

## FACT SHEET:

### Dry Excavation

#### Description:

Removal of sediment following significant dewatering of the water body. Removed sediment will require subsequent management. Typical process options include area dewatering achieved via sheeting, coffer dam, water filled structures, soil dams, and by-pass pumping/siphoning.



Dry Excavation Activities

#### Scale of Implementation:

##### Full-Scale

##### Precedence (full-scale):

- ✓ Ruck Pond (WI)
- ✓ Unnamed Tributary (OH)
- ✓ Rouge River-Evans Product Ditch (MI)
- ✓ Town Branch Creek (KY)

#### Documented Effectiveness Toward Risk Reduction:

- ✓ permanently removes contaminated sediment from aquatic environment

#### Critical Engineering Design Issues Influencing Effectiveness:

- ✓ water depth
- ✓ water flow/velocity and variability
- ✓ ground-water flow/infiltration
- ✓ navigational traffic
- ✓ access constraints
- ✓ volume of water to be removed/contained
- ✓ location, configuration and extent of targeted sediment
- ✓ weather

#### Short-/Long-Term Issues:

- ✓ residual sediment may contain elevated chemical levels
- ✓ long- or short-term increases in chemical bioavailability
- ✓ suspension and downstream transport of residual sediment
- ✓ alteration or destruction of benthic community
- ✓ inability to remove all sediment due to the presence of an impenetrable surface
- ✓ inability to maintain "dry" conditions
- ✓ excessive disruption to in-shore near-water recreational activity

#### For More Information:

- ✓ National Research Council. *Contaminated Sediments in Ports and Waterways: Cleanup Strategies and Technologies*. National Academy of Sciences. 1997
- ✓ Thomas H. Praeger, P.E., Stuart D. Messur and Richard P. DiFiore. "Remediation of PCB-Containing Sediments Using Surface Water Diversion "Dry Excavation": A Case Study." *Wat. Sci. Tech.* Vol. 33, No. 6, pp. 239-245, 1996.
- ✓ USEPA ARCS Program. *Remediation Guidance Document*. EPA-905-R94-003. October 1994.
- ✓ Herbich, J.B. *Handbook of Dredging Engineering*. McGraw Hill, Inc. 1992