporate the Phase 2 data into the original dataset used for the SLERA and complete an updated screening that also included changes to, for example, the SL selection hierarchy. Section 5 of the BERA describes this BERA	Partially acceptable, depending on clarification of the text.

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									screening process but does not use the term SLERA. The bulleted items referred to describe the outcome of the BERA screening process for wildlife.	
179.	USEPA	6/11/16	11.4.1.2	Dietary Proportions	134	89	Page 134, Section 11.4.1.2 Dietary Proportions, Second Complete Paragraph: As identified earlier, an additional calculation needs to be included that incorporates fish into the diet (i.e., 25, 50 and 100%).	Comply	As discussed in response to ID No. 168, the scientific literature indicates that the diet of urban raccoons consists primarily of garbage and discarded human food waste. This is reflected in USEPA's *Wildlife Exposure Factors Handbook*, which indicates that fish comprise trace to 3% of the raccoon diet (USEPA 1993). However, in response to USEPA's request, and based on the literature, a sensitivity analysis will be conducted and included in the uncertainty section with up to 25% fish added to the raccoon's diet (Dorney 1954; Rulison et al. 2012).	Acceptable
180.	USEPA	6/11/16	11.4.2.1	Seasonal Exposure	135	90	Page 135, Section 11.4.2.1 Seasonal Exposure: The selection of seasonal exposure does not appear to have taken into account the avian surveys that were conducted in the creek and reference areas. Additionally, double-crested cormorants are present year-round in the New York area. The AUF should be changed to 1 for this species.	Clarification / Disagree	Seasonal exposures were based on a review of the scientific literature, not the field surveys. We do not agree that the double-crested cormorant would be foraging in the Study Area during the colder months of the year when the surface of the Study Area is frozen or close to freezing (Wires et al. 2001).	Unacceptable. EPA stands by original comment. Double-crested cormorants are resident throughout the year in NY Harbor. While the creek may be frozen for some portion of the winter, estuarine creeks in the region usually are free of ice for the majority of the winter and only have ice cover for short durations. Cormorants may alter foraging areas while ice is present, but they will return shortly after the ice is gone.
181.	USEPA	6/11/16	11.4.2.2	Site Use	137	91	Page 137, Section 11.4.2.2 Site Use: The use of exposure modifying factors can only be utilized to provide estimates of the range of possible exposure risks. Therefore, all receptors should have a calculation with the EMF equivalent to 1, with additional EMFs presented as a range such as 0.25, 0.5 and 0.75.	Disagree/ Comply	The NCG believes that the field surveys and the literature support the EMFs used in the BERA. However, the sensitivity of the risk estimates to a realistic range of EMFs around the values used in the BERA will be discussed in the uncertainty section.	Partially acceptable. A short-term field survey cannot provide useful information on the frequency and duration of site use. Given the very high uncertainties with estimating long term exposure frequency and duration, EMFs are best presented as ranges as described in the original comment. Risk estimates based on these ranges should not be limited to the Uncertainty section of the BERA.
182.	USEPA	6/11/16	11.4.2.3	Available Intertidal Habitat	137	92	Page 137, Section 11.4.2.3 Available Intertidal Habitat: Spotted sandpipers also forage for other prey that inhabit areas other than mudflats. An EMF of 1 needs to be included, and the reduced EMF can be used to bound the risk estimate. This applies for the raccoon also.	Clarification / Comply	The NCG agrees that the spotted sandpiper and the raccoon forage for prey that inhabit areas other than mudflats (i.e., riprap); however, these receptors do not ingest sediment while foraging in these areas. In addition to a seasonal adjustment to the EMF, only the sediment ingestion term was modified to account for foraging activity in areas other than mudflats. For this reason, the NCG believes the EMF used for the spotted sandpiper and raccoon are appropriate. However, the sensitivity of the risk estimates to a realistic range of EMFs around the values used in the BERA will be discussed in the uncertainty section.	Partially acceptable. See EPA response to ID No. 181.
183.	USEPA	6/11/16	11.4.3.1	Surface Water	138	93	Page 138, Section 11.4.3.1 Surface water: Add text to confirm that drinking water EPCs are based on total and not dissolved measurements.	Agree	Text will be added to clarify the use of total measurements in surface water EPCs.	Acceptable
184.	USEPA	6/11/16	11.4.3.2	Surface Sediment	138	94	Page 138, Section 11.4.3.2 Surface Sediment, Last Paragraph: Incidental ingestion of sediment for kingfishers should be discussed in the uncertainty section, since the chance for kingfishers to ingest sediment is very low. Although it may be low, as stated with other	Comply	A discussion of the 1% incidental sediment ingestion for the belted kingfisher will be included in the uncertainty section. Although the NCG believes belted kingfishers primarily forage in Maspeth Creek and areas of the Turning Basin with vegetated shoreline, the belted kingfisher diet will be	Acceptable

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							parameters, an EPC for all sediment should also be included.		revised to reflect a Study Area-wide exposure per comment ID Nos. 175 and 185.	
185.	USEPA	6/11/16	11.4.3.3	Tissue	139	95a	Page 139, Section 11.4.3.3 Tissue: a. As described for other parameters, all mummichog samples should be used as dietary items for the belted kingfisher, and this use should not be limited to Maspeth Creek.	Comply	Although the NCG believes belted kingfishers primarily forage in Maspeth Creek and areas of the Turning Basin with vegetated shoreline, the belted kingfisher diet will be revised to reflect a Study Area-wide exposure per comment ID Nos. 175 and 184.	Acceptable
186.	USEPA	6/11/16	11.4.3.3	Tissue	139	95b	b. Third paragraph: This paragraph states that predicted tissue concentrations of total PCB congeners, total PCB congener TEQs and total dioxin/furan TEQs were used. It is inappropriate to use predicated concentrations if measured concentrations are available. The measured concentrations should be the primary source for the tissue data in the baseline risk analysis. The predicated concentrations could be used as supplemental to the measured concentrations. Revise the text and tables associated with this.	Clarification	This paragraph is referring to polychaete tissue concentrations only. Polychaete tissue concentrations were measured in the bioaccumulation study for 13 locations in the Study Area, not in field-collected polychaetes (insufficient tissue mass for chemical analysis). Because wildlife are foraging throughout the intertidal area, not just at those 13 locations, the strong relationship between sediment and polychaete tissue concentrations for these COPECs allows for a confident prediction of polychaete tissue concentration. It makes sense to use the strong relationship between sediment and tissue concentrations to predict tissue concentrations using the sediment concentrations in the areas where exposure actually occurs for these receptors.	Unacceptable. EPA stands by its original comment. The measured concentrations should be the primary source for tissue data. It may be appropriate to also include predicted tissue concentrations of PCBs and dioxin/furan for comparative purposes, but it is inappropriate to use predicted concentrations if measured concentrations are available.
187.	USEPA	6/11/16	11.5	Measures of Effect	140	96	Page 140, Section 11.5 Measures of Effect: Both the NOAEL and LOAEL values should be presented. The Risk Characterization needs to be updated to reflect the comments from this section.	Disagree	See the response to ID No. 6.	Unacceptable. See response to ID No. 6.
188.	USEPA	6/11/16	11.6	Risk Characterization	140	97a	Page 140, Section 11.6 Risk Characterization: a. Second Paragraph: EPA uses a HQ of 1. All comparisons should be made utilizing this value. The value of 2.5 is above our acceptable value and represents the potential for adverse ecological impacts.	Clarification	The text in this paragraph was not written to imply that HQ = 2.5 is a threshold value. The COCs identified in this paragraph are based on HQ > 1 values. The text will be modified to clarify this.	Acceptable
189.	USEPA	6/11/16	11.6	Risk Characterization	140	97b	b. Last Paragraph: Delete the qualifying phrase "...although....". TRVs are based on LOAELs, so where dietary HQs exceed 1, there is potential for adverse effects in avian receptors associated with the elevated HQ. Conclusive statements like such should be based on the data. Revise this paragraph and present the data.	Clarification	The data will be presented and the text will be revised to reflect a weight of evidence regarding the potential for adverse effects.	Acceptable
190.	USEPA	6/11/16	11.7.1	Uncertainty with Exposure Assessment	141	98a	Page 141, Section 11.7.1 Uncertainty with Exposure Assessment: a. For many bioaccumulative contaminants, fish lipid content also affects body burden. Piscivores that consume fattier fish will be at higher risk. Species-specific variability of lipid content in collected fish should be presented and discussed.	Clarification	The risk estimates were based on chemical concentrations in fish collected from the Study Area, which therefore, represent the range of lipid content in fish to which the piscivores are exposed.	Partially acceptable. Pending additional text that describes the range of lipid concentrations in collected fish.
191.	USEPA	6/11/16	11.7.1	Uncertainty with Exposure Assessment	141	98b	b. Second Paragraph: The discussion on the size of the fish may be relevant for the belted kingfisher, but not for the double-crested cormorant, as they consume large fish in addition to small fish. Additionally, more text needs to be added to describe why lower body	Agree	The text will be revised to clarify and expand on the exposure uncertainties.	Acceptable

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							weights result in higher risks, as well as why laboratory bioaccumulation values would over or under-estimate risk. The public will be reading and commenting on this document so it needs to be clear and transparent.			
192.	USEPA	6/11/16	11.7.2	Uncertainty with Measures of Effect	141	99a	Pages 141 and 142, Section 11.7.2 Uncertainty with Measures of Effect: a. Page 141, Third Sentence: It states "However, because the lowest observed effects data are typically selected to derive the TRVs, using these TRVs likely results in an over estimation of risk." This sentence is not necessarily true. Low effects data are selected from a very small subset of taxa. Toxicity data are available for only a few of the numerous species that may be present. We have no idea of the sensitivity of all the untested taxa to contaminants, so it is just as likely that use of selected TRV results in underestimation of risk for untested species. Additionally, since LOEL data is being used, effects are being observed at those concentrations, so risk would not be over-estimated, and in fact is more likely to be under-estimated. The discussion should conclude that risks are either over- or under-estimated.	Agree	The text will be revised to clarify these uncertainties.	Acceptable
193.	USEPA	6/11/16	11.7.2	Uncertainty with Measures of Effect	142	99b	b. Page 142, First Incomplete Paragraph, Last Sentence: It states "This species is known to be more sensitive to PCBs than other species; Therefore, use of this TRV likely results in an over estimation of risk." The sentence is not necessarily true. Chickens are among the most sensitive avian species tested, but the number of birds tested for sensitivity to PCBs is a small fraction of birds that may use the site. Also, designations regarding sensitivity to PCBs are based on dioxin- like effects only. PCB exposure can result in numerous other effects that are unrelated to the Ah-receptor. Revise this text to acknowledge the information provided above.	Agree	The text will be revised to include additional details regarding the relative sensitivity of avian species to exposure to PCBs, including a discussion of exposure to dioxin-like compounds versus non-dioxin PCBs.	Acceptable
194.	USEPA	6/11/16	11.7.2	Uncertainty with Measures of Effect	142	99c	c. Uncertainty over the selection of upper-trophic level receptors should also be discussed in this section. Piscivorous mammals, such as mink, seals or otters, were not included in the risk assessment. Of the three, seals likely have the greatest opportunity for exposure in Newtown Creek for a small portion of the year, especially given that one has been spotted basking on the steps near Whale Creek. While current exposures are likely limited, in the future as populations grow in numbers, this exposure may be more frequent in the future. The uncertainty should be discussed in the document.	Agree	Additional text will be added to acknowledge this uncertainty.	Acceptable

