

US EPA ARCHIVE DOCUMENT





### Problem Summary & Decision Context

- Contaminated ground water is present at 80% of Superfund sites and clean up can take decades to complete
- Contaminated sediments present a risk and are a factor in the degradation of beneficial uses through human health and ecosystem impairments
- Vapor intrusion is a problem whereby soil and ground water contaminants enter residences and buildings presenting long-term health risks

### Utility to the Agency

- Advances the science and engineering needed for the assessment, remediation, and reuse of contaminated sites
- Produces deliverables directly related to OSWER and Regional needs
- Provides highly valued technical expertise to the Program Offices and Regions

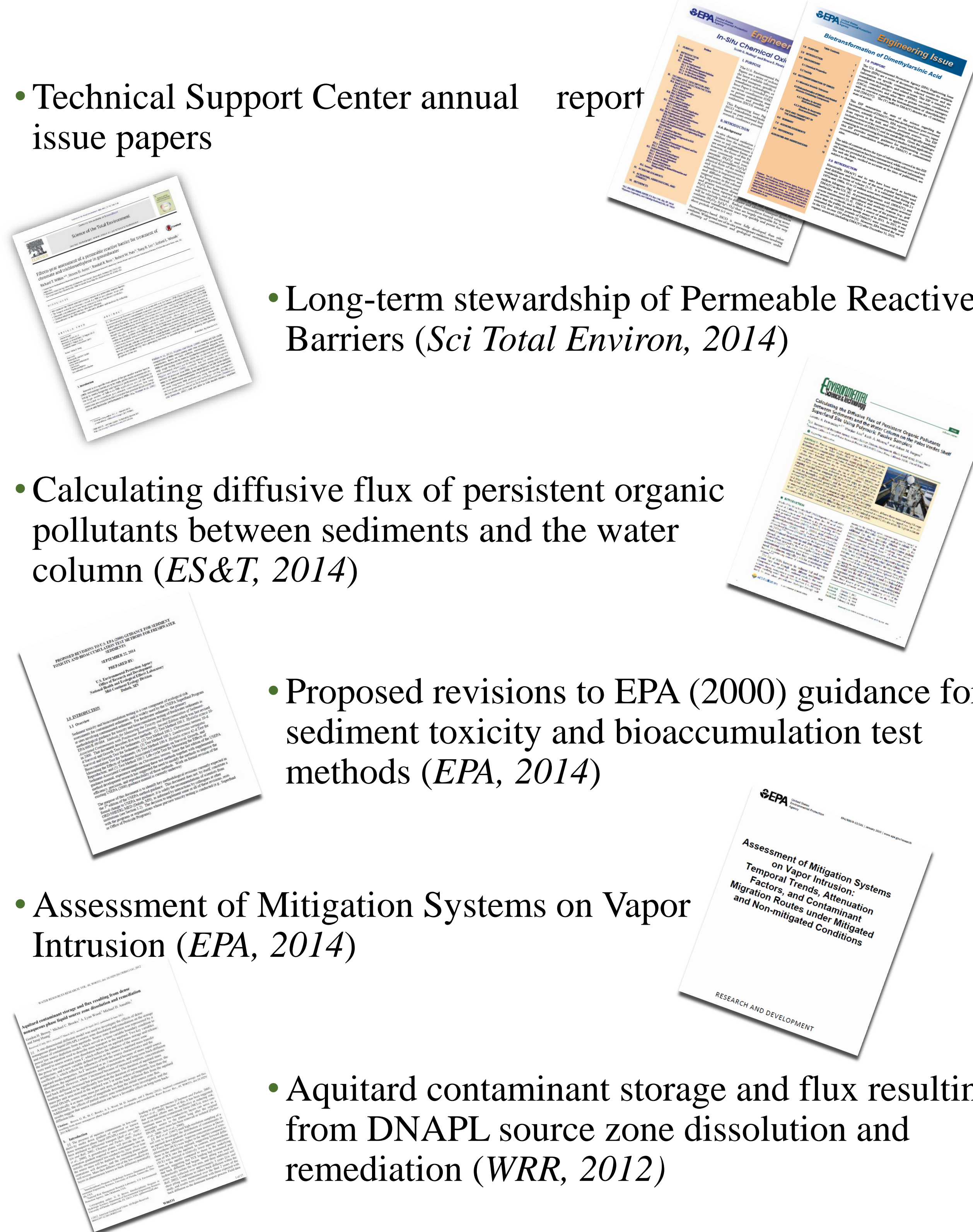
### Project 3.61 Tasks

1. ORD technical support
2. Contaminated ground water research
3. Contaminated sediment research
4. Vapor intrusion research
5. Research on temporal and spatial impacts of contaminated ground water (site reuse/revitalization and environmental justice)



### Recent Accomplishments

- Technical Support Center annual report issue papers
- Long-term stewardship of Permeable Reactive Barriers (*Sci Total Environ*, 2014)
- Calculating diffusive flux of persistent organic pollutants between sediments and the water column (*ES&T*, 2014)
- Proposed revisions to EPA (2000) guidance for sediment toxicity and bioaccumulation test methods (*EPA*, 2014)
- Assessment of Mitigation Systems on Vapor Intrusion (*EPA*, 2014)
- Aquitard contaminant storage and flux resulting from DNAPL source zone dissolution and remediation (*WRR*, 2012)



### Future Directions & Products

- Lessons learned from ORD technical support
- Technical Support Center issue papers
- Geophysical methods to map, characterize, and monitor subsurface contaminant plume location and movement
- Screening-level estimates of mass discharge uncertainty from point-measurement methods
- Fate and transport of metals and metalloids in ground water
- Critical analysis of estimation methods for designing in situ chemical oxidant loading
- Guidelines for derivation of Interstitial Water Remediation Goals for the protection of benthos
- Multiple lines of biological evidence for assessing remedy effectiveness
- Short-duration screening methods to improve identification of reasonable worst case vapor intrusion condition in a building
- Development, testing, and demonstration of portable adsorption systems for removing CVOCs from indoor air

### Partner Engagement Opportunities

- ORD is coordinating with
  - EPA OSWER and affiliated offices
  - EPA Regional scientists and engineers
  - EPA's Ground Water, Engineering, and Federal Facilities Forums
- ORD also would like to engage the Offices of Community Sustainability, Environmental Justice, and Children's Health Protection in Project 3.61