AquaBlok® Installation Profiles

Site Location:  *US EPA Region 3*
Aberdeen Proving Grounds, Canal Creek, MD  Project Status:  Completed in Dec. 2011

Setting / Purpose:  Freshwater River – Tidal Wetland – In-situ Treatment

Contaminant(s) of Concern:  Wetlands owned by the DoD often act as sinks for contaminants including persistent, bioaccumulative, and toxic (PBT) compounds. Based upon previously conducted site investigations (US Army, 2008), PCBs, DDx, mercury and other metals were the identified as the primary contaminants of concern at Canal Creek APG. Historic data indicated that elevated concentrations of PCBs, and to some extent DDx, were present in surficial hydric soil samples collected in the channel and wetland areas above Hanlon Road.

Objective / Site Area:  The objective of the project was to demonstrate that *in-situ* treatment technologies can be used to sequester contaminants with minimal impact to the ecology of sensitive systems. Specifically, activated carbon was used as a hydric soil amendment to bind PCBs and reduce PCB bioavailability and/or toxicity in sediments. Canal Creek is located on the Edgewood peninsula, which is situated between the Gunpowder River to the west and the Bush River to the east. The Canal Creek Marsh and Landfill area of the land is located within the Canal Creek Study Area (CCSA), which is a 1,600-acre study area in the northern region of the Edgewood Area.
Results:

ANOVA Statistical Analysis of % Reduction in PW by Treatment

Evaluation of Activated Carbon Application in High Value Wetland:

- Multiple Approaches Evaluated for PCB Porewater In-Situ Treatment
- Statistically Significant PCB Porewater Reductions Achieved
- Reductions in Macro Invertebrate Uptake of PCBs Recorded
- Benthic and Ecological Community Not Significantly Impacted

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