Dewatering and Remediation of Contaminated Dredged Sediments. (S11-euliss122576-poster)

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Abstract:
The United States Army Corps of Engineers created a large number of Confined Disposal Facilities (CDFs) in the 1970s to store contaminated, dredged sediments. Most of these CDFs are full or near capacity; therefore, a method is needed to remediate or reduce the volume of the sediments in the CDFs. Our research is identifying ways to reduce the total volume of contaminated sediments by dewatering and remediation. Remediated sediments can be removed from the CDF and used as fill material, or in another beneficial applications. The objectives of this project are to evaluate the relative ability of various plants to dewater contaminated dredged sediments, and to test the remediation potential of various plants to degrade the polycyclic aromatic hydrocarbons (PAHs) and polychlorinated biphenyls (PCBs) contained in the dredged sediments. These objectives were met through field trials and supporting greenhouse studies. The experimental design includes 7 vegetation treatments with four replicates. Moisture contents were monitored gravimetrically every week to two weeks depending on the weather to monitor dewatering. Contaminant levels were and will continue to be monitored quarterly until the termination of the project. Residual contaminant concentrations are quantified using a solvent extraction followed by GC-FID for PAHs and GC-ECD for PCBs.

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