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195.	USEPA	6/11/16	11.7.2	Uncertainty with Measures of Effect	142	99d	d. Page 142, First Paragraph: The use of the TRV for estimating risk from PCBs for avian species may over or underestimate the risk depending up on the Ah receptor in individual species. Avian species have different levels of the Ah receptor. While the surrogate species selected in the BERA may be less sensitive than the species chosen for the TRV, there may be other species using Newtown Creek that are as sensitive or more sensitive; thus, the risk could be under estimated also.	Agree	See the response to ID No. 193.	Acceptable.
196.	USEPA	6/11/16	11.7.3	Uncertain COPECs	142	100	Page 142, Section 11.7.3 Uncertain COPECs: A statement indicating that the risk is underestimated due to not including a quantitative analysis of the contaminants without TRVs needs to be included in all of the uncertainty sections for each receptor type.	Agree	To the extent that this type of language has not been included for each receptor type, text will be added to clarify this uncertainty.	Acceptable
197.	USEPA	6/11/16	12.1	Introduction	143	101	Page 143, Section 12.1 Introduction: Move the second paragraph to the beginning of the section. In addition, although were no rooted macrophytes observed, it is possible that in the future rooted macrophytes could be present in Newtown Creek if conditions change.	Agree	The second paragraph will be moved to the beginning of the section.	Acceptable
198.	USEPA	6/11/16	12.3.2	Emergent Macrophytes	145	102	Page 145, Section 12.3.2 Emergent Macrophytes, First Paragraph: Add text that describes the possible sources of sulfide.	Agree	Text will be added that describes possible sources of sulfide.	Acceptable
199.	USEPA	6/11/16	13.3.2	Reptiles	148	103a	Page 148, Section 13.3.2 Reptiles: a. Add an additional discussion to this section that describes the possibility for the four species of sea turtles that could be very infrequent visitors to Newtown Creek. The point of this is to acknowledge that sea turtles may have access to the creek, but that they would be infrequent visitors and have limited exposure.	Agree	Text will be added to include a brief discussion on the potential for sea turtles to access the Study Area and that the potential for exposures are very low.	Acceptable
200.	USEPA	6/11/16	13.3.2	Reptiles	148	103b	b. First Paragraph, First Sentence: It states "… reptiles such as turtles or terrapins…". Terrapins are turtles, so this is redundant. Either delete "terrapins" or use the term "marine or sea turtles" if you are identifying marine turtles specifically.	Agree	The text will be edited to clarify the description. "Terrapins" will be deleted.	Acceptable
201.	USEPA	6/11/16	14	Baseline Ecological Risk Assessment Summary	150 to 155	104a	Pages 150 to 155, Section 14 Baseline Ecological Risk Assessment Summary: a. The entire summary will need to be revised to reflect comments provided by EPA.	Comment Noted	Portions of the summary will be revised as described below.	Acceptable
202.	USEPA	6/11/16	14	Baseline Ecological Risk Assessment Summary	151	104b	b. Page 151, First Complete Paragraph: Change "maximum and Study Area-wide 95% UCL exposure concentrations" to "maximum or Study-Area-wide 95% UCL exposure concentrations" in various sentences in this paragraph.	Agree	Text in the second paragraph will be revised.	Acceptable
203.	USEPA	6/11/16	14	Baseline Ecological Risk Assessment	151	104c	c. Page 151, Second Paragraph: As mentioned in other comments, the term screening should only	Clarification	Screening is only used when describing components of the SLERA.	Acceptable. Pending addition of clarifying text.

ID No.	Reviewer	Comment Date	Section Name/Topic	Section/Table/ Figure No.	Page No.	Reviewer Comment No.	Comment Text	Category	Response/Proposed Path Forward	EPA Response
				Summary			be used to describe components of the SLERA.			
204.	USEPA	6/11/16	14	Baseline Ecological Risk Assessment Summary	151	104d-i	d. Page 151, Last Paragraph: i. Discussion in this paragraph appears biased to minimize risks. Use of terms such as "only" should be eliminated. Further, any HQ over 1 indicates unacceptable risk. There is no linear relationship with magnitude of HQ and severity of adverse effect. Revise this paragraph.	Clarification	See the response to ID Nos. 164 and 165.	Unacceptable. EPA stands by EPA original comment.
205.	USEPA	6/11/16	14	Baseline Ecological Risk Assessment Summary	151	104d-ii	ii. Each line of evidence should be interpreted independently. If porewater shows risk, and surface water or tissue does not show risk, it is inappropriate to minimize the porewater risk.	Clarification	See the response to ID Nos. 164 and 165.	Unacceptable. EPA original comment stands.
206.	USEPA	6/11/16	14	Baseline Ecological Risk Assessment Summary	152	104e-i	e. Page 152: i. Top Incomplete Paragraph: This is an inappropriate conclusion. See previous comment regarding independent lines of evidence. This applies to all contaminants, including PAHs.	Clarification	See the response to ID Nos. 164 and 165.	Unacceptable. EPA original comment stands.
207.	USEPA	6/11/16	14	Baseline Ecological Risk Assessment Summary	152	104e-ii	ii. Second Paragraph: Delete "only" in this discussion. Lead and PCB exposures indicate unacceptable risk (HQs>1).	Clarification	See the response to ID Nos. 164 and 165.	Unacceptable. EPA original comment stands.
208.	USEPA	6/11/16	14	Baseline Ecological Risk Assessment Summary	152	104e-iii	iii. Third Paragraph, Last Sentence: Delete "incremental" and replace with "unacceptable".	Agree	Assuming this comment is referring to the first sentence of the third paragraph, the word “incremental” will be replaced with “unacceptable.”	Acceptable
209.	USEPA	6/11/16	14	Baseline Ecological Risk Assessment Summary	154	104f	f. Page 154, First Bullet: “Negligible” should not be used in the summary. Comparisons should be made to an HQ of 1.	Clarification	The word “negligible” will not be used. The bullet will be revised.	Acceptable
210.	USEPA	6/11/16	14	Baseline Ecological Risk Assessment Summary	155	104g-i	g. Page 155: i. First Bullet: List the SEM metals that contributed to the toxicity.	Disagree	Such details are not necessary for summary bullets in a conclusion.	Unacceptable. EPA stands by its original comment.
211.	USEPA	6/11/16	14	Baseline Ecological Risk Assessment Summary	155	104g-ii	ii. Third bullet: This bullet should be deleted as it may not be true.	Disagree	The bullet will be revised.	Partially acceptable. Pending the revision of the text.
212.	USEPA	6/11/16	14	Baseline Ecological Risk Assessment Summary	155	104g-iii	iii. Fourth Bullet: Delete this bullet. The graphs provided do not support this conclusion. There are only a few results below 3 mg/L and they are not distinguishable from those samples collected with DO above 3 mg/L.	Disagree	The data in the BERA support the statement.	Unacceptable.
213.	USEPA	6/11/16	Newtown Creek Ecological Data Quality Objectives, Data Needs, Assessment and Measurement Endpoints, and	Table 3-1	--	105	Table 3-1 Newtown Creek Ecological Data Quality Objectives, Data Needs, Assessment and Measurement Endpoints, and Risk Questions for the Baseline Ecological Risk Assessment: Measurement endpoints for bivalves should be contaminant concentrations in surface water and sediment. Representative receptor for fish should change from Spot to White Perch.	Disagree	The representative receptor for bivalves is mussels. Mussels filter particulates from surface water as their energy source. They have little if any exposure to bedded sediment. In the absence of spot, white perch were not used as a substitute species. Striped bass, mummichog, and Atlantic menhaden were used to evaluate risks to fish as a receptor and as input to the diets of wildlife receptors.	Unacceptable. See EPA response to ID No. 89 regarding bivalves. See also EPA response to ID No. 242. White Perch need to be evaluated in place of Spot. See response to ID No. 158.

ID No.	Reviewer	Comment Date	Section Name/Topic	Section/Table/ Figure No.	Page No.	Reviewer Comment No.	Comment Text	Category	Response/Proposed Path Forward	EPA Response
			Risk Questions for the Baseline Ecological Risk Assessment							
214.	USEPA	6/11/16	Surface Water Dataset Summary	Table 4-2	--	106	Table 4-2 Surface Water Dataset Summary: Add a footnote to the table explaining differences between the "Location Count" on this table and "stations" in the text (page 19).	Agree	The requested footnote will be added.	Acceptable
215.	USEPA	6/11/16	Surface Sediment Dataset Summary	Table 4-3	--	107	Table 4-3 Surface Sediment Dataset Summary: Add sediment depth to "Greenpoint Energy Center Sediment 2010".	Agree	A footnote that specifies the depth intervals will be added to the table.	Acceptable
216.	USEPA	6/11/16	Phase 2 Surface Sediment Dataset Summary	Tables 5-1 and 5-2	--	108	Tables 5-1 and 5-2 Phase 2 Surface Water and Sediment Screening Levels: The title the table should clearly state whether these are SLERA screening values or BERA comparison values.	Agree	The title will be updated.	Acceptable, provided the NYSDEC surface water screening values for Total DDx and the sum of Aldrin/dieldrin are included in Table 5-1, and appropriate revisions are made to the text. Table 5-1 currently does not list a NYSDEC value for Total DDx, and instead uses the NRWQC value, which is two orders of magnitude higher than the NYSDEC SD water quality standard. Table 5-1 currently does not list a NYSDEC value for the sum of Aldrin/dieldrin, which is more sensitive than the individual Aldrin and dieldrin values from the EPA Regioin 3 BTAG benchmarks currently in the table.
217.	USEPA	6/11/16	Phase 2 Fish Screening Levels, Second Column	Tables 5-3a and 5-3b	--	109	Table 5-3a Phase 2 Fish Screening Levels, Second Column: The title of the column indicating chemical name should be changed from "Metals" to "Chemicals". This comment also applies to Table 5-3b. Also, references need to be provided for the values that were selected.	Agree	The column name will be changed to "Chemicals." References will be added.	Acceptable
218.	USEPA	6/11/16	Wildlife Exposure Equations and Parameters	Table 5-4	--	110	Table 5-4 Wildlife Exposure Equations and Parameters, Page 2 of 2, Column entitled SLERA Dietary Proportions (%)[o]: The footnote "o" states that the diet proportions were based on the BERA PF. If the source for the dietary proportions in the BERA PF is Table 4-1 of the SLERA Technical Memorandum No. 1, then there are discrepancies between Table 5-4 of the draft BERA and Table 4-1 of the SLERA. For example, Table 4-1 listed 100% benthic/epibenthic invertebrates for heron; while Table 5-4 listed 50% fish, 25% blue crabs and 25% polychaetes for green heron and black-crowned night heron. However, if the source is not Table 4-1, then direct readers/reviewers to the source, specifically table(s) in the BERA PF. The title of the table needs to clearly state whether these are for the SLERA or the BERA.	Agree	Table and footnote cross-references will be updated, and any discrepancies will be corrected.	Acceptable
219.	USEPA	6/11/16	Biota Screening Tables	Tables 5-6 to 5-18	--	111a	Tables 5-6 to 5-18 Biota Screening Tables: a. The titles of the tables need to clearly state whether the tables are for the SLERA or BERA.	Agree	The titles will be updated.	Acceptable
220.	USEPA	6/11/16	Biota	Tables 5-6 to 5-18	--	111b	b. Summary tables with columns for compound	Agree/	Additional tables summarizing the outcome of the risk	Acceptable

