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Memorandum

To: Kimberly N. Tisa; PCB Coordinator, U.S. Environmental Protection Agency

From: David M. Sullivan; LSP, TRC Environmental Corporation

Through: Scott Alfonse; City of New Bedford, Dept. of Environmental Stewardship

CC: Cheryl Henlin, City of New Bedford

Subject: Response to USEPA Comments on Stage I Environmental Screening and Stage II Environmental Risk Characterization, Keith Middle School Wetland, New Bedford, MA

Date: June 17, 2011

TRC Environmental Corporation (TRC) has prepared the following responses to the comments and requests for additional information received from the U.S. Environmental Protection Agency (USEPA) concerning the Stage I Environmental Screening and Stage II Environmental Risk Characterization for the Keith Middle School Wetland in New Bedford, Massachusetts. These responses and additional information will serve as an addendum to the environmental risk characterization report that is available to the public.

Thank you for your comments and suggestions. Should you have any questions regarding the enclosed addendum, please feel free to contact me at (978) 656-3565 or Scott Heim at (978) 656-3583.

Addendum
Environmental Risk Characterization
Keith Middle School Wetland Site
Responses to USEPA Comments on Draft Stage I Environmental Screening & Stage II Environmental Risk Characterization Report

GENERAL COMMENTS

General Comment 1*: The technical basis and recommended media PRG values themselves, need to be checked and verified. For example, toxicological responses and chemical concentrations in bioassays should be examined to determine if or what chemical stressor(s) are associated with the responses. If the wetland soil or sediment data can support development of a PRG, consider deriving a Maximum Acceptable Toxic Concentration (MATC) which is the geometric mean of the NOAEL and LOAEL.*

Response: Toxicological responses to the sediment toxicity testing are presented in Appendix C of the Stage I/II ERC; a summary of the responses as well as the chemical concentrations present in the bioassays are presented in Table 5-3. These results formed the technical basis for sediment PRG values as samples containing the highest concentrations of PCBs or PAHs resulted in adverse effects to the test organism(s). Sediment PRGs for benthic organisms were recalculated using the MATC (geometric mean of highest NOAEL and LOAEL values associated with the bioassays). The PRGs calculated using the MATC resulted in identical PRGs for the sediment (based on the MATC for benthic organisms). For wildlife receptors, the average of the NOAEL and LOAEL PRGs that are presented in the report are believed to be conservative since the lowest LOAEL reported in the literature was selected (rather than the mean or geometric mean of available LOAEL values).

General Comment 2*: The application of percent organic carbon (%OC) to derive sediment benchmarks in the screening or organic carbon normalized sediment or wetland soil concentrations in the ERC is not supported by data presented in the Report. These data have a large effect on estimated risks and PRG development, therefore, not only should the data be presented but DQOs of the data collection should support risk management decision making.*

Response: Total organic carbon data is presented in Appendix A of the Stage I/II ERC for each of the 14 samples where this parameter was analyzed. The statistical results of these TOC data are presented in Appendix B of the Stage I/II ERC. TOC data was available from 11 previous sediment samples collected from the wetland (areas that were not excavated) as well as from more recent sediment samples collected by TRC in 2009 to evaluate TOC within the excavated portion of the wetland. These data are sufficient to support statistical evaluation and risk management decision making.

General Comment 3*: The Report does not indicate if or how censored data are used in the screening or characterization. For example, what value if any was used in place of ND? If necessary, review the newly released ProUCL 4.1.00 at http://www.epa.gov/osp/hstl/tsc/software.htm.*

Response: Section 2.3 of the Report discusses how data were evaluated for use in the Stage I/II ERC. For example, on page 2-4 of the Report it is stated "The mean and UCL of the mean were calculated based on the SQL for those samples where a constituent was nondetected". The approach used to evaluate duplicate samples is also presented within this section. Summary statistics were calculated using ProUCL.

General Comment 4*: The Report should consider the ecological significance of the identified risk. For example, consider: 1) the magnitude of the risk and the level of biological organization affected; 2) the likelihood an effect will occur or continue to occur; 3) ecological relationship of the KMS wetland to surrounding habitats; 4) sensitivity of the site affected habitat; 5) recovery potential from an adverse effect, and chemical persistence; 6) short and long-term ecological affect of the remedy.*

Response: The ecological significance of the ecological risks identified in the report is expanded upon within the following discussion. This discussion will also be provided in the Phase III Report for the KMS wetland that addresses the risk and proposed remedy including the short and long-term ecological effect of the remedy. The magnitude of the risk and organisms affected by sediment and/or soil contaminants are presented graphically in Attachment A to this Addendum while the magnitude and likelihood of adverse effects occurring, ecological relationship of the KMS wetland to the surrounding area and its sensitivity and recovery potential are discussed in the following text.

Total Polycyclic Aromatic Hydrocarbons (PAHs) and High Molecular Weight (HMW) PAHs are not anticipated to present widespread risk to ecological receptors inhabiting the aquatic habitat of the KMS wetland as indicated in Figures A-1 and A-2 in Attachment A. Only one sampling location exceeds the HMW PAH Preliminary Remediation Goal (PRG) based on protection of foraging muskrats indicating these constituents are unlikely to adversely affect mammalian herbivores foraging at the KMS wetland. HMW PAHs were not identified as risk drivers for other receptor groups within the aquatic habitat of the KMS wetland. Total PAHs exceed the benthic community PRG at only two sampling locations indicating impacts to benthic macroinvertebrates are likely to be very localized and not widespread within the wetland. Similarly, zinc was detected at only two sediment sampling locations above the benthic community PRG indicating widespread impacts are also not anticipated to benthic macroinvertebrates (see Figure A-4 in Attachment A). Zinc was not identified as a risk driver for other receptor groups within the aquatic habitat of the KMS wetland.

