Case Study

A case study is being written to accompany the updates to the ERAG. This will offer realistic examples of various ecological assessments, including a SLERA that uses the Ecological PCL Database.

Ecological PCL Database

The TCEQ has collaborated with West Texas A&M University on the development and validation of a database for generating soil and sediment default PCLs for wildlife, which can be further refined to reflect site-specific inputs. The PCL Database can now be accessed and used by members of the public through the TCEQ ERA webpage.

TCEQ ERA Webpage:

Visit: www.tceq.texas.gov/remediation/eco/eco.html

You will find links to these resources:

- *Conducting Ecological Risk Assessments at Remediation Sites in Texas*. RG-263. January 2017.
- *Supporting Documentation for the TCEQ's Ecological Benchmark Tables*, with Ecological Screening Benchmarks. RG-263B. January 2017.
- *Determining Representative Concentrations of Chemicals of Concern for Ecological Receptors*. RG-366/TRRP-15eco. November 2013.
- *Determining PCLs for Surface Water and Sediment. RG-366/TRRP-24. December 2007*.
- Ecological PCL Database.

Contact

TCEQ Remediation Division
Division Support Section
Phone: 512-239-4619
Fax: 512-239-2070
techsup@tceq.texas.gov

Mailing Address
Technical Program Support Team, MC 133
TCEQ
P.O. Box 13087
Austin, TX 78711-3087

Texas Commission on Environmental Quality

How is our customer service?
tceq.texas.gov/customersurvey

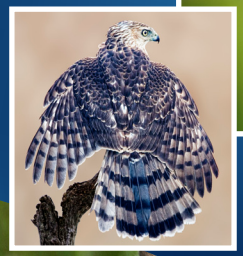
www.tceq.texas.gov/publications/gi/gi-447.html

The TCEQ is an equal opportunity employer. The agency does not allow discrimination on the basis of race, color, religion, national origin, sex, disability, age, sexual orientation, or veteran status. In compliance with the Americans with Disabilities Act, this document may be requested in alternate formats by contacting the TCEQ at 512-239-0028, Fax 512-239-4488, or 800-RELAY-TX (TDD), or by writing P.O. Box 13087, Austin, TX 78711-3087.

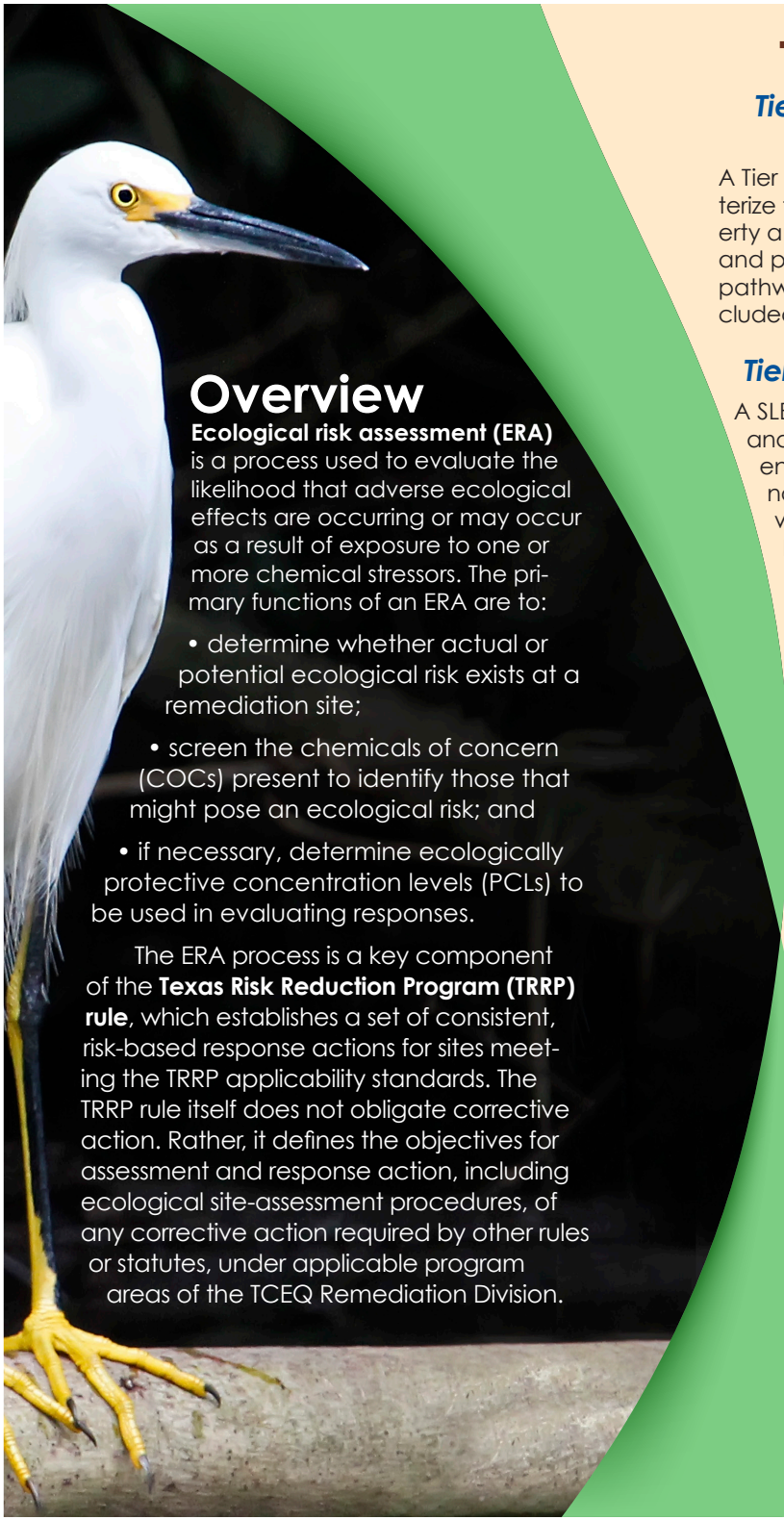
GI-447 (4/17) *Printed on recycled paper*

