### Pearce Creek Dredged Material Containment Facility (DMCF)

**Monitoring Approaches** 

Presented by Kristen Keene Maryland Environmental Service on behalf of the Maryland Port Administration September 18, 2015

# Objectives

### > Review different types of monitoring:

- Discharge
- > Groundwater
- Exterior

> Comparison of monitoring approaches

# Discharge Monitoring

- Discharge monitoring of the surface water of the Pearce Creek DMCF is a requirement of the Maryland Department of the Environment (MDE) Water Quality Certification (14-WQC-02).
- Based on the conditions of the WQC, a discharge monitoring plan must be submitted by the U.S. Army Corps of Engineers (USACE) and approved by MDE prior to the placement of dredged material in the Pearce Creek DMCF.
- The discharge monitoring plan applies to all surface water discharged from the Pearce Creek DMCF and will include key parameters such as:
  - Flow volume/discharge rate
  - Total suspended solids
  - pH

- Dissolved oxygen
- Nutrients
- Metals



 Surface water discharge monitoring results will be reported to MDE on a monthly basis.

## Groundwater Monitoring

• Groundwater monitoring is a requirement of the MDE WQC and includes monitoring of groundwater in the Magothy and Patapsco aquifers.

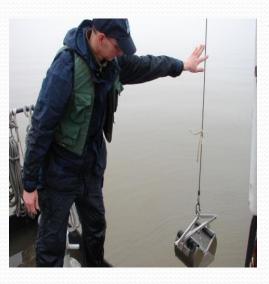


 Groundwater monitoring results will be reported to MDE on an annual basis.

- The plan must be submitted by the
  USACE and approved by MDE prior to
  the commencement of any construction
  and dredged material placement
  activities at the Pearce Creek DMCF.
- The plan will include key parameters such as:
  - Description, location, and maps of each monitoring well
  - Well ID numbers and aquifer monitored
  - Water levels and constituents

# **Exterior Monitoring**

The Pearce Creek Exterior Monitoring Program is a voluntary effort on behalf of the Maryland Port Administration that will be used to monitor environmental parameters in the area surrounding the Pearce Creek DMCF.



- Exterior monitoring efforts will include key parameters such as:
  - Sediment sampling
  - Water sampling
  - Benthic community sampling



• Exterior monitoring results will be shared with the Pearce Creek Implementation Committee on a semi-annual basis every year that monitoring events are conducted.

### **Comparison of Monitoring Approaches**

#### Discharge Monitoring

- Requirement of MDE WQC
- Monitors <u>surface</u> <u>water</u> discharged from the Pearce Creek DMCF
- Monitoring results submitted to MDE on a monthly basis

#### Groundwater Monitoring

- Requirement of MDE WQC
- Monitors <u>groundwater</u> in the Magothy and Patapsco aquifers
- Monitoring results submitted to MDE on an annual basis

### Exterior Monitoring

- Voluntary; not required by MDE WQC
- Monitors the <u>water</u>, <u>sediment</u>, <u>and</u>
   <u>benthic community</u> of the Pearce Creek
   Lake and Elk River
- Monitoring results are not required to be submitted to MDE