Total PCBs exceed both the benthic community PRG and marsh wren PRG at a greater number of the wetland sediment sampling locations than either PAHs or zinc (see Figure A-3 in Attachment A). Only three sediment sampling locations exceed the muskrat PRG indicating severe impacts to foraging mammalian herbivores would not be expected. Other receptor groups (herbivorous birds, omnivorous birds/mammals, and insectivorous mammals) are not expected to be adversely affected by the concentrations of total PCBs within the aquatic habitat provided by the KMS wetland. Impacts to benthic organisms and insectivorous birds are possible due to lower benthic macroinvertebrate productivity that may affect foraging insectivorous wildlife due to decreased food availability and potentially through the ingestion of PCB-contaminated aquatic insects. However, the likelihood of widespread adverse effects is not anticipated to be high as most of the total PCB concentrations within sediment samples are below the benthic community PRG.

Total PCB concentrations in the wetland surface soils exceed both the American robin PRG and the short-tailed shrew PRG at seven and nine soil sampling locations, respectively (see Figure A-5 in Attachment A). The white-footed mouse PRG is exceeded at only two sampling locations indicating impacts to mammalian herbivores (as well as other receptors including seed-eating birds, and carnivorous birds/mammals) are not anticipated from PCBs in surface soil. Although the robin and shrew PRGs are exceeded at seven or more sampling locations, the mean concentration of total PCBs in the KMS wetland surface soil are less than the robin/shrew PRGs indicating that, overall, widespread impacts would not be anticipated to foraging avian and mammalian invertivores inhabiting the forested habitat associated with the KMS wetland. As indicated in Figures A-6 and A-7 of Attachment A, both lead and zinc exceed the selected PRGs at only one sample location each indicating widespread impacts are not anticipated to ecological receptors inhabiting the forested habitat present at the KMS wetland.

The KMS wetland represents an “island” of habitat that is surrounded by residential areas, streets and the adjacent KMS. Additional wetland areas are located downgradient of the KMS wetland and are connected hydrologically to the KMS wetland via an intermittent stream. The KMS wetland may serve as a refuge providing many of the habitat requirements needed by various biota such as macroinvertebrates, amphibians and reptiles that may subsequently disperse into nearby suitable habitat(s). Other important biota utilizing the KMS wetland includes a diverse avian community represented by waterfowl, wading birds and various songbirds. Mammals including small mammals such as voles and mice, muskrats, raccoon, striped skunk, and red fox also inhabit or forage within the KMS wetland as the various habitats present are anticipated to provide significant habitat value for these species, particularly in relation to the surrounding land use which consists primarily of residential areas.

Sensitivity of the aquatic habitat provided by the KMS wetland to the contaminants present is expected to be relatively low. Although aquatic macroinvertebrates would be in direct contact with sediment contaminants such as PCBs, the high organic carbon content present within the sediment may result in low bioavailability of PCBs to ecological receptors inhabiting the KMS wetland. The contaminants of ecological concern identified at the KMS wetland include PAHs, PCBs, and metals. PCBs and metals are persistent and concentrations present within the sediment and surface soil of the KMS wetland are not anticipated to naturally decrease significantly over time. A proposed remedy that removes the elevated concentrations of these contaminants within the sediment would be expected to allow a full and quick recovery of the KMS wetland. Areas where sediment excavation may occur presently contain aquatic and/or herbaceous emergent vegetation that would be expected to rapidly recolonize disturbed areas following sediment removal (and placement of clean sediment to maintain the existing grade elevations).

General Comment 5*: There should be further evaluation and discussion in the Stage II ERC of site chemical fate and transport (Problem Formulation, Conceptual Site Model (CSM). Particle-bound hydrophobic organic chemicals (e.g., pesticides/PCBs/PAHs) and water soluble* *inorganics (metals) are mobile to varying degrees depending on stormwater, surface water and groundwater hydrology and characteristics of the drainage.*

Response: Additional text has been provided below that further discusses chemical fate and transport of site contaminants of ecological concern.

The Auburn Street land bridge separates the southern and northern portions of the KMS wetland; however, there is no culvert through the land bridge and thus no surface water flow occurs between the two areas. Depending on the season, the northern portion of the KMS wetland may contain up to several feet of surface water, whereas the southern portion of the wetland generally does not contain significant amounts of surface water. Surface water flow through the northern portion of the KMS wetland is controlled by topography and the elevation of surface water in the wetland relative to the culvert that crosses Durfee Street. During wet periods (i.e., periods of rain and snowmelt), water flows into the wetland primarily through two mechanisms: direct runoff across the ground into the wetland and flow from storm water drains surrounding the KMS that collect both runoff from paved areas surrounding the school and from the roof of the school. Some runoff may collect in channels and be conveyed into the wetland. When water in the KMS wetland rises above the elevation of the outfall of the culvert at the north end of the wetland crossing Durfee Street (the outfall appears to be at a higher elevation than the inlet), surface water flows through the culvert and along the channel north of Durfee Street into Apponagansett Swamp to the north. The swamp is approximately 15 feet lower in elevation as compared to the KMS wetland, hence water flows downgradient into Apponagansett Swamp.

Sediment sampling activities were conducted at four properties, collected referred to as the "Durfee Street Wetlands," located north across Durfee Street from the KMS wetland by the United States Environmental Protection Agency's (EPA's) contractor Weston Solutions, Inc. (Weston) in May and July 2010. Weston advanced a total of 28 sediment borings up to 3 feet in depth within the four properties, from which 72 sediment samples were analyzed for PAHs, PCBs and/or metals (not including quality control samples). Analytical results from the Weston investigation indicate the presence of PAHs, PCBs and/or metals concentrations in sediment above MassDEP sediment screening criteria in each of the four properties, and above MCP Method 1 S-1 soil standards at two of the properties. The distribution and concentrations of the compounds detected within the sediment samples generally indicates higher impacts in areas closest to the channel flowing through the Durfee Street wetlands, with sediment results above MCP Method 1 S-1 standards only identified in samples collected from the properties located adjacent to the channel. This indicates transport of hydrophobic organic site contaminants of ecological concern (i.e., PAHs and PCBs) bound to sediment particles occurring via erosion and/or surface water flow during flooding events as a potential source for the chemical impacts detected in the Durfee Street wetlands. In addition, with erosion and/or surface water flow during flooding events considered a potential transport mechanism for sediment bound chemicals, potential also exists for transport of water soluble inorganic compounds (e.g., metals) during flooding events.