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<tr><th>ID No.</th><th>Reviewer</th><th>Comment Date</th><th>Section Name/Topic</th><th>Section/Table/ Figure No.</th><th>Page No.</th><th>Reviewer Comment No.</th><th>Comment Text</th><th>Category</th><th>Response/Proposed Path Forward</th><th>EPA Response</th></tr>
<tr><td></td><td></td><td></td><td>Screening Tables</td><td></td><td></td><td></td><td>name, SLERA with max, SLERA with 95% UCL and BERA should be provided to show which compounds were identified within each stage.
<table>
<tr><th>mpound</th><th>SLERA with Maximum</th><th>SLERA with 95% UCL</th><th>BERA NOAEL</th><th>B LC</th></tr>
<tr><td>A</td><td>X</td><td>X</td><td>X</td><td></td></tr>
<tr><td>B</td><td>X</td><td>X</td><td>X</td><td></td></tr>
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<tr><td>D</td><td>X</td><td></td><td></td><td></td></tr>
</table></td><td>Clarification</td><td>screening (SLERA) will be provided in Section 5. See also response to ID No. 2 for an explanation of the screening analyses (SLERA) versus the baseline risk analyses (BERA).</td><td></td></tr>
<tr><td>221.</td><td>USEPA</td><td>6/11/16</td><td>Biota Screening Tables</td><td>Tables 5-6 to 5-18</td><td>--</td><td>111c</td><td>c. The EPC used to compare with the SL should be the lower value of the maximum detected concentration and 95% UCL. Under the column heading “Rationale for COPEC Flag” in many of these tables, it listed “Max Conc < SL” for several chemicals, but for these chemicals EPC should be 95% UCL values and not maximum concentrations, since 95% UCLs are lower than the maximum concentrations. Review these tables and make necessary changes.</td><td>Clarification</td><td>The screening process starts with a comparison of the maximum concentration to the SL. If this concentration exceeds the EPC and the FoD is greater than 5%, then the 95% UCL is compared to the EPC. The tables may reflect chemicals being screened in or out based on various outcomes of this screening process, consistent with Figures 5-1 and 5-2. The NCG believes it makes sense to have the information and the results in the tables reflect this USEPA-approved screening process.</td><td>Acceptable. Pending addition of clarifying text/table.</td></tr>
<tr><td>222.</td><td>USEPA</td><td>6/11/16</td><td>Biota Screening Tables</td><td>Tables 5-6 to 5-18</td><td>--</td><td>111d</td><td>d. These screen tables need to add a column to the right of the Screening Level column entitled “HQ”. It would be much easier for readers/reviewers to follow the results of COPEC flag, rather than to check 95% UCL, maximum concentration, SL.</td><td>Disagree</td><td>HQs are not needed in these tables because the purpose of the SLERA is to identify COPECs for further evaluation in the baseline risk assessments, regardless of the magnitude of the HQ.</td><td>Unacceptable. It is standard practice to reveal screening level HQs at the SLERA stage.</td></tr>
<tr><td>223.</td><td>USEPA</td><td>6/11/16</td><td>Biota Screening Tables</td><td>Tables 5-6 to 5-18</td><td>--</td><td>111e</td><td>e. It was noted that 95% UCLs were not calculated for many chemicals, specifically for those chemicals do not have SLs in these tables. However, 95% UCL was present for few chemicals which also do not have SLs. Explain this inconsistency.</td><td>Agree</td><td>Tables will be reviewed and updated as necessary.</td><td>Acceptable</td></tr>
<tr><td>224.</td><td>USEPA</td><td>6/11/16</td><td>Biota Screening Tables</td><td>Tables 5-6 to 5-18</td><td>--</td><td>111f</td><td>f. A footnote for differences between two columns entitled “Maximum Detected Concentration” and “Maximum Concentration” is needed for all of these screening tables.</td><td>Agree</td><td>The requested footnote will be added.</td><td>Acceptable</td></tr>
<tr><td>225.</td><td>USEPA</td><td>6/11/16</td><td>Biota Screening Tables</td><td>Table 5-10</td><td>--</td><td>111g</td><td>g. Table 5-10 Blue Crab Screen: Copper was eliminated as a COPEC, and rationale for COPEC Flag was listed “95% UCL = SL”. However, the 95% UCL for copper was 19 mg/kg and SL was 18.5 mg/kg and 19 is not equal to 18.5. Copper should be retained as a COPEC in blue crab.</td><td>Disagree</td><td>The NCG does not believe that copper should be retained as a COPEC in blue crab. The 95% UCLs in Table 5-10 are rounded to two significant figures for presentation purposes. The 95% UCL for copper is actually 18.88 mg/kg (see BERA Attachment A12, blue crab ProUCL output files), resulting in an HQ of 1.02, which when rounded, becomes equal to 1.</td><td>Unacceptable. Presenting HQs with 2 significant figures is acceptable, but HQs exceeding one prior to any rounding should be viewed as unacceptable and chemicals with HQs>1 should be retained for further investigation.</td></tr>
<tr><td>226.</td><td>USEPA</td><td>6/11/16</td><td>Phase 2 Baseline Surface Water Chronic Threshold Values</td><td>Table 6-1</td><td>--</td><td>112</td><td>Table 6-1 Phase 2 Baseline Surface Water Chronic Threshold Values: The BERA uses Phase I and Phase II data combined and it is not clear why this table is only using Phase II data.</td><td>Clarification</td><td>This table is only referring to the threshold values, not the exposure data. The BERA uses both Phase 1 and Phase 2 data. The title will be revised.</td><td>Acceptable. Pending addition of clarifying text.</td></tr>
<tr><td>227.</td><td>USEPA</td><td>6/11/16</td><td>Benthic Community</td><td>Table 8-2</td><td>--</td><td>113</td><td>Table 8-2 Benthic Community Dominance Summary: Confirm that Leitoscoloplos robustus is “Not Pollution</td><td>Clarification</td><td>Confirmed. Adams et al. (1998) does not classify Leitoscoloplos robustus as either Pollution Indicating or</td><td>Acceptable. Add text and reference.</td></tr>
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ID No.	Reviewer	Comment Date	Section Name/Topic	Section/Table/ Figure No.	Page No.	Reviewer Comment No.	Comment Text	Category	Response/Proposed Path Forward	EPA Response
			Dominance Summary				Indicating or Sensitive". In addition, italicize scientific names in this table.		Sensitive.	
228.	USEPA	6/11/16	Benthic Community Reference Threshold and Dissolved Oxygen Evaluation for 2012 – Lowest WBI – All Reference Stations; Benthic Community Reference Threshold and Dissolved Oxygen Evaluation for 2014 – Lowest WBI – All Reference Stations	Tables 8-3a and 8-3b	--	114	Table 8-3a Benthic Community Reference Threshold and Dissolved Oxygen Evaluation for 2012 – Lowest WBI – All Reference Stations: Title of this table as well as Table 8-3b, needs to be revised for clarity. The title reads "Benthic Community Reference Threshold and Dissolved Oxygen Evaluation for 2012 – Lowest WBI – All Reference Stations". It is not clear to readers/reviewers what "-Lowest WBI – All Reference Stations" meant, since there were no 2012 data from the reference areas (Table 8-3a) and there are data listed for any reference areas (Table 8-3b). In addition, EPA received the following three comments from NYCDEP related to this table series. EPA agrees that these comments should be addressed, see details below. Table 8-3a Benthic Community Reference Threshold and Dissolved Oxygen Evaluation for 2012 – Lowest WBI – All Reference Stations and Table 8-3b Benthic Community Reference Threshold and Dissolved Oxygen Evaluation for 2014 – Lowest WBI – All Reference Stations: The Weisberg Index does not discriminate among sites that have index scores less than three. That is, the Weisberg index does not consider that a site with a score of 2 is more stressed than a site with an index of 3 or less stressed than an index of 1. All of the stations presented in this Figure have a WBI < 3. These communities are all equivalent, based on the Weisberg Index. That is, they are all stressed. The BERA should not be trying to reclassify some of these stressed stations as if the Weisberg Index permits various levels of stress. It does not do so. In any event, this is another case in which the BERA is trying to tie an observation (in this case an unsupported reference envelope for the Weisberg Index) which again depend on which data are selected to a confounding factor; ignoring once again CERCLA-related contaminants. In this table, there are a number of examples in which the DO concentration is less than 3 mg/L, but the WBI is greater than the reference envelope value. The Tables also illustrate the seasonal patterns in DO levels (but does not illustrate within season variability). As is the case throughout, the tables ignore CERCLA-related stressors in favor of emphasizing confounding factors. Delete these tables because they misrepresent and improperly apply the Weisberg Index to evaluate the claimed influence of a confounding factor instead of evaluating CERCLA contaminants.	Objection/ Disagree	Footnotes will be added to Tables 8-3a and 8-3b to clarify that Study Area benthic community data collected in both 2012 and 2014 were compared to the lowest WBI score in the 2014 reference area data. The NCG disagrees that the WBI cannot discriminate between WBI scores that are between 1 and 3. In Adams et al. (1998), Table 6-4 (Percent of Area within B-IBI Categories), sites within NY-NJ Harbor are given three WBI classifications: • 1 to <2 impacted • 2 to 3 moderately impacted • 3 to 5 un-impacted This same classification system was used in USEPA (2003) to classify the WBI in the updated evaluation of the NY-NJ Harbor system. These descriptions can be added to Figures 8-7 to 8-10b to support the discussion on the relationships between COPECs and WBI. A comparison of the Study Area in 2012 to the Study Area in 2014, for both spring and summer, will be added to make the point that there are within the Study Area differences observed for the benthic community that are related to decreases in DO. The NCG disagrees that the tables misrepresent and improperly apply the WBI. The tables clearly show the relationship between a WBI reference threshold above/below 1.1 and the DO threshold of above/below 3 mg/L, and therefore, will be retained.	Partially acceptable. The DO concerns can be included in the Uncertainty section. Additional information and discussion should be included to compare the results to the WBI classification in NCG response (1 to <2, 2 to 3, and 3 to 5). The current document only uses 5, 3, and 1. It is also advisable to use a mean value for each of the individual reference areas as the comparison point instead of the lowest WBI value.
229.	USEPA	6/11/16	WBI and Metric	Table 8-3c	--	115	Table 8-3c WBI and Metric Comparisons – Study Area versus Reference Areas: See Specific Comment No. 57	Clarification	See the response to ID Nos. 111 to 116.	Unacceptable. See EPA responses to ID Nos. 114, 115, and 116.

