

METHOD 3 ECOLOGICAL RISK ASSESSMENT

Tuesday, April 6, 2021 from 11:00 AM – 3:15 PM

COURSE DESCRIPTION

This classroom course is designed to introduce LSPs to the concepts and practices for conducting Method 3 Ecological Risk Assessments and developing site-specific risk-based clean-up target values under the MCP. The framework for the course will be the MassDEP risk assessment process and the 2006 Interim Technical Updates.

The course will begin with an explanation of what ecological risk assessment is, its place within the MCP, and its uses and limitations. The course will then describe the process and data needs for conducting a Stage I Environmental Screening, including a discussion of how to select screening level benchmarks.

The second half of the course will focus on developing and executing a Stage II Environmental Risk Characterization, with emphasis on problem formulation and exposure assessment. The Problem Formulation section will include discussion of the important role of the ecological conceptual model. The section on exposure assessment will include discussion of commonly used ecological risk assessment tools including toxicity tests, community surveys, food chain models, and numerical comparisons. The final portion of the course will address how to: determine if a condition of No Significant Risk exists using a weight of evidence approach; derive risk-based clean-up target values and goals for meeting MCP requirements; and document uncertainties.

The course will conclude with a discussion of the emerging contaminant PFAS and how to evaluate it under the MCP.

Questions and answers will be encouraged throughout.

METHOD 3 ECOLOGICAL RISK ASSESSMENT SYLLABUS

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Introduction

What is Ecological Risk Assessment?

- General overview
- Place within MCP
- Regulations, guidance documents, best practices
- Developing a Weight of Evidence Approach
- Uses and limitations

Stage I Environmental Screening

- Uses and Limitations
- Defining Nature & Extent
- Habitat
- Complete exposure pathways
- Readily apparent harm
- Numerical screening
- Local Conditions
- Uncertainties
- Interpreting the Results & Next Steps

1:00 – 1:30

Break

Stage II Environmental Risk Characterization

Problem Formulation

- Environmental Setting
- Transport & Fate
- Affected media
- Selecting receptors
- Ecological Conceptual Model

Exposure Assessment

- Numerical comparisons
- Toxicity tests
- Community Assessments
- Food Chain Models

Method 3 Risk Assessment – Putting it all together

- Is there No Significant Risk?
- Deriving risk-based clean-up target values and goals
- Documenting Uncertainties

Emerging Contaminant – PFAS

- MCP updates as they pertain to Ecological Risk Characterization (if applicable)
- Characterizing PFAS throughout the food chain
- Data quality requirements

BIOGRAPHY OF TONY RODOLAKIS

Tony Rodolakis is an Associate Risk Assessor at Wood in Chelmsford, MA. He has over 25 years of experience in the environmental field, specializing ecological risk assessments. He has designed and reviewed Stage I and Stage II ecological risk assessments conducted under the MCP as well as RCRA, CERCLA, Canadian, and Australian risk assessment programs. Mr. Rodolakis brings a pragmatic approach to ecological risk assessment with the goal of using the risk assessment process to add value to the site investigation and remediation process. Mr. Rodolakis has a Masters Degree in Aquatic Ecology from Yale University and a Bachelor's Degree in Biology and Environmental Studies from Tufts University. Mr. Rodolakis has taught numerous short-courses on performing ecological risk assessments in the US and abroad.