The groundwater aquifer in the vicinity of the KMS Wetland is unconfined and is generally present about 4 feet below ground surface. Groundwater gauging activities performed by TRC indicate a southeast to southerly flow direction towards the topographically lower parts of the watershed. However, groundwater analytical results for samples collected from monitoring wells surrounding the KMS Wetland indicate no PAH concentrations above laboratory reporting limits and no PCB or dissolved metals concentrations above applicable MCP Method 1 GW-1, GW-2 and/or GW-3 standards. As such, transport of (site contaminants of ecological concern via) – change font of text in () to Times New Roman groundwater flow is not considered a concern and is not discussed further.

General Comment 6*: Add a table of the site organic carbon data currently missing from the report. Then present and discuss in the revised report the basis for using an average of 29.04% total organic carbon in the ERC.*

Response: Total organic carbon data is presented in Appendix A of the Stage I/II ERC for each of the 14 samples where this parameter was analyzed. The statistical results of these TOC data are presented in Appendix B of the Stage I/II ERC. As presented in Appendix B, the mean TOC concentration within the sediment is 29.0%. TOC data was available from 11 previous sediment samples collected from the wetland (areas that were not excavated) as well as from more recent sediment samples collected by TRC in 2009 to evaluate TOC within the excavated portion of the wetland. These data are believed to be sufficient to support statistical evaluation and risk management decision making.

SPECIFIC COMMENTS

Page 3-1, §3.0, Stage II ERC – Problem Formulation*: Add to this section upfront, or within chemical-class subsections and the CSM, a more complete accounting of chemical fate and transport either as particle-bound or water soluble contaminants. Chemical migration is within the scope of the Stage II ERC. The discussion at the top of page 3-4 is insufficient. Add it to Figure 3-2 within the "Potentially Impacted Media" column. Hydrophobic organic contaminants (pesticides/PCBs/PAHs) and more water soluble metals are mobile to varying degrees and depend on stormwater, surface water and groundwater hydrologies and characteristics of the down-gradient drainage.*

Response: Additional text has been added in response to General Comment 5 above that further discusses chemical fate and transport of site contaminants of ecological concern. A revised Figure 3-2 is attached to this Addendum to indicate that the primary transport mechanism of surface erosion and runoff via particle-bound and dissolved contaminants may potentially impact sediment and surface water present at the KMS Wetland as well as downstream habitats.

Page 3-1, §3.1, Environmental Setting*: Add to the section a statement that the wetland habitat overall is of high quality because of a mix of forested, shrub-scrub, and emergent wetlands, and juxtaposition of structural elements including numerous snags (standing dead trees) in areas A, B and C, and deeper open water in area B promoting Typha (cattails) over the lower quality Phragmites sp. (common reed).*

Response: It is recognized that the northern wetlands area represents a high-quality wildlife habitat due to the juxtaposition of the three different habitat types along with other structural elements present within this wetland including snags (standing dead trees) and deep/shallow marsh areas that promote growth of common cat-tail (*Typha latifolia*) over the lower quality common reed (*Phragmites australis*). These characteristics provide a wide variety of habitats within the northern wetland that allow a diverse wildlife community to be present.

Page 3-10, §3.5, Conceptual Site Model: *See comment above regarding CSM. A more accurate definition of Assessment Endpoints is needed. They should be natural or living resources that are of value and are to be protected and are specifically addressed in the ERC.*

Response: Assessment endpoints have been revised to be more specific. Table 3-1 which presents both Assessment and Measurement Endpoints has been revised and is attached to this Addendum. An example of the revised assessment endpoint for the amphibian community is provided as follows: "Maintain a diverse and abundant amphibian community that is self-sustaining within the habitats provided by the KMS Wetland."

Page 4-3, §4.1.2, Table 4-5; and Page 6-2, §4.1.2*: How was 10% TOC in sediment determined for used in the SEL sediment benchmarks? In what samples and data presented where? In Table 4-5, TOC normalized sediment concentrations are based on 29.04% OC but there is no data or statistics to support its use. These data have a large effect on estimated risks and PRG development, therefore, not only should the data be presented but DQOs of the data collection should support risk management decision making. On page 6-2, the ERC states "high total organic carbon levels present in the aquatic habitat of the KMS Wetland" however it seems to be an assumption only. Use of %OC to estimate risks or develop PRGs must be based on real data.*

Response: The SEL benchmarks were derived from Persaud et al. (1993) which are normalized to the TOC content of the sediment. Persaud et al. recommend that for sediments containing high TOC content (i.e., greater than 10% TOC), a default value of 10% TOC be used to calculate the SEL benchmarks. Total organic carbon data is presented in Appendix A of the Stage I/II ERC for each of the 14 samples where this parameter was analyzed. The statistical results of these TOC data are presented in Appendix B of the Stage I/II ERC. As presented in Appendix B, the mean TOC concentration within the sediment is 29.0%. TOC data was available from 11 previous sediment samples collected from the wetland (areas that were not excavated) as well as from more recent sediment samples collected by TRC in 2009 to evaluate TOC within the excavated portion of the wetland. These data are believed to be sufficient to support statistical evaluation and risk management decision making.

Page 4-9, §4.2.2, Benthic Invertebrate TRVs, and Table 4-31: *Severe Effect Levels (SELs) are only justified for Aroclor 1254 and 1260 because these do not have TEC and PEC sediment benchmarks. Based on what field data was 10% OC selected to derive SEL values in the table? What data and statistics? If there is none, or the statistics are not fully supported, then assume 1% OC and apply to Aroclor 1254 and 1260 SELs only.*

Response: Please see the response above for derivation of organic carbon data used to derive SELs. Due to the very high OC content of the sediment present within the aquatic habitat, it is reasonable to evaluate the effects of organic carbon on the sediment benchmarks as this is the approach used for equilibrium partitioning. Note that the PEC benchmarks initially used to evaluate sediment concentrations for their effects to benthic organisms represent the geometric mean of five sediment effect concentrations including SELs. The SELs as well as the TETs (Toxic Effect Thresholds) benchmarks which were used in developing the PECs are typically normalized to the sediment organic carbon content. The PECs were calculated based on an assumed OC content of 1% for these two sets of sediment effect concentrations. Normalizing the SELs and TETs to 10% OC would result in higher PECs. Given this, it is reasonable to evaluate hydrophobic organic contaminants based on the actual organic carbon content of the site sediment.