ID No.	Reviewer	Comment Date	Section Name/Topic	Section/Table/ Figure No.	Page No.	Reviewer Comment No.	Comment Text	Category	Response/Proposed Path Forward	EPA Response
			Comparisons – Study Area versus Reference Areas				made on pages 68 to 70, Section 8.3.2.5 Benthic Community Stressors.			
230.	USEPA	6/11/16	WBI and Metric Comparisons – Study Area versus Reference Areas	Table 8-3c	--	116	Table 8-3c WBI and Metric Comparisons – Study Area versus Reference Areas: The Weisberg Index does not discriminate among sites that have index scores less than three. That is, the Weisberg index does not consider that a site with a score of 2 is more stressed than a site with an index of 3 or less stressed than an index of 1. All of the stations presented in this Figure have a WBI < 3. These communities are all the same based on the Weisberg Index. That is, they are all stressed. The BERA should not be trying to reclassify some of these stressed stations as if the Weisberg Index permits various levels of stress. It does not do so. Delete this table because it misrepresents and improperly applies the Weisberg Index in statistical comparisons.	Disagree	See response to ID No. 228.	See response to ID No. 228.
231.	USEPA	6/11/16	Study Area Porewater Toxic Unit Calculations; Reference Area Porewater Toxic Unit Calculations; and Baseline Ecological Risk Assessment Summary	Tables 8-4a, 8-4b, and 14-1	--	117	Table 8-4a Study Area Porewater Toxic Unit Calculations, Table 8-4b Reference Area Porewater Toxic Unit Calculations, and Table 14-1 Baseline Ecological Risk Assessment Summary: The BERA argues convincingly that SEM metals are not available based on the AVS-SEM analyses. The weight of evidence in the BERA clearly dismisses the bioavailability of SEM metals based on three lines of evidence: the AVS-SEM analysis, the low concentrations of metals in pore water, and the extraction analyses performed within the BERA. These tables (and the BERA) should not be re- introducing metals as a COPEC in the form of SEM metals. The BERA and these tables provide the calculation of an unsupported concept: an SEM toxic unit approach. The BERA fails to support the development of an SEM TU approach which incorrectly assumes additivity given the various and very different mechanisms of action for metal toxicity, the various and different target organs associated with metal toxicity, and the complex biogeochemical properties of metals. See full response to SEM TUs in comment for Figures 8-19a through 8-24a. There appears to be no support in the scientific literature for the development of application of SEM TUs, and the BERA should drop this unsupported analysis from consideration. Also, the work plan identifies 17 PAHs as the COPECs in sediment. The BERA and this Table employs 34 PAHs in the development of PAH toxicity units. This is an issue that should be addressed in an uncertainty section. Delete all SEM Metals and the SEM Metal TU from these tables – the metals are not available and the method is	Disagree	The reviewer is referred to USEPA guidance for clarification on the correct treatment of metals (USEPA 2005b) and PAHs (USEPA 2003; Burgess 2009) in sediment risk assessments. Direct measurement of metals in porewater during the toxicity tests demonstrates that copper and zinc were bioavailable. In USEPA (2005b) EqP document for metals—*Procedures for the Derivation of Equilibrium Partitioning Sediment Benchmarks (ESBs) for the Protection of Benthic Organisms: Metal Mixtures (Cadmium, Copper, Lead, Nickel, Silver, and Zinc)*—the use of a sum of the SEM is fully documented. As correctly detailed in the draft BERA report, the use of the SEM toxic unit is a conservative exposure assumption and is consistent with USEPA risk assessment guidance. Although we agree that metals biogeochemistry is complex, direct measurement of porewater allows for a high degree of confidence that, in some samples, metals were bioavailable. The use of PAH (34) is consistent with USEPA guidance for evaluating risk to benthic PAHs in sediment (USEPA 2003; Burgess 2009). There is no reason to revise the draft BERA report in this regard. The use of PAH (17) is not recommended by USEPA (2003) unless a correction is introduced to normalize the result to an equivalent PAH (34) concentration. The use of a correction factor introduces a significant level of uncertainty, which can be avoided in this instance because PAH (34) has been measured empirically. Developing a relationship between PAH (34) porewater concentrations and PAH (17) concentrations for purposes of developing PRGs can be accomplished during the FS process.	Partially acceptable, depending on clarification of the text.

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							unsupported. Revise the PAH TU to focus only on the 17 PAHs in the workplan and provide a discussion of the full 34 PAHs in the uncertainty section.			
232.	USEPA	6/11/16	Porewater Chronic Threshold Values	Table 8-4c	--	118	Table 8-4c Porewater Chronic Threshold Values: Note in earlier comments, the source for NYSDEC values listed in this table are outdated. Revise table using the updated NYSDEC values.	Agree	Values will be updated as appropriate.	Acceptable
233.	USEPA	6/11/16	Sediment Bioassay Reference Envelop Evaluation Using Lower 95% Confidence Interval of 5th Percentile	Table 8-7	--	119	Table 8-7 Sediment Bioassay Reference Envelop Evaluation Using Lower 95% Confidence Interval of 5th Percentile: This table presents control-adjusted toxicity endpoints. For greater clarity, toxicity test results should be presented for the control sites and Newtown Creek site separately. The reference envelope approach used in the BERA is overly complex and uses a very low (5th) percentile of reference area toxicity data. The toxicity data should be presented more simply, comparing data from the laboratory controls, Newtown Creek sites and each reference area individually. In addition, it is recognized that no single value can be identified as the best "percentile" to serve as a criterion for reference data or conditions for comparison to site data. A range of values may help interpret these comparisons. For example, use of the 5th percentile as a reference criterion, as presented in EPA guidance for conducting Rapid Bioassessment Protocols (RBP; EPA 841-B-99-002), can be supplemented by use of a higher value, such as the 20th percentile. As discussed in RBP guidance (EPA 841-B-99-002), increasing the percentile of reference area data as a criterion for comparison to site data increases the accuracy of correctly identifying impaired or stressed sites, but decreases the accuracy of correctly identifying unimpaired sites. Using two different percentiles as reference criteria (e.g., 5th and 20th percentiles) therefore allows for a more comprehensive interpretation of comparisons. In addition, EPA received the following comment from NYCDEP related to this table. EPA agrees that this comment should be addressed, see details below: Table 8-7 Sediment Bioassay Reference Envelope Evaluation Using Lower 95% Confidence Interval of 5th Percentile: Because there are no specific guidelines on control growth and reproduction in sediment toxicity tests, control adjusting these results is not appropriate. Revise this Table to present non- adjusted growth and reproduction results.	Clarification / Disagree	The reference area data are the basis of the reference envelope calculation. Control data are used to establish test QA/QC, to normalize between batches, and to assess the statistical difference from the control treatment. Establishing the statistical differences between reference and test stations and control stations was done using ANOVA. The pooled variance allows the random variability of the test (e.g., the noise of the test) to be incorporated using an established multiple comparison test. The reference area data are integral to the presentation in Table 8-7. We agree that additional tables of reference area and Study Area data would be helpful for more transparently conveying the test data. The reference envelope approach provides a quantitative estimate of percentile that one is 95% certain that the reference envelope value is not lower than that percentile lower bound. In fact, it is no more complex than the 95% UCL calculation used to estimate exposure point concentrations available in ProUCL. Also see the response to ID Nos. 3 and 12.	Unacceptable. EPA agrees with the laboratory control response. EPA also agrees that additional tables and text are warranted. However, the reference area locations must also be addressed separately. See EPA responses to ID No. 3, 12. The BERA should also include statistical justification for control adjusting bioassay results for the growth and reproduction endpoints.
234.	USEPA	6/11/16	Correlation Coefficients for Bulk Sediment and	Tables 8-8a and 8-8b	--	120	Table 8-8a Correlation Coefficients for Bulk Sediment and Leptocheirus Survival and Table 8-8b Correlation Probability Values for Bulk Sediment and Leptocheirus Survival: Explain why the correlation coefficient is one (1)	Agree/ Clarification	The p-value of <0.0001 is an artifact of the software computation and is essentially the same as zero. The probabilities in Table 8-8b for pairs with an r value = 1 (the diagonal line of matching pairs) will be removed.	Acceptable.

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			Leptocheirus Survival; Correlation Probability Values for Bulk Sediment and Leptocheirus Survival				on Table 8-8a, and the corresponding probability value on Table 8-8b is "<0.0001". If correlation coefficient is one, there should not be a value for probability.			
235.	USEPA	6/11/16	Summary of Concentration-Response Prediction Error Rates with or without Confounding Factor Stations	Table 8-9	--	121	Table 8-9 Summary of Concentration-Response Prediction Error Rates with or without Confounding Factor Stations: EPA received the following comment from NYCDEP. EPA agrees that this comment should be addressed; Provide clear description of this table in the text. Table 8-9 Summary of Concentration-Response Prediction Error Rates with or without Confounding Factor Stations: Removing stations based on claims of confounding factors is misleading and unsupported by the data set, which is arbitrary and biased because only a limited number of sample locations were included in the C19-C36 analysis shown by Anchor as described by the City in multiple comments in the primary submittal. Confounding factors assessments do not belong in the main BERA analyses, but rather belong in the uncertainty section. Delete the portion of these tables with 'confounding factor stations removed' because this is unsupported by the data.	Objection/ Disagree	See the response to ID No. 139.	Unacceptable. The "confounding factor" discussion should be moved to the Uncertainty section. See response to ID No. 139.
236.	USEPA	6/11/16	Phase 2 Baseline Fish Thresholds	Table 10-1	--	122	Table 10-1 Phase 2 Baseline Fish Thresholds: References need to be provided for the selected values.	Agree	The table will be revised to include the references for the toxicity thresholds included in the table.	Acceptable
237.	USEPA	6/11/16	Fish and Crab Community Survey – Species and Abundance	Table 10-11	--	123	Table 10-11 Fish and Crab Community Survey – Species and Abundance: Add a footnote that describes the size distribution for striped bass, broken into 12 inch brackets.	Agree	The requested information will be provided, although it may make sense to provide the requested data in a separate table.	Acceptable
238.	USEPA	6/11/16	Number of Birds Observed and Number Observed Foraging by Target Feeding Guild by Location in Study Area and Reference Areas	Table 11-3	--	124	Table 11-3 Number of Birds Observed and Number Observed Foraging by Target Feeding Guild by Location in Study Area and Reference Areas: The footnote indicates that some species of piscivorus birds are not included in the feeding guild. However, the species listed in the footnote do not appear in other evaluations. Given that the species in the footnote were observed, they need to be included in the evaluation. They should be added to this table or a separate table should be included as well as text indicating the difference in feeding strategy and how that would relate to risk.	Clarification	Tables 11-2, 11-3, and 11-6 will be updated to reflect the inclusion of other birds observed in the piscivorous feeding guild. However, note the information in these tables is used to support the qualitative comparison of avian abundance and diversity between the Study Area with the reference areas, not the quantitative risk estimates.	Acceptable
239.	USEPA	6/11/16	Study Area Wildlife Exposure Modifying Factors	Table 11-9c	--	125	Table 11-9c Study Area Wildlife Exposure Modifying Factors: A seasonal exposure of 1 should be used for each receptor to provide a bounding estimate of the exposure. Double-crested cormorants are year round residents in the NY Harbor area and other species may increase their	Disagree/ Comply	See the response to ID Nos. 180 to 182.	Partially acceptable. See responses to ID Nos 180 – 182.

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							range as global temperatures increase.			
240.	USEPA	6/11/16	Baseline Ecological Risk Assessment Summary	Table 14-1	--	126	Table 14-1 Baseline Ecological Risk Assessment Summary: Need to update this table based on comments provided by EPA.	Comply	The table will be updated where applicable.	Acceptable
241.	USEPA	6/11/16	--	Figures	--	127	In addition to Study Area location map, a site map or maps showing PRP properties and all point sources on the Newtown Creek should be presented in the report.	Agree	Additional maps will be included showing the requested features and additional features where appropriate.	Acceptable
242.	USEPA	6/11/16	Ecological Exposure Pathways and Receptors	Figure 3-1	--	128	Figure 3-1 Ecological Exposure Pathways and Receptors: Add another circle type to the graphic, a half-filled circle, to represent a complete, qualitative assessment. A solid circle would be complete, quantitative and an open circle would be complete, insignificant. The following receptors would have the half-filled circles; surface water ingestion (bivalves, benthic invertebrates, epibenthic invertebrates), sediment ingestion (bivalves, fish top level predatory), sediment direct contact (bivalves). In addition, ebullition should be identified in parentheses for upland spills and releases, deep sediment sink under primary sources and between sediment (deep) and porewater under secondary sources.	Agree	A half-filled circle, to represent a complete, qualitative assessment, will be added for the appropriate receptors.	Acceptable
243.	USEPA	6/11/16	Sediment Bioassay and Bioaccumulation Study Design	Figure 4-6	--	129	Figure 4-6 Sediment Bioassay and Bioaccumulation Study Design: Spell out all acronyms on the figure under the legend. In addition, explain the differences among different colors for boxes (i.e., dark and light blue, green).	Agree	The requested clarifications will be included.	Acceptable
244.	USEPA	6/11/16	Surface Water and Sediment, Tissue, and Wildlife Screening Process	Figures 5-1 to 5-3	--	130	Figure 5-1 to 5-3 Surface Water and Sediment, Tissue, and Wildlife Screening Process: The title needs to clearly state if this flowchart is for the SLERA or BERA.	Agree	The figure titles will be updated to provide the requested clarification.	Acceptable
245.	USEPA	6/11/16	Study Area Intertidal Sediment Stations	Figure 5-4	--	131	Figure 5-4 Study Area Intertidal Sediment Stations: Add a footnote that indicates the % of shoreline area that is identified as intertidal area.	Agree	The requested footnote will be added.	Acceptable
246.	USEPA	6/11/16	Spatial Distribution and Water Column Chemical Spatial	Figures 5-5a to 6-5	--	132	Figures 5-5a to 6-5 Spatial Distribution and Water Column Chemical Spatial: Add benchmark reference lines on the graphs to show SLERA screening values and BERA comparison values.	Agree	The requested benchmark reference lines will be added.	Acceptable
247.	USEPA	6/11/16	Spatial Distribution of Aluminum in Surface Sediment	Figure 5-5b	--	133	Figure 5-5b Spatial Distribution of Aluminum in Surface Sediment: Figure for contaminants in surface sediment should follow the same mapping methodology as used in the modeling process. In addition, the major contaminants, such as copper, PCB, PAH, should also be presented similar to surface water.	Disagree	Figure 5-5b is paired with Figure 5-5a showing the spatial distribution of aluminum in surface water. The purpose of these paired figures is to illustrate why it is not necessary to include aluminum as a COPEC for further evaluation in the BERA. Unlike copper, PCBs, and PAHs, aluminum is not identified as a sediment COPEC, and concentrations are indistinguishable from reference area concentrations.	Partially acceptable. Pending additional clarifying text.
248.	USEPA	6/11/16	Comparison	Figures 8-2, 8-3,	--	134	Figures 8-2, 8-3, 8-6 Comparison with Reference Areas	Agree	The figures can be clarified that they represent benthic	Acceptable

