

# Ecological Risk Assessment

Ecological Risk Assessments (ERA) are performed to evaluate the likelihood of adverse ecological effects occurring as a result of exposure to physical or chemical stressors. These stressors are defined as any biological, physical, or chemical factor that causes adverse responses in the environment. An ERA evaluates any potential harm that human activities have on living organisms within ecosystems. Within the framework of an Ecological Risk Assessment, scientific information is developed, organized and presented so that it is relevant to environmental decisions.

## When are Ecological Risk Assessments Conducted?



Ecological Risk Assessment

Ecological Risk Assessments are most often performed during the Remedial Investigation/Feasibility Study (RI/FS) phase of the Superfund response process. These risk assessments provide information regarding the interaction of stressors with the biological community at a site. During the ERA process, scientists develop exposure profiles to identify ecological receptors, such as tissues, organisms, populations, communities, and ecosystems. This receptor information is

incorporated with available habitat and exposure pathways. The sources and distribution of stressors in the environment also are characterized.

The framework for an ERA consists of three phases (problem formulation, analysis, and risk characterization). The analysis consists of characterizing both the exposure and the effects to the environment. USEPA outlines the following eight steps as part of the ERA process:

- Screening Level – Problem Formulation and Ecological Effects Evaluation
- Screening Level – Preliminary Exposure Estimate and Risk Calculations
- Problem Formulation
- Study Design and Data Quality Objective Process
- Verification of Field Sampling Design
- Site Investigation and Data Analysis
- Risk Characterization
- Risk Management
- ERAs enable decision-makers to make better informed decisions about the management of ecological resources.

EnviroScience staff has the experience, personnel and equipment to complete ERA's from the Screening Level phase through the Risk Management. Many times, baseline information is collected during the emergency response to an incident and supplemented with information from the site investigation. Our emphasis in ecological monitoring in both aquatic and terrestrial settings allow us to complete these projects in house for our clients.

### **Need help with your project?**

Our experts are here to discuss your needs and how we can help you move your project forward. Fill out the form below for more information on our services or to request a quote and we'll get back to you within 24 hours. If you need a response

within an hour or less, please call us at 888-866-8540.

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