Page 5-9, §5.4, Uncertainty Analysis: *Add to the section a subsection possibly titled "lines of evidence" comparing risks (HQs) across receptors and assessment endpoints (or measures of effect) pointing out where there is agreement or not. Consider adding figures of the sediment or soil concentrations as cumulative distributions with plotted benchmarks and PRGs, as in the example below. This type of presentation allows the reader a quick and accurate comparison of the magnitude of the contamination to effects and PRGs by medium.*

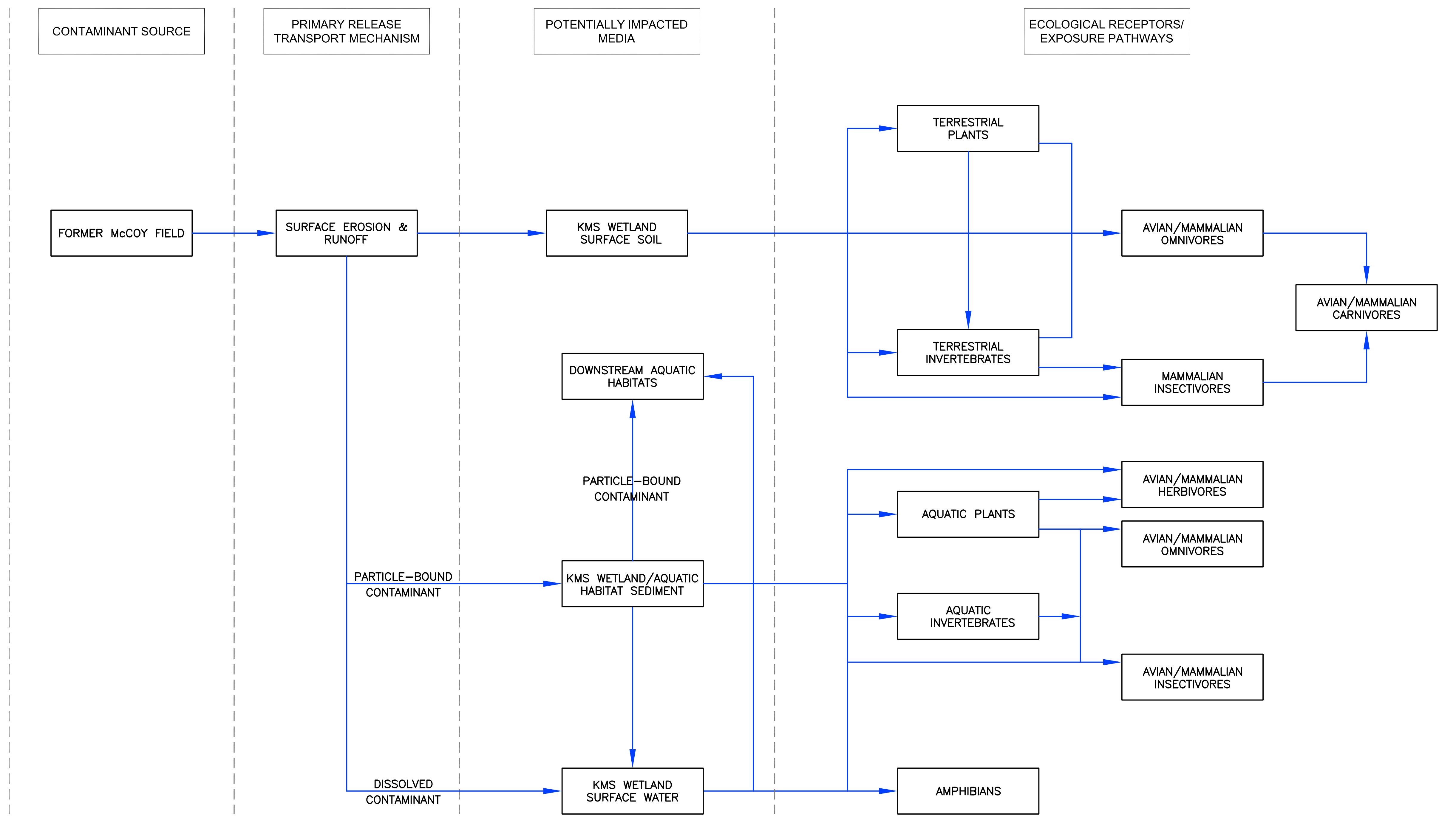
Response: Additional text has been added in response to General Comment 4 above that compares risk for the assessment endpoints. Figures A-1 through A-7 of Attachment A to this Addendum present cumulative distributions, plotted benchmarks and PRGs for each of the contaminants identified as presenting a potential risk within the aquatic habitat or forested wetland habitat provided by the KMS Wetland.

Table 3-1 (Revised)
Assessment Endpoints and Measurement Endpoints
KMS Wetland
New Bedford, Massachusetts