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			with Reference Areas Richness and Abundance	and 8-6			Richness and Abundance: Add information to the title that reflects what receptor group is being depicted on the figure (e.g., worms, fish, bird).		community data.	
249.	USEPA	6/11/16	Various	Figures 5-1, 6-2, 6-3, 6-5, 8-7 to 8-9, and most figures in Section 8	--	135	Figures 5-1, 6-2, 6-3, 6-5, and most figures in Section 8: Add definition of open circles to figure legend, also yellow circles on Figures 8-7 to 8-9.	Agree	The symbols will be clarified.	Acceptable
250.	USEPA	6/11/16	Relationship of Weisberg Biotic Index with Dissolved Oxygen	Figure 8-10a to 8-10b	--	136	Figure 8-10a to 8-10b Relationship of Weisberg Biotic Index with Dissolved Oxygen: Add a reference line of 3 mg/L for the DO criterion. Note that the range of WBI values for samples with DO less 3 mg/l is 0-2 and the range of WBI values for samples with DO greater than 3 mg/l is 0- 2.9, with much overlap between values of 1 and 2. This does not show that DO is a major confounding factor in the WBI values.	Comply/ Disagree	A reference line for DO at 3.0 mg/L will be added. Although there may be overlap in scores between the sites in the less than 3.0 mg/L and greater than 3.0 mg/L groups, the number of sites with no taxa in the less than 3.0 mg/L group is important. DO is a confounding factor because occurrences of no taxa are directly related to low DO in the Study Area. Text in the BERA will be revised.	Partially Acceptable. Discussions of DO as a confounding factor should be presented in the Uncertainty section.
251.	USEPA	6/11/16	Bottom Dissolved Oxygen – Newtown Creek NYCDEP Data	Figure 8-11	--	137	Figure 8-11 Bottom Dissolved oxygen – Newtown Creek NYCDEP Data: Revise this figure. This figure misrepresents site conditions in showing only selected data (i.e., just DO concentration without benthic community data) and by presenting data for the Creek pre-aeration. Revision to display all data capturing current conditions (past aeration) only.	Objection/ Clarification	This figure does not misrepresent site conditions. The purpose of this figure is to simply illustrate seasonal and annual trends in Study Area DO using NYCDEP data that have been collected monthly over several years, not the relationship between DO and benthic community data. Because these data have been collected monthly from 2011 to 2015, they capture pre- and post-aeration conditions. There was no intent to only include pre-aeration data. We can update the figure to include DO measured during the benthic community monitoring events in 2012 and 2014 and DO data collected during surface water sample events in 2012 and 2014. The NYCDEP and Study Area data will overlap.	Acceptable
252.	USEPA	6/11/16	Dissolved Oxygen in Tributaries – Phases 1 and 2	Figure 8-12	--	138	Figure 8-12 Dissolved Oxygen in Tributaries – Phases 1 and 2: Delete this figure. This figure also misrepresents site conditions in showing only selected data such as just DO without benthic community data, and data only from three tributaries.	Objection/ Clarification	This figure does not misrepresent site conditions. The purpose of these figures is to illustrate the spatial distribution in DO conditions as monitored. The relationship between these data and benthic community is captured in Figure 8-10. For completeness, a figure for Maspeth Creek will be included in the revised BERA.	Acceptable
253.	USEPA	6/11/16	28-day Survival Reference Envelope Comparison by Study Area Creek Mile	Figure 8-13	--	139	Figure 8-13 28-day Survival Reference Envelope Comparison by Study Area Creek Mile: This figure is incomplete, misrepresents the sources and only presents an oversimplified account of the available data. The figure fails to present major sources of CERCLA contaminants including 2 National Grid Manufactured Gas Plant (MGP) sites, a 30 million gallon Exxon oil spill, several additional BP, Chevron, and Exxon oil refineries and transfer and storage facilities, a Phelps Dodge Refining Corporation (PDRC) copper smelter, and illegal midnight oil releases (e.g., Dutch Kills, summer 2015). Also, NAPL locations are not mapped. The diameter of the CSOs implies significance to these arbitrary categorizations, provides no insight into the potential influence, are arbitrary, and are not even discussed. No other outfalls are presented	Objection/ Disagree	The NCG disagrees with the premise that "this figure is incomplete, misrepresents the sources and only presents an oversimplified account of the available data." However, the NCG will remove the CSO symbols from Figure 8-13 and Figures 8-14 through 8-18.	Partially acceptable. Pending revisions to the figure. The figure should include all contaminant sources or none. Inclusion of a subset of contaminant sources is inappropriate.

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							nor are their sizes. Also, the green triangles, while identifying stations with survival greater than the reference envelope, ignore the fact that survival in some of these stations is significantly different than controls as well. The BERA also fails to present the actual percent survival on maps for both the study area and reference areas. Revise this figure to add all sources of CERCLA contaminants, including all outfalls, remove CSO diameters, and add a laboratory control qualification to the green triangle key. Add companion figures that present the actual percent survival at all stations including reference area stations.			
254.	USEPA	6/11/16	28-day Growth (Biomass) Reference Envelope Comparison by Study Area Creek Mile; 28-day Growth (Weight) Reference Envelope Comparison by Study Area Creek Mile; 28-day Reproduction (Per Surviving Amphipod) Reference Envelope Comparison by Study Area Creek Mile; 28-day Reproduction (Per Surviving Female) Reference Envelope Comparison by Study Area Creek Mile; 10-day Survival Reference Envelope Comparison by Study Area Creek Mile	Figures 8-14 to 8-18	--	140	Figure 8-14 to 8-18: The reference envelope values may change once reference data is screened against acceptability criteria. In addition, EPA received the following comments on figures from NYCDEP. EPA agrees that these comments should be addressed, see details below: Figure 8-14 28-day Growth (Biomass) Reference Envelope Comparison by Study Area Creek Mile and Figure 8-15 28-day Growth (Weight) Reference Envelope Comparison by Study Area Creek Mile: These figures are incomplete, misrepresent the sources and only present an oversimplified account of the available data. The figures fail to present major sources of CERCLA contaminants. See Comment for Figure 8-13 above. Revise these figures to add all sources of CERCLA contaminants, remove CSO diameters, add a laboratory control qualification to the green triangle key, and utilize the measured values rather than the control-normalized values when displaying results. Add companion figures that present the actual growth at all stations including reference area stations.	Objection/ Disagree	See the response to ID Nos. 3, 12, and 253.	Unacceptable. See EPA responses to these comments.

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255.	USEPA	6/11/16	28-day Reproduction (Per Surviving Amphipod) Reference Envelope Comparison by Study Area Creek Mile; 28-day Reproduction (Per Surviving Female) Reference Envelope Comparison by Study Area Creek Mile	Figures 8-16 and 8-17	--	141	Figure 8-16 28-day Reproduction (Per Surviving Amphipod) Reference Envelope Comparison by Study Area Creek Mile and Figure 8-17 28-day Reproduction (Per Surviving Female) Reference Envelope Comparison by Study Area Creek Mile: These figures are incomplete, misrepresent the sources and only present an oversimplified account of the available data. The figures fail to present major sources of CERCLA contaminants. See comment for Figure 8-13 above. Also, the green triangles, while identifying stations with reproduction greater than the reference envelope, ignore the fact that reproduction in some of these stations is significantly different than controls as well. The figures also fail to present the actual reproduction on maps for both the study area and reference areas. Furthermore, because there is no accepted benchmark for successful reproduction, control normalizing these results is inappropriate and actual measured values should be presented instead. Revise these figures to add all sources of CERCLA contaminants, remove CSO diameters, add a laboratory control qualification to the green triangle key, and utilize the measured values rather than the control-normalized values when displaying results. Add companion figures that present the actual reproduction at all stations including reference area stations.	Objection/ Disagree	See the response to ID No. 253.	Partially acceptable. See response to ID No. 253.
256.	USEPA	6/11/16	10-day Survival Reference Envelope Comparison by Study Area Creek Mile	Figure 8-18	--	142	Figure 8-18 10-day Survival Reference Envelope Comparison by Study Area Creek Mile: This figure is incomplete, misrepresents the sources and only presents an oversimplified account of the available data. The figure fails to present major sources of CERCLA contaminants. See comment for Figure 8-13 above. Also, the green triangles, while identifying stations with survival greater than the reference envelope, ignore the fact that survival in some of these stations is significantly different than controls as well. The BERA also fails to present the actual percent survival on maps for both the study area and reference areas. Revise this figure to add all sources of CERCLA contaminants, remove CSO diameters, and add a laboratory control qualification to the green triangle key. Add companion figures that present the actual percent survival at all stations including reference area stations.	Objection/ Disagree	See the response to ID No. 253.	Partially acceptable. See EPA response to ID No. 253.
257.	USEPA	6/11/16	Leptocheirus Concentration-Response – Control-adjusted 10-day Survival 28 day survival, 28 day reproduction, 28 day growth	Figures 8-19a, 8-20a, 8-21a, 8-22a, 8-23a, and Figure 8-24a	--	143	Figures 8-19a , 8-20a, 8-21a, 8-22a, 8-23a, and Figure 8-24a Leptocheirus Concentration- Response – Control-adjusted 10-day Survival 28 day survival, 28 day reproduction, 28 day growth: The BERA argues convincingly that SEM metals are not available based on the AVS-SEM analyses. The weight of evidence in the BERA clearly dismisses the bioavailability of SEM metals based on three lines of evidence: the AVS- SEM analysis, the low concentrations of metals in pore water, and the extraction analyses performed within the BERA. This	Objection/ Disagree	The NCG does not intend to modify the assessment approach for metals or PAHs based on this comment, and will continue to follow best scientific practices and USEPA guidance. See the response to ID Nos. 16, 91, 132, and 142.	Partially acceptable. See response to Comment 231 and related comments.