Ecological Risk Assessment Program

Summary of Work and Recent Developments



TCEQ Environmental Trade Fair
May 16-17, 2017



Overview

Ecological risk assessment (ERA) is a process used to evaluate the likelihood that adverse ecological effects are occurring or may occur as a result of exposure to one or more chemical stressors. The primary functions of an ERA are to:

- determine whether actual or potential ecological risk exists at a remediation site;
- screen the chemicals of concern (COCs) present to identify those that might pose an ecological risk; and
- if necessary, determine ecologically protective concentration levels (PCLs) to be used in evaluating responses.

The ERA process is a key component of the **Texas Risk Reduction Program (TRRP) rule**, which establishes a set of consistent, risk-based response actions for sites meeting the TRRP applicability standards. The TRRP rule itself does not obligate corrective action. Rather, it defines the objectives for assessment and response action, including ecological site-assessment procedures, of any corrective action required by other rules or statutes, under applicable program areas of the TCEQ Remediation Division.

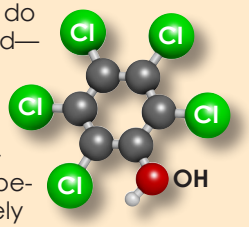
Three Tiers of ERA

Tier 1: Exclusion Criteria Checklist [30 TAC 350.77(b)]

A Tier 1 checklist uses exclusion criteria to characterize the ecological setting of the affected property and determine the existence of complete and potentially significant ecological exposure pathways. Affected properties that are not excluded may require further ecological evaluation.

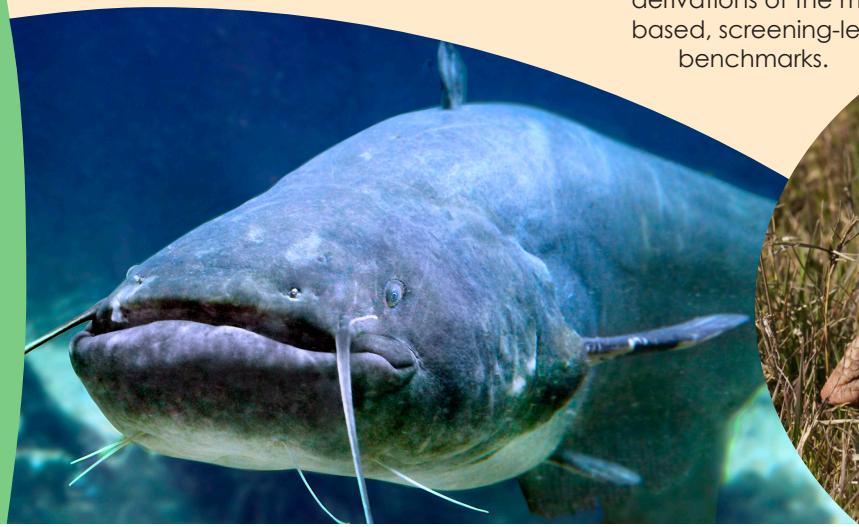
Tier 2: Screening-Level ERA (SLERA)

A SLERA identifies COCs, exposure pathways, and ecological receptors to be evaluated; scientifically eliminates COCs that do not pose an ecological risk; and—where necessary—develops PCLs for COCs that do pose an unacceptable risk to selected ecological receptors (for example, wildlife species that might be adversely affected by exposure to COCs).



Tier 3: Site-Specific ERA (SSERA)

A SSERA incorporates additional information obtained from site-specific studies designed to encourage an empirical evaluation of ecological risk at the affected property. A SSERA can be conducted when it is believed that any of the Tier 2 PCLs are inappropriate or do not reflect existing conditions at the affected property.



Recent Work

Risk Assessment Evaluations

The Ecological Risk Assessment Program routinely evaluates ERAs and other ecological documents and provides valuable feedback to project managers and responsible parties.

Updated ERAG

The document *Conducting Ecological Risk Assessments at Remediation Sites in Texas* was updated in January 2017. This is the agency's primary ERA guidance (ERAG) document. This current version reflects restructuring of the document based on the 10 required elements as identified in the TRRP rule [30 TAC 350.77(c)], updating the technical content, and incorporating additional practices developed by the TCEQ. The overall ERA process has not changed.

Ecological Benchmarks and Supporting Documentation

A number of ecological benchmarks have been added, verified, or updated following input from ERA experts and review of the recent scientific literature. The ecological screening benchmark tables have been extracted from the ERAG and made available online as an Excel workbook. An accompanying document, *Supporting Documentation for the TCEQ's Ecological Benchmark Tables*, is complete and available online. This document discusses the sources and the derivations of the media-based, screening-level benchmarks.