Assessment Endpoints	Measurement Endpoints	Exposure Area
Maintain a diverse and abundant amphibian community that is self-sustaining within the habitats provided by the KMS Wetland	Comparison of surface water contaminant concentrations with surface water quality criteria protective of aquatic organisms.	Aquatic habitat of northern wetland area
Maintain a diverse and abundant macrobenthic community that is self-sustaining within the aquatic habitats provided by the KMS Wetland	Comparison of bulk sediment contaminant concentrations with sediment threshold and probable adverse effects to benthic biota; Toxicity test results with *Chironomus tentans* and *Hyalella azteca*.	Aquatic habitat of northern wetland area
Maintain a healthy aquatic avian herbivore community within the aquatic habitats provided by the KMS Wetland	Comparison of estimated contaminant exposure doses received by Canada goose to chronic NOAEL/LOAEL survival, reproductive, or growth effect concentrations reported in literature.	Aquatic habitat of northern wetland area
Maintain a healthy aquatic mammalian herbivore community within the aquatic habitats provided by the KMS Wetland	Comparison of estimated contaminant exposure doses received by muskrat to chronic NOAEL/LOAEL survival, reproductive, or growth effect concentrations reported in literature.	Aquatic habitat of northern wetland area
Maintain a healthy aquatic avian omnivore community within the aquatic habitats provided by the KMS Wetland	Comparison of estimated contaminant exposure dose received by mallard to chronic NOAEL/LOAEL survival, reproductive, or growth effect concentrations reported in literature.	Aquatic habitat of northern wetland area
Maintain a healthy semi-aquatic mammalian omnivore community within the habitats provided by the KMS Wetland	Comparison of estimated bioaccumulative PCOPEC exposure dose received by raccoon to chronic NOAEL/LOAEL survival, reproductive, or growth effect concentrations reported in literature.	Aquatic habitat of northern wetland area
Maintain a healthy semi-aquatic avian insectivore community within the aquatic habitats provided by the KMS Wetland	Comparison of estimated contaminant exposure dose received by marsh wren to chronic NOAEL/LOAEL survival, reproductive, or growth effect concentrations reported in literature.	Aquatic habitat of northern wetland area
Maintain a healthy foraging mammalian insectivore community within the aquatic habitats provided by the KMS Wetland	Comparison of estimated contaminant exposure dose received by little brown bat to chronic NOAEL/LOAEL survival, reproductive, or growth effect concentrations reported in literature.	Aquatic habitat of northern wetland area
Maintain a healthy terrestrial avian omnivore community within the forested habitats provided by the KMS Wetland	Comparison of estimated contaminant exposure doses received by American robin to chronic NOAEL/LOAEL survival, reproductive, or growth effects reported in scientific literature.	Forested habitat in northern and southern wetland areas

Table 3-1 (Revised)
Assessment Endpoints and Measurement Endpoints
KMS Wetlands
New Bedford, Massachusetts

Assessment Endpoints	Measurement Endpoints	Exposure Area
Maintain a healthy terrestrial mammalian omnivore community within the forested habitats provided by the KMS Wetland	Comparison of estimated contaminant exposure doses received by white-footed mouse to chronic NOAEL/LOAEL survival, reproductive, or growth effects reported in scientific literature.	Forested habitat in northern and southern wetland areas
Maintain a healthy terrestrial mammalian invertivore community within the forested habitats provided by the KMS Wetland	Comparison of estimated contaminant exposure doses received by short-tailed shrew to chronic NOAEL/LOAEL survival, reproductive, or growth effects reported in scientific literature.	Forested habitat in northern and southern wetland areas
Maintain a healthy terrestrial avian raptor community within the forested habitats provided by the KMS Wetland	Comparison of estimated contaminant exposure doses received by red-tailed hawk to chronic NOAEL/LOAEL survival, reproductive, or growth effects reported in scientific literature.	Forested habitat in northern and southern wetland areas
Maintain a healthy terrestrial mammalian carnivore community within the forested habitats provided by the KMS Wetland	Comparison of estimated contaminant exposure doses received by red fox to chronic NOAEL/LOAEL survival, reproductive, or growth effects reported in scientific literature.	Forested habitat in northern and southern wetland areas



KEITH MIDDLE SCHOOL WETLANDS
NEW BEDFORD, MASSACHUSETTS

CONCEPTUAL SITE MODEL 9REVISED)

TRC
Wannalancit Mills
650 Suffolk Street
Lowell, MA 01854
(978) 970–5600

FIGURE 3-2

DRAWN BY: HWB
CHECKED BY: SH
DATE: JUNE 2011

FILE: T:\E_CAD\115058\KMS CONCEPT SITE MODEL–REVISED.dwg

ATTACHMENT A

Cumulative Distribution Graphs

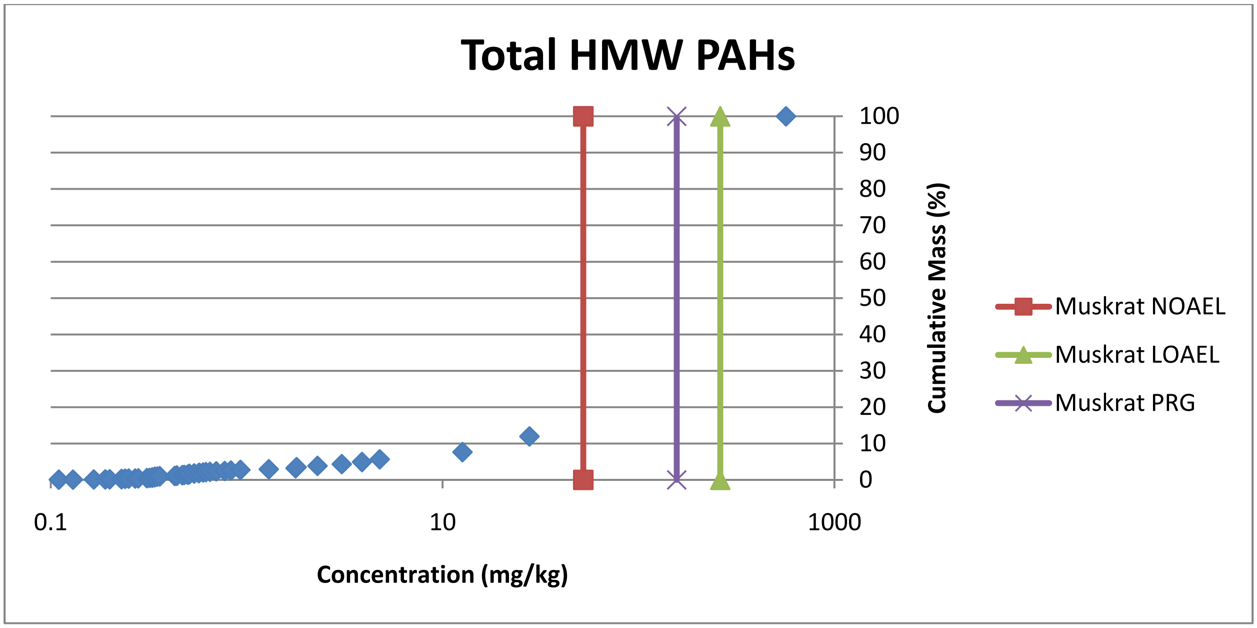


Figure A-1. Cumulative Distribution of Total High Molecular Weight (HMW) PAHs in KMS Wetland Sediment with plotted benchmarks. Muskrat PRG represents the selected total HMW PAH PRG for the sediment.