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							figure (and the BERA) should not be re-introducing metals as a COPEC in the form of SEM metals. Furthermore, the BERA and these Figures use an unsupported concept: an SEM toxic unit approach. The BERA fails to support the development of an SEM TU approach which incorrectly assumes additivity given the various and very different mechanisms of action for metal toxicity, the various and different target organs associated with metal toxicity, and the complex biogeochemical properties of metals. The BERA makes reference to Naddy et al. (2014) to make the case that metal toxicity can be additive in an attempt to justify the use of SEM TUs. However, that work addressed metal toxicity in freshwater species (rainbow trout and Ceriodaphnia) under laboratory controlled conditions (that is, no other contaminants except cadmium, copper, and zinc). As these authors indicate, the assumption of additivity is very uncertain and "…may not hold true depending on the species, exposure duration, contaminants present, and other factors affecting toxicity." All of these uncertainties apply to Newtown Creek in which the species is Leptocheirus, the exposure duration is chronic (to pore water and sediments), the contaminant exposure is to multiple chemicals in pore water and sediment, and the overriding "other factor" is that the exposures in Newtown Creek are to salt water in which toxicity and metal solubility can be expected to be substantially different than in fresh water. There appears to be no support in the scientific literature for the development of application of SEM TUs, and the BERA should drop this unsupported analysis from consideration. Also, the work plan identifies 17 PAHs as the COPECs in sediment. The BERA and these Figures employ34 PAHs in the development of PAH toxicity units. This is an issue that should be addressed in an uncertainty section. Also, the footnote indicates that sample NC013 is not included in these Figures. Presenting only a subset of data misrepresents conditions in the study area. Delete the bottom graphics (SEM Metals TU vs 28-day Survival) because SEM metals are not bioavailable and SEM TUs have no relevance on the grounds that they were improperly developed. Revise the top graphics (PAH TU vs 28-day survival) to include all data including NC013, and use the COPEC 17 PAHs (with a discussion of the influence in the uncertainty section).			
258.	USEPA	6/11/16	Leptocheirus Concentration-Response – Control-adjusted 28 day survival, 28 day growth	Figures 8-19a, 8-20a, and 8-21a	--	144	Figures 8-19a, 8-20a, and 8-21a: Define the circle shown on figures in the legend.	Agree	The circles will be defined in the legend.	Acceptable

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259.	USEPA	6/11/16	Leptocheirus Concentration-Response Curves – Control-adjusted 10-day Survival, 28 day survival, 28 day reproduction, 28 day growth	Figures 8-19b, 8-20b, 8-21b, 8-22b, 8-23b, and 8-24b	--	145	Figures 8-19b, 8-20b, 8-21b, 8-22b, 8-23b, and 8-24b Leptocheirus Concentration-Response Curves – Control-adjusted 10-day Survival, 28 day survival, 28 day reproduction, 28 day growth: There is no basis to support adding PAH and Metal toxic units and correlating this to survival. As discussed above, SEM Metals TU are not technically supported, the PAH TUs include PAHS that are not COPECs (34 versus 17 in the workplan as amended). These Figures provide no insights into the quality of the fit line and how the line is justified given that the data are bimodal. Also, the footnote indicates that sample NC013 is not included in these Figures. Presenting only a subset of data misrepresents conditions in the study area. Finally, removal of confounding factors stations in the bottom graphs is misleading. Data for confounding factors is biased in the Creek and has not been presented for all sample locations. Therefore, the proposal to eliminate stations based on biased data is not defensible. Confounding factors discussions belong in the uncertainty section. Delete these figures because the x-axis is not justifiable, the regression is suspect and the data set is incomplete.	Objection/ Disagree	The NCG does not intend to modify the assessment approach for metals, PAHs, or confounding factors based on this comment, and will continue to follow best scientific practices and USEPA guidance. See response to ID Nos. 1, 16, 91, 132, 138, 139, and 142.	Partially acceptable. See response to ID No. 231 and related comments.
260.	USEPA	6/11/16	PAHs in Porewater – SPME Samples	Figure 8-25	--	146	Figure 8-25 PAHs in Porewater – SPME Samples: The figure can be misleading if taken in isolation because there are examples of stations with TU >1 (indicating PAH toxicity), but with high survival in the toxicity tests. Also, the PAH TUs include PAHS that are not COPECs (34 versus 17 in the workplan as amended). This figure requires a linkage to the actual toxicity test results. It is also short-sighted to present this type of analysis for only Total PAHs. A similar analysis should also be presented for PCBs. Revise this figure to include the toxicity test survival by station and add-in a separate figure for PCBs.	Objection/ Disagree	The NCG does not intend to modify the assessment approach for PAHs or this figure based on this comment, and will continue to follow best scientific practices and USEPA guidance. See response to ID Nos. 16, 91, and 132.	Unacceptable. Add text to the BERA that discusses the linkage between the graphed TUs and the toxicity observed during sediment bioassays. This discussion is critical because toxicity based on simultaneous exposure to multiple potentially toxic chemicals may be influenced by synergistic or antagonistic effects.
261.	USEPA	6/11/16	SEM Metals in Porewater – Toxicity Test (ex situ) Samples	Figure 8-26	--	147	Figure 8-26 SEM Metals in Porewater – Toxicity Test (ex situ) Samples: The BERA argues convincingly that SEM metals are not available based on the AVS-SEM analyses. The weight of evidence in the BERA clearly dismisses the bioavailability of SEM metals based on three lines of evidence: the AVS-SEM analysis, the low concentrations of metals in pore water, and the extraction analyses performed within the BERA. This figure (and the BERA) should not be re- introducing metals as a COPEC in the form of SEM metals. The BERA and this Figure use an unsupported concept: an SEM toxic unit approach. The BERA fails to support the development of an SEM TU approach which incorrectly assumes additivity given the various and very different mechanisms of action for metal toxicity, the various and different target organs associated with metal toxicity, and the complex biogeochemical properties of metals. Please see comment for Figures 8-19a though 8-24a for this detail.	Objection/ Disagree	The NCG does not intend to modify the assessment approach for metals based on this comment, and will continue to follow best practices and USEPA guidance. See response to ID Nos. 16, 91, and 132.	Partially acceptable. See response to ID No. 231 and related comments.

ID No.	Reviewer	Comment Date	Section Name/Topic	Section/Table/ Figure No.	Page No.	Reviewer Comment No.	Comment Text	Category	Response/Proposed Path Forward	EPA Response
							There appears to be no support in the scientific literature for the development of application of SEM TUs, and the BERA should drop this unsupported analysis from consideration. Delete this figure because SEM metals are not bioavailable and use of SEM TUs is not technically supportable.			
262.	USEPA	6/11/16	Triad Toxicity, Porewater PAH, SEM Metals, and Bulk Sediment EPH C19-C36 Aliphatic Hydrocarbon	Figure 8-27	--	148	Figure 8-27 Triad Toxicity, Porewater PAH, SEM Metals, and Bulk Sediment EPH C19-C36 Aliphatic Hydrocarbon: The BERA argues convincingly that SEM metals are not available based on the AVS- SEM analyses. The weight of evidence in the BERA clearly dismisses the bioavailability of SEM metals based on three lines of evidence: the AVS-SEM analysis, the low concentrations of metals in pore water, and the extraction analyses performed within the BERA. This figure (and the BERA) should not be re- introducing metals as a COPEC in the form of SEM metals. The BERA and this Figure use an unsupported concept: an SEM toxic unit approach. See comment for Figures 8-19a through 8-24a. There appears to be no support in the scientific literature for the development of application of SEM TUs, and the BERA should drop this unsupported analysis from consideration. Also, the work plan identifies 17 PAHs as the COPECs in sediment. The BERA and this Figure employs 34 PAHs in the development of PAH toxicity units. The Figure should present the results with 17 and discuss the implications of not using 34 in the uncertainty section. The use of the C19 to C36 concentrations in the figure is misleading and there is no toxicological basis for applying a % of maximum to evaluate toxicity of this fraction; correlation does not equate with causation. The BERA implies that the elevated C19 to C36 concentrations measured using the EPH method are elevated only in the sediments next to the municipal point source discharges. The NCG draws this conclusion using select stations from the biased Phase 2 sediment sampling data. Note that these measurements of EPH were not conducted by the NCG as part of the Phase 1 sampling program. Characterization of this EPH range is also not available for the NYSDEC-approved from National Grid sampling program in the Turning Basin. Thus, the NCG chose to examine a parameter that was examined in a limited portion of the Creek, which also did not include the point source discharges, and then proceeds to use this data as the keystone of their analysis to associate sediment toxicity to CSO discharges solely based on proximity. Furthermore, the City notes that the NCG has not measured C19 to C36 compound concentrations as part of the Phase 2 point source sampling program. The USEPA- approved point source program was designed to quantify the concentrations of COPECs entering the Creek. The NCG did not propose to measure C19 to C36 compounds in point sources as a part of this plan. Without the measurement of C19 to C36 compounds in the discharge, the NCG has no basis to assign responsibility for sediment C19 to C36 compound	Objection/ Disagree	See response to ID Nos. 1, 16, 91, 122, 132, 138, 139, and 142. The NCG does not intend to modify the assessment approach for metals, PAHs, or confounding factors based on this comment, and will continue to follow best scientific practices and USEPA guidance. Figure 8-27 is a summary of the key toxicity risk drivers, PAHs and metals in porewater, and a key confounding factor represented by the C19-C36 aliphatic hydrocarbons. NCG disagrees that the % maximum is misleading. Figure 8-27 presents the relative magnitude of the C19-C36 aliphatic contribution in a meaningful way that shows magnitude and distribution across the Study Area and reference areas. Using an effects quotient for the C19-C36 data would show the same pattern. It is correct that correlation does not equate with causation. This is the primary reason that bulk sediment screening levels were only used to conservatively screen COPECs, not to evaluate baseline risk. For the CERCLA chemicals, the BERA included porewater analyses to directly measure bioavailable chemicals and refine the COPEC list. It is a fact that significant toxicity was identified where the CERCLA chemicals were not bioavailable in porewater. Confounding factors were evaluated because it is part of risk assessment best practices. There was observed toxicity but no exposure to toxic agents in porewater. It would be remiss not to address all potential confounding factors present at the site, including aliphatic hydrocarbons. The toxicity of UCM is a recognized problem in urban environments. C19-C36 aliphatics represents a UCM fraction that contains many chemicals including saturate, aliphatic, resin, and asphaltene fractions. These chemical groups are common in urban residential, commercial, and industrial runoff. The rationale and uncertainty around using the C19-C36 aliphatic as a surrogate for physical effects from long chain aliphatic hydrocarbons present in UCM is well developed in BERA Section 8.3.3.5.2. It is incorrect that without measurements of C19-C36 aliphatic compounds in the point source data, they cannot be attributed to point source discharges. Individual linear	Partially acceptable. See response to ID No. 231 and related comments.