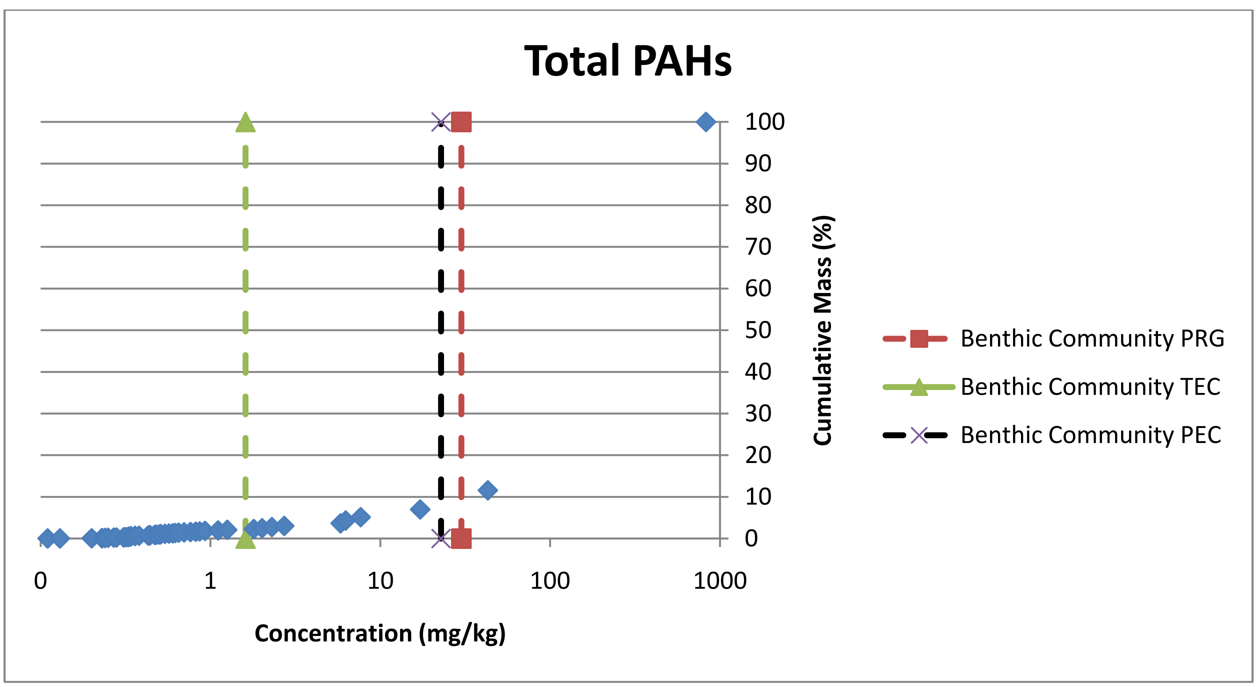


Figure A-2. Cumulative Distribution of Total PAHs in KMS Wetland Sediment with plotted benchmarks. Benthic Community PRG represents the selected total PAH PRG for the sediment.

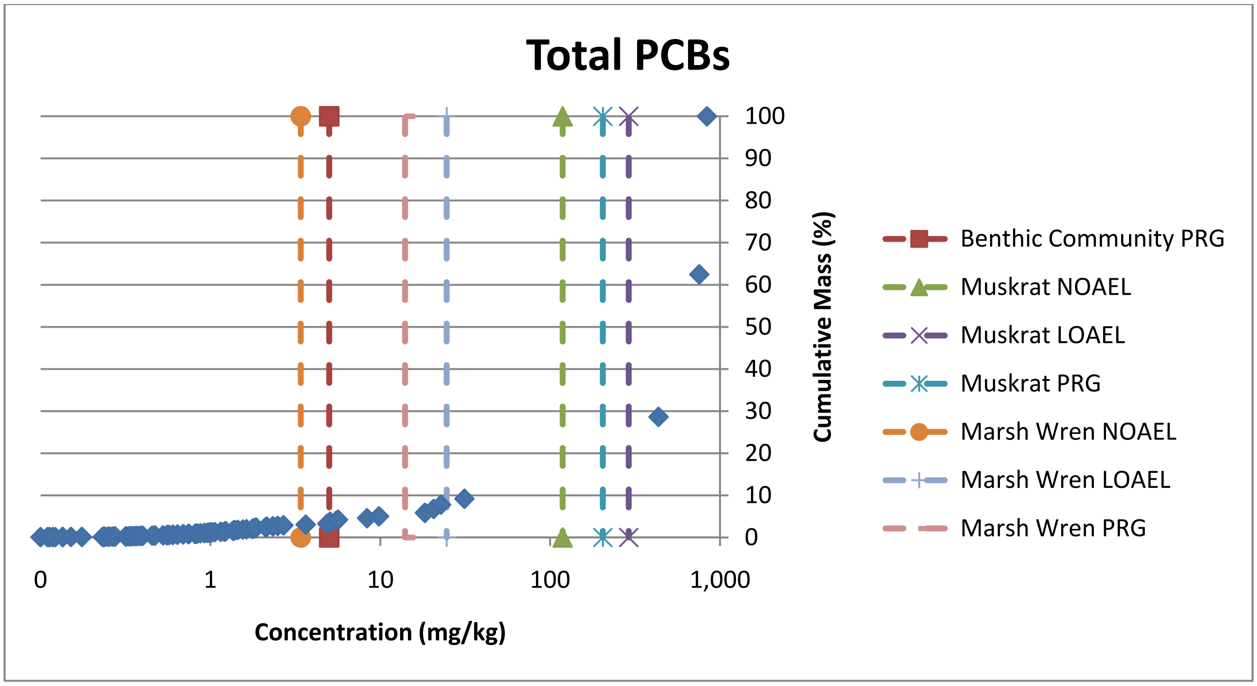


Figure A-3. Cumulative Distribution of Total PCBs in KMS Wetland Sediment with plotted benchmarks. Benthic Community PRG represents the selected total PCB PRG for the sediment.

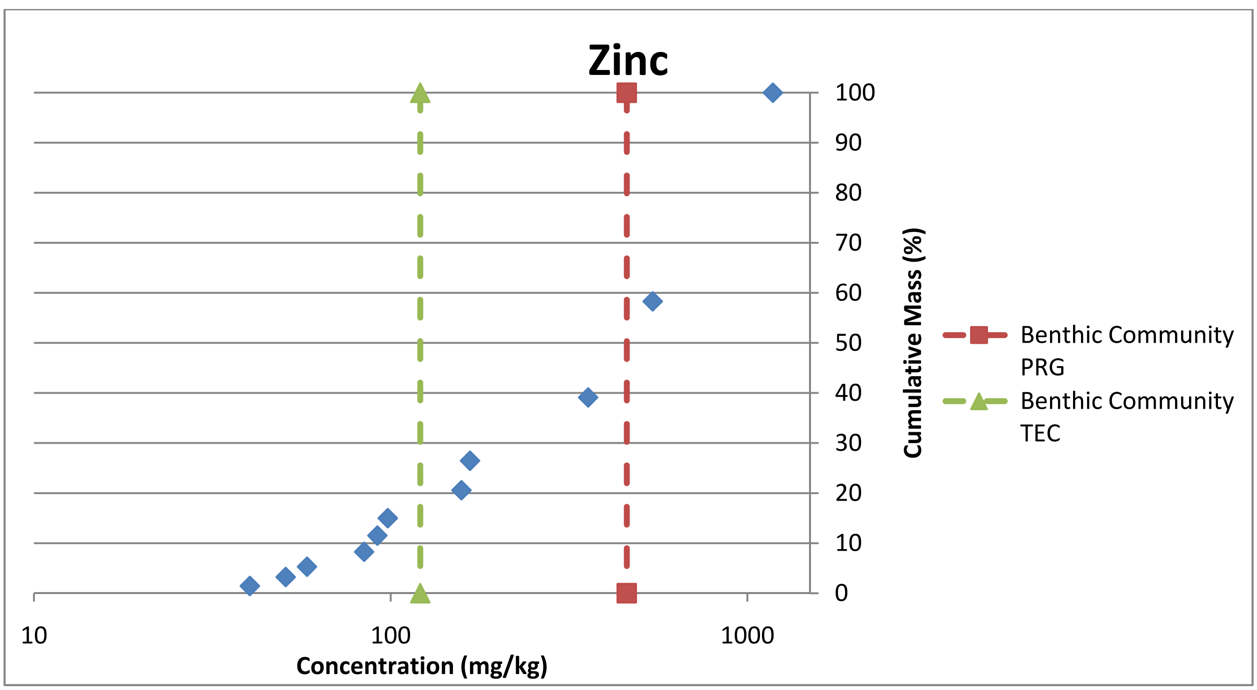


Figure A-4. Cumulative Distribution of Zinc in KMS Wetland Sediment with plotted benchmarks. Benthic Community PRG represents the selected zinc PRG for the sediment.

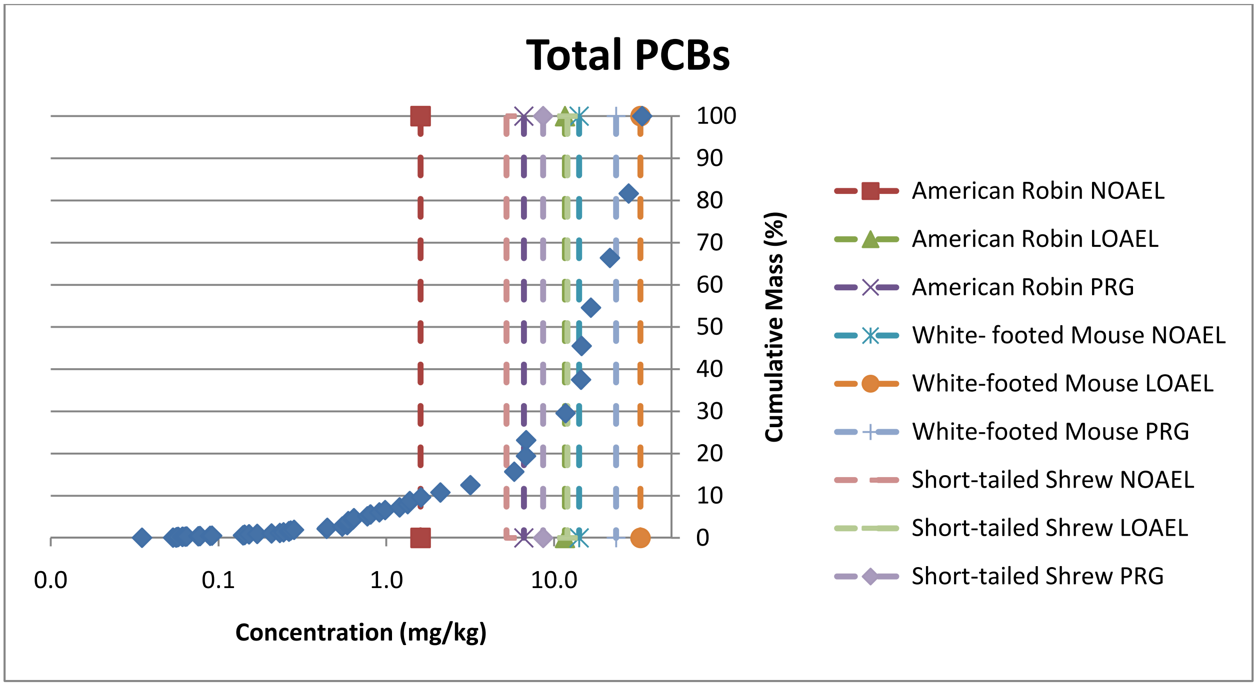


Figure A-5. Cumulative Distribution of Total PCBs in KMS Wetland Soil with plotted benchmarks. American Robin PRG represents the selected total PCB PRG for the soil.