ID No.	Reviewer	Comment Date	Section Name/Topic	Section/Table/ Figure No.	Page No.	Reviewer Comment No.	Comment Text	Category	Response/Proposed Path Forward	EPA Response
							contamination to any point source discharges. While the NCG failed to measure these compounds in point source discharges, it also failed to consider the available upland data where C19 to C36 compound concentrations have been evaluated for some sites. City review of sparsely available upland data for some sites show that elevated concentrations of C19-C36 compounds have been measured in upland refinery sites at high concentrations. For example, the C19 to C36 concentration in the soils at the upland DAR site Quanta where various oils were refined, are elevated, with an average concentration of 480,000 mg/kg (nearly 50 percent). TPH concentrations in soil samples from the BCF oil refining site were as high as 85,000 mg/kg while those at National Grid (based on 3 samples only) were as high as 30,000 mg/kg. Actual NAPL samples from the upland sites have higher concentrations of the TPH ranges. For example, the average TPH concentration from LNAPL samples from the Quanta site is 780,000 mg/kg. Also, this figure is missing PCBs, which may also be influencing toxicity. Finally, the implication of this figure is that the parameters graphed have an additive effect on toxicity, and together account for the differences in toxicity observed throughout the study site and the reference areas. However, no statistical analysis has been performed to demonstrate that, and simply showing correlations does not indicate causation. Delete this figure because it misrepresents the risk, is not based on causation but instead relies on correlation and selects only subsets of the available data for inclusion (i.e. metals are not bioavailable, C19-C36 data set is biased and missing data and % of maximum is not toxicologically supported, sum PAH TU needs to be correctly defined based on workplan COPECs, and PCBs are missing).		alkanes were measured for point source and sediment programs and provide the foundation for developing a mass balance model of hydrocarbon source contributions and sediment loading. The porewater PCB TRV used for the benthic toxicity evaluation was based on current scientific literature and is defensible. Porewater PCBs were below the benthic TRV, and therefore, they are not considered as benthic risk drivers and were not included in Figure 8-27.	
263.	USEPA	6/11/16	Leptocheirus Test Porewater Sulfide Results and Figure 8-29 28-day Leptocheirus Test Porewater Sulfide Results; 28-day Leptocheirus Test Porewater Sulfide Results	Figures 8-28 and 8-29	--	149	Figure 8-28 10-day Leptocheirus Test Porewater Sulfide Results and Figure 8-29 28-day Leptocheirus Test Porewater Sulfide Results: These figures attempt to make the case that pore water sulfides may be confounding the measurement of sediment contaminant toxicity based on a chain of assumptions that are weakly linked, employ uncertain assumptions, and are inappropriately applied to the Leptocheirus testing. The sulfide "benchmark" proposed and shown on these figures was created by NCG and is not supported in the literature. The BERA uses the following chain of assumptions: (1) The test organism, Leptocheirus (standard test organism) has the same exposure route to pore water sulfide as another organism, Rhepoxynius, not tested in the BERA; (2) data from testing done on the amphipod Rhepoxynius demonstrates that for Rhepoxynius "a porewater sulfide concentration of 20 mg/L was determined to be a level above which a greater likelihood of toxicity was possible"; (3) two samples in the ten day Leptocheirus testing and 6 samples in the 28 day Leptocheirus testing had pore	Objection/ Disagree	The NCG does not agree that these figures should be deleted. The use of the Caldwell (2005) sulfide data was reasonable in the effort to address confounding factors. The NCG does not intend to modify the assessment approach for sulfides based on this comment, and will continue to follow best practices and USEPA guidance. See also the response to ID No. 58.	Unacceptable. Current support for the 20 mg/L sulfide benchmark is not sufficient. Either provide appropriate support for the benchmark, or remove it from the figures and text.

ID No.	Reviewer	Comment Date	Section Name/Topic	Section/Table/ Figure No.	Page No.	Reviewer Comment No.	Comment Text	Category	Response/Proposed Path Forward	EPA Response
							water sulfide levels exceeding 20 mg/L, suggesting these are toxic in Leptocheirus. There are a number of flaws in this chain of logic that invalidate the development of the sulfide pore water concentration, 20 mg/L, as a concentration that may indicate a "greater likelihood of toxicity was possible". These flaws include: (1) There is a fatal flaw in the assumption that Leptocheirus has an exposure to porewater similar to that of Rhepoxynius. Specifically, Leptocheirus builds tubes while Rhepoxynius is a free burrowing amphipod (Hoffman et al., 2003). The EPA guidance (USEPA, 2001) recognizes this and further notes that "tube-building amphipods circulate oxygenated water through their burrows, thus reducing their exposure to pore water hydrogen sulfide (emphasis added)." In doing so, EPA recognizes that the use of Leptocheirus minimizes the potential for sulfide to be a confounding factor. In fact, the BERA itself recognizes that there is no sulfide benchmark for the Leptocheirus test on page 81 where it states that "a sulfide porewater level has not been established in these protocols" (this is a reference to the fact that the EPA Leptocheirus guidance does not establish a sulfide criterion for the test). (2) In addition, the reference upon which the BERA depends to develop this 20 mg/L "…level above which a greater likelihood of toxicity was possible…" is a citation that the BERA makes to a paper (Caldwell, 2005) presented at a conference. We were unable to find or obtain the data supporting the development of this uncertain effect level. The BERA is explicitly developing a sediment benchmark and fails to provide the data used in the development of the 20 mg/L level of likely toxicity, nor any peer review by EPA. (3) The BERA does not address the application of uncertainty factors in deriving this toxicity level as is standard practice in the development of benchmarks or toxicity values. The dependence on a single experiment and the vague description of the derived effect concentration is not consistent with EPA process for the use of a toxicity value for use in a baseline assessment and more consistent with application as a screening level benchmark for use in a Phase I assessment. Delete these figures because the benchmark created by NCG for sulfide is unsupported and the basis for including sulfides as a confounding factor is flawed.			
264.	USEPA	6/11/16	Spatial Distribution of Cadmium, Copper and Selenium in Study Area Polychaete	Figures 10-1, 10-2, and 10-3	--	150	Figure 10-1, 10-2, 10-3 Spatial Distribution of Cadmium, Copper and Selenium in Study Area Polychaete Tissue and Sediment: There appears to be a data gap between mile 2.0 and 2.4. Also, because the river is relatively wide, presenting these data on a map as well would better identify the actual location where these samples were collected. Revise to include a series of associated maps	Clarification	The locations of the polychaete bioaccumulation stations are included in Figure 4-4. The text will be revised to include this reminder when these tables are introduced and a note will be added to these tables indicating the same. The bioaccumulation stations were selected following a review of the Phase 1 surface sediment data to include a range of bioaccumulative compound concentrations in	Acceptable, pending the revised discussion.

ID No.	Reviewer	Comment Date	Section Name/Topic	Section/Table/ Figure No.	Page No.	Reviewer Comment No.	Comment Text	Category	Response/Proposed Path Forward	EPA Response
			Tissue and Sediment				showing these results in a geographic context.		surface sediment. The data indicated there was not a significant change in surface sediment concentrations in this area of Newtown Creek, so no stations were included from this area.	
265.	USEPA	6/11/16	Study Area Species Rarefaction Curves for Expected Species Richness, Diversity	Figures 10-4 and 10-5	--	151	Figures 10-4 and 10-5 Study Area Species Rarefaction Curves for Expected Species Richness, Diversity: Please explain the basis of the error bars.	Agree	An explanation of the basis of the error bars will be provided in the text and in the figures.	Acceptable
266.	USEPA	6/11/16	Statistical Difference in Study Area and Reference Area Species Richness, Diversity	Figures 10-6 and 10-7	--	152	Figures 10-6 and 10-7 Statistical Difference in Study Area and Reference Area Species Richness, Diversity: The BERA states that these indices cannot be causally linked to CERCLA COPEC concentrations because non-COPEC factors such as salinity likely influence the findings and the uncertainty in assessing fish populations is high. As a result, the analysis implied in the figures has no value in assessing the risks posed by exposure to CERCLA contaminants. As a result, the value of these figures is unclear, and the figure should be deleted or moved to an uncertainty section.	Disagree	The discussion in Section 10.7.4 on the effects of salinity on fish species richness is relevant to the risk characterization and should be retained. The biological community is affected by the cumulative effect of all stressors, particularly in an urban estuary. The BERA text will be revised to reflect this.	Partially Acceptable. Pending revised text. Discussions of salinity as a confounding factor should be presented in the Uncertainty section.
267.	USEPA	6/11/16	Percentage of Shoreline Type in Study Area and Reference Areas	Figure 11-1	--	153	Figure 11-1 Percentage of Shoreline Type in Study Area and Reference Areas: The category "Developed (with vegetation)" is not capturing a unique habitat. Revise this figure to reflect two categories – "Developed" or "Vegetated (no development)" to accurately reflect the shoreline types.	Disagree	Developed (with vegetation) and developed (no vegetation) are two unique habitat types. The BERA text will be revised to describe why these two habitat types are believed to be different.	Acceptable
268.	USEPA	6/11/16	Percentage of Vegetation Health in Study Area and Reference Areas	Figure 11-2	--	154	Figure 11-2 Percentage of Vegetation Health in Study Area and Reference Areas: The ranking of the different areas is very subjective and it is not appropriate to combine "Developed (with vegetation)" with "Vegetation (no development)", since these areas are not equivalent habitat types. Delete this figure because it is not objective and misleads by treating developed and non- developed (both with vegetation) as a single category.	Disagree	The figure is not misleading. It is presenting the relative health of the vegetation along the shoreline of the Study Area and the reference areas, regardless of whether the vegetation is associated with developed or non-developed shoreline. As discussed in the BERA and as performed in the Phase 1 surveys, the comparison is based on the diversity of the plant species, how many vegetative canopies were present, how stressed the vegetation appeared, and the width of vegetation (e.g., where good vegetation has an average width of 8 feet, moderate has an average width of 6 feet, and poor has an average width of 3 feet).	Unacceptable. Drop Figure 11-2, and remove associated text from the BERA.
269.	USEPA	6/11/16	Relationship Between Study Area Sediment and Polychaete Tissue Data – Total Dioxin/Furan TEQ 1998 (Avian) (KM) (MDL);	Figures 11-5a and Figure 11-5b	--	155	Figure 11-5a Relationship Between Study Area Sediment and Polychaete Tissue Data – Total Dioxin/Furan TEQ 1998 (Avian) (KM) (MDL) and Figure 11-5b Relationship Between Study Area Sediment and Polychaete Tissue Data – Total PCB Congener (KM) (MDL): In these figures, the NCG constructs regressions between sediment and Polychaete Tissue concentrations. For each chemical group the NCG developed a single regression line through all the data assuming that there are no local effects from the different tributaries. Visual review of Figure 11-5a would indicate that there are likely different relationships	Disagree	The one Dutch Kills sample shown in Figure 11-5a is one of five replicates. The other four samples for this location are clustered in with the relationship exhibited by the rest of the data in Figure 11-5a. Moreover, the fact that we do not see this sample point as an outlier in the PCB relationships (Figures 11-5b and c) indicates that the process of bioaccumulation is likely similar in this replicate as in the rest of the dataset. Similarly, the English Kills samples shown in Figure 11-5a fall in line with all other samples in Figures 11-5b and c. Finally, the avian TEQ value in tissue for the one Dutch Kills sample is similar to the other Dutch	Unacceptable. The data should also be analyzed for each of the individual study area segments, along with the combined study area.