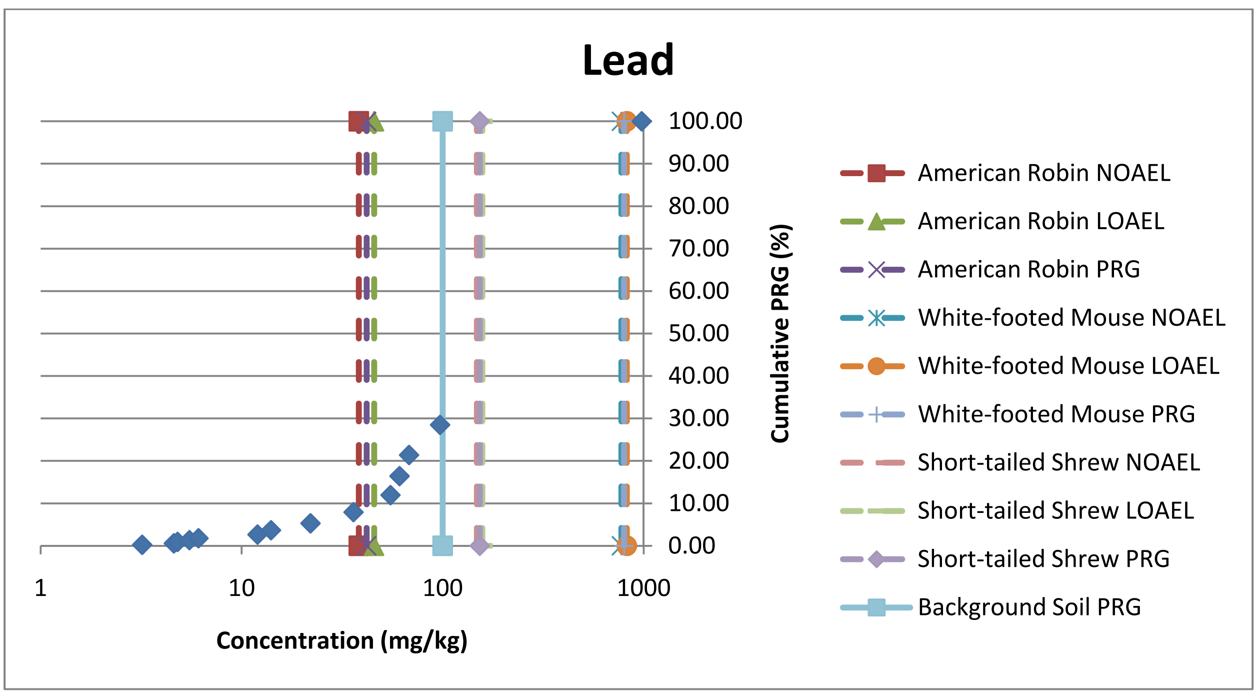


Figure A-6. Cumulative Distribution of Lead in KMS Wetland Soil with plotted benchmarks. Background Soil PRG represents the selected lead PRG for the soil.

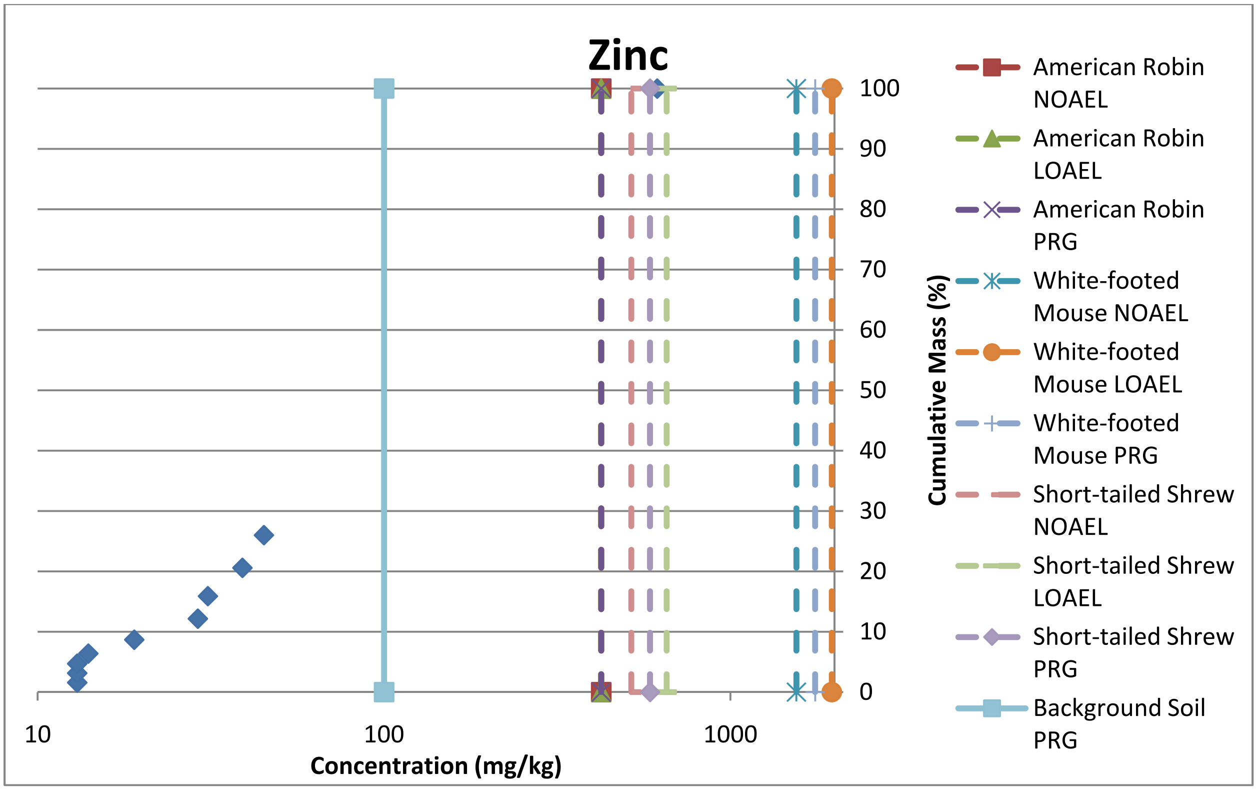


Figure A-7. Cumulative Distribution of Zinc in KMS Wetland Soil with plotted benchmarks. American Robin PRG represents the selected lead PRG for the soil. Note American Robin NOAEL, LOAEL and PRG values overlap each other.