ID No.	Reviewer	Comment Date	Section Name/Topic	Section/Table/ Figure No.	Page No.	Reviewer Comment No.	Comment Text	Category	Response/Proposed Path Forward	EPA Response
			Relationship Between Study Area Sediment and Polychaete Tissue Data – Total PCB Congener (KM) (MDL)				for English Kills and Dutch Kills at a minimum. The NCG should first investigate whether tributary effects should be included in these regression, before defaulting to a single regression for each chemical. Update these figures based on tributary effects.		Kills samples; it is the concentration in sediment that is different. Based on this information, we conclude that this one sample is likely an outlier in the measured sediment dioxin/furan concentrations. An alternative based on a different relationship for Dutch Kills would contradict the evidence provided by the other four samples, and would contradict the information provided by PCBs, leading to unnecessarily and unrealistically complex hypotheses regarding different bioaccumulation processes in different parts of the system. We conclude that it is reasonable to disregard this one sample and use the overall bioaccumulation relationship presented in Figure 11-5a.	
270.	USEPA	6/11/16	Possible Habitat Suitable for Emergent Macrophytes	Figure 12-1	--	156	Figure 12-1 Possible Habitat Suitable for Emergent Macrophytes: This figure is misleading. All shoreline within the river should have a slope, but this slope for some sections of the shoreline is not presented on the map. This analysis should be extended throughout the study area. Even areas lacking intertidal zones (always submerged) still have a slope. Even if the figure is only presenting the slope in areas where intertidal areas exist (as noted on the map that only areas above -0.3 feet NAVD88, and thus above MWL, were included), there appear to be slopes presented for areas with no intertidal area (i.e. the uppermost part of Dutch Kills). Furthermore, the results do not appear to have been confirmed with the bathymetry data. Revise the figure to assess all shorelines throughout the study area. Also, confirm the mapping with bathymetry data and provide the calculations that support the slope designations.	Agree	The information in the figure will be checked and revised as appropriate.	Acceptable
271.	USEPA	6/11/16	Attachment A – Baseline Ecological Risk Assessment Data and Calculation Files	--	--	157a	Attachment A: The following are examples for comments made for this attachment (Attachment A-12), make sure these comments are also addressed in other subfolders of Attachment A. a. The selection of data usability in risk screening (RISK) and baseline risk assessment (BASELINE) is following a complex decision rules provided in the BERA text Section 4.3. Thus, to ease the reviewer in using the data files provided in Attachment A, a column should be added to each of the data files stating the rationale for data usability selection (i.e., reason for "0" or "1" in the RISK or BASELINE usability column).	Clarification	Due to the vast amount of data available, adding a column to each of the data files indicating the rationale for each row would require a significant amount of time and not provide any added value to the risk assessment. Alternatively, to support the use of the files, a tab can be added to each file stating the decision rules.	Acceptable
272.	USEPA	6/11/16	Attachment A – Baseline Ecological Risk Assessment Data and Calculation Files	--	--	157b	b. In striped bass data files, many data records are missing "sys_loc_code" which shows the sampling zone. For example, sample FSZ1SB-R-001-20140603-WB does not have sys_loc_code in striped bass data files.	Agree	The sys_loc_code in the striped bass data files will be populated where required.	Acceptable
273.	USEPA	6/11/16	Attachment A – Baseline	--	--	157c-i	c. For individual chemical, only one record of data should be provided since there is inconsistency in	Agree/ Clarification	The record difference is because the FSZ1SB-R-001-20140603-WB sample is a reconstituted whole-body sample	Acceptable

ID No.	Reviewer	Comment Date	Section Name/Topic	Section/Table/ Figure No.	Page No.	Reviewer Comment No.	Comment Text	Category	Response/Proposed Path Forward	EPA Response
			Ecological Risk Assessment Data and Calculation Files				how the data were provided in the data files. i. Some sample has one record of data while other has multiple records. For example, arsenic concentration in striped bass. There are four records of data for sample FSZ1SB-R-001- 20140603-WB and one record for sample FSZ1SB-001W-201406. For sample FSZ1SB-R-001- 20140603-WB, one marked as usable for RISK (data with 'U=1/2'), one marked as usable for BASELINE (data with 'U=0 (MDL)'), and two marked as unusable. Arsenic is detected in all samples, and arsenic is not used in any summation of chemicals. Thus, only one record of data should be provided.		and there are four different ways to reconstitute the data, depending on the detection status of the tissue data making up the reconstituted total. The other sample is not reconstituted so just one record is provided. As requested, the data files that include reconstituted data will be updated to include the record used for the SLERA and the record used for the BERA.	
274.	USEPA	6/11/16	Attachment A – Baseline Ecological Risk Assessment Data and Calculation Files	--	--	157c-ii	ii. Not all MDL or RL are provided in the data files. The "Method_Detection_Limit" and/or "Reporting_Detection_Limit" columns in the data files are marked as 'NaN', but there is value in the "Result_Value" column for nondetected concentration which represent either the MDL or RL value. For example, silver is not detected in sample FSZ2SB-R-001-20140606- WB with "Result_Value" of 0.05, but the corresponding RL columns as 'NaN'. The inconsistency should be corrected.	Agree/ Clarification	Tissue concentrations include calculated chemical group totals and calculations based on reconstituted concentrations from analyzed tissue types. MDL and RL values as reported by the analytical laboratories are not provided for calculated values. Pending internal review, the RL and MDL fields associated with calculated totals and reconstituted results will be revised as needed to report "NaN." An RL and MDL will be provided for all other results.	Acceptable
275.	USEPA	6/11/16	Attachment A – Baseline Ecological Risk Assessment Data and Calculation Files	--	--	157c-iii	iii. Results for 'U=1/2' or 'U=1/2 (MDL)' in the "Result_Value" should be different than results for 'U=0' and 'U=0 (MDL)'. For example, silver results for sample FSZ2SB-R-001-20140606- WB has "Result_Value" of 0.05 for both 'U=0' and 'U=1/2'. Correct as necessary.	Clarification	The values for silver provided in the example are correct and follow our data treatment rules. As indicated in the draft BERA report, for both U = 0 and U = 1/2, if both tissue types are non-detect, the non-detects are reported at the RL or MDL. Under this scenario (both [or all] tissue types being non-detect), the U = 0 and U = 1/2 totals will be equal.	Acceptable. Pending additional clarifying footnote or text.
276.	USEPA	6/11/16	Attachment A – Baseline Ecological Risk Assessment Data and Calculation Files	--	--	157d	d. Section 4.3.4.2 on page 35 of BERA states "when there were fewer than three detected constituents, the KM total was not calculated." Thus, KM should not be calculated for summation of chemicals with less than three chemicals (e.g., sum DDD in striped bass). Make necessary corrections.	Agree/ Clarification	Consistent with Section 4.3.4.2 of the draft BERA report, KM totals were not calculated when there were fewer than three detected constituents. Chemical names will be corrected as necessary.	Acceptable
277.	USEPA	6/11/16	Attachment A – Baseline Ecological Risk Assessment Data and Calculation Files	--	--	157e	e. For summation of chemical, treatment of NDs were reported in four ways, KM RL, KM MDL, U=1/2 (based on half of RL), and U=0 (based on MDL) stated on Section 4.3.4.1 (pages 34 and 35 of the text. However, the data files reported the data in more than four ways. In addition, in some cases there are two records for U=0 based on MDL. The data results appear to be identical, but there is inconsistent "CALC_NAME" and "CALC_NAME_4PROUCL". For example, sum DDT	Agree/ Clarification	See the response to ID No. 273. The data files that include reconstituted data will be updated to include the record used for the SLERA and the record used for the BERA.	Acceptable

ID No.	Reviewer	Comment Date	Section Name/Topic	Section/Table/ Figure No.	Page No.	Reviewer Comment No.	Comment Text	Category	Response/Proposed Path Forward	EPA Response
							in striped bass for sample FSZ1SB-R-001-20140603-WB has 7 records: Sum DDT (KM) (RL), Sum DDT (KM) (MDL), Sum DDT (U=1/2), Sum DDT (U=0), Sum DDT (U=1/2) (MDL), and two Sum DDT (U=0) (MDL). Thus, unusable data (U=0 based on RL, and U=1/2 based on MDL) should not be included in the data files or the inconsistency should be corrected.			
278.	USEPA	6/11/16	Attachment C1, Benthic Community Analysis Weisberg Biotic Index Scores	--	--	158a	Attachment C: a. Attachment C1 Benthic Community Analysis Weisberg Biotic Index Scores: This table lists "Average of Percent Sensitive Score". However, Table 8-2 Benthic Community Dominance Summary does not have species listed as "Pollution Sensitive". Confirm that there are no "pollution sensitive" species included in the WBI score calculation.	Clarification	This will be checked.	Acceptable
279.	USEPA	6/11/16	Attachment C2, Weisberg Biota Index Versus Sediment COPECs	--	--	158b	b. Attachment C2 Weisberg Biota Index Versus Sediment COPECs: Define yellow circles in most figures presented in this attachment.	Clarification	Yellow circles will be defined.	Acceptable

Category Key
Minor: Takes some work to provide.
Agree: Agree with this comment.
Disagree: Disagree with this comment.
Clarification: Response provides clarification to the comment or clarification on the comment is requested.
Discussion: Comment should be discussed with the NCG.
Comment Noted: The comment has been noted.
Objection: The NCG objects to language and tone of the comment. Please see attached letter from W. David Bridgers to Michael Mintzer and Caroline Kwan, dated August 1, 2016.
Comply: The comment will be complied with even though the NCG does not agree with USEPA's request.

Newtown Creek
Baseline Ecological Risk Assessment Comment and Response Matrix

Acronyms:

µg/gOC = microgram per gram of organic carbon
µg/L = micrograms per liter
3Ps = pharmaceuticals, personal care products, pathogens, and endocrine disruptors
ANOVA = analysis of variance
AVS = acid volatile sulfide
BERA = *Baseline Ecological Risk Assessment*
BERA PF = *Baseline Ecological Risk Assessment* problem formulation
BMI = benthic macroinvertebrate
CERCLA = Comprehensive Environmental Response, Compensation, and Liability Act
CM = creek mile
CN = cyanide
COPC = contaminant of potential concern
COPEC = contaminant of potential ecological concern
CPUE = catch per unit effort
CSM = conceptual site model
CSO = combined sewer overflow
DAR = *Data Applicability Report*
DDD = dichlorodiphenyldichloroethane
DDT = dichlorodiphenyltrichloroethane
DDx = 2,4' and 4,4'-DDD, -DDE, -DDT
DMMP = Dredged Material Management Program
DO = dissolved oxygen
DQO = data quality objective
EcoSSL = Ecological Soil Screening Level
EMF = exposure modifying factor
EPA or USEPA = U.S. Environmental Protection Agency
EPC =exposure point concentration
EPH = extractable petroleum hydrocarbon
EqP = equilibrium partitioning
ERED = Environmental Residue Effects Database
ERM = effects range median
ES = executive summary
FoD = frequency of detection
FS = Feasibility Study
HPAH = high-molecular-weight polycyclic aromatic hydrocarbon
HQ = hazard quotient
KM = Kaplan-Meier
LOAEL = lowest observed adverse effect level
LOEC = lowest observable effect concentration
LPAH = low-molecular-weight polycyclic aromatic hydrocarbon
LRM = logistic regression model
m^2 = square meter
MDL = method detection limit
mg/kg = milligrams per kilogram
mg/L = milligrams per liter
MGP = Manufactured Gas Plant
MWL = mean water level
NAPL = nonaqueous phase liquid
NAVD88 = North American Vertical Datum of 1988
NCG = Newtown Creek Group
ND = not detected
NOAEL = no observed adverse effect level
NOEC = no observed effect concentration
NRWQC = National Recommended Water Quality Criteria
NY = New York
NYC = New York City
NYCDEP = New York City Department of City Planning
NYSDEC = New York State Department of Environmental Conservation
OSWER = Office of Solid Waste and Emergency Response
PAH = polycyclic aromatic hydrocarbon
PCB = polychlorinated biphenyl
PDRC = Phelps Dodge Refining Corporation
PEC = probable effect concentration
Phase 2 RI Work Plan Volume 1 = *Phase 2 Remedial Investigation Work Plan – Volume 1*
ppt = parts per trillion
PRG = Preliminary Remediation Goal
QA/QC = quality assurance/quality control
QAPP = Quality Assurance Project Plan
RAGS = Risk Assessment Guidance for Superfund
RBP = Rapid Bioassessment Protocol
RI = Remedial Investigation
RI/FS = Remedial Investigation/Feasibility Study
RL = reporting limit
RPD = relative percent difference
SEM = simultaneously extracted metals
SGVoc = a Sediment Guidance Value expressed in units of microgram of contaminant per gram of organic carbon
SL = screening level
SLERA = screening level ecological risk assessment
SMARM = Sediment Management Annual Review Meeting
SMS = Sediment Management Standards
SPME = solid-phase microextraction
SQT = sediment quality triad
TBD = to be determined
TEQ = toxic equivalence quotient
TM = technical memorandum
TOC = total organic carbon
TPH = total petroleum hydrocarbon
TRV = toxicity reference value
TSS = total suspended solids
TU = toxic unit
U = 0 = Non-detect values are treated as zero
U = 1/2 = non-detect values are treated as 1/2 the method detection limit or reporting limit
UCL = upper confidence limit
UCM = unresolved complex mixture
WBI = Weisberg Biotic Index

References:

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