

# Georgia Risk Assessment Guidance References, References, and Tools

## Links to References

This document provides links to the References, Resources and Tools cited in the Georgia Environmental Protection Division's "Risk Assessment Guidance," (2025).

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[https://www.nj.gov/dep/srp/guidance/srra/csm\\_tech\\_guidance.pdf](https://www.nj.gov/dep/srp/guidance/srra/csm_tech_guidance.pdf)

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SRC, Inc. (May 2021). *User's Guide for the integrated Exposure Uptake Biokinetic Model for Lead in Children (IEUBK) Version 2.0*. USEPA.  
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<https://semspub.epa.gov/work/HQ/100002712.pdf>
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US Environmental Protection Agency Region 4, (March 2018b). *Region 4 Human Health Risk Assessment Supplemental Guidance*. Atlanta, GA: Scientific Support Section; Superfund Division. <https://www.epa.gov/risk/regional-human-health-risk-assessment-supplemental-guidance>

US Environmental Protection Agency, (September 2002). *Guidance for Comparing Background and Chemical Concentrations in Soil for CERCLA Sites*, EPA 540-R-01-003. OSWER 9285.7-41. <https://www.epa.gov/risk/guidance-comparing-background-and-chemical-concentrations-soil-cercla-sites>



Links to Resources

### **EPD Guidance Documents**

Guidance for Evaluating the Vapor Intrusion Exposure Pathway, (2021). <https://epd.georgia.gov/document/pdf/finaldraftviguideance8-31-21/download>

Area Averaging Approach to Soil Compliance for Direct Contact Exposure Scenarios, (2020). <https://epd.georgia.gov/document/document/epd/pbareaaveragingguidancepdf/download>

FAQs for Evaluating the Soil-to-Groundwater Pathway, (2019). <https://epd.georgia.gov/about-us/land-protection-branch/land-protection-branch-technical-guidance>

### **CSM**

*Environmental Cleanup Best Management Practices: Effective Use of the Project Life Cycle Conceptual Site Model*, EPA, EPA542-F-11-011, July 2021.

<https://www.epa.gov/sites/default/files/2015-04/documents/csm-life-cycle-fact-sheet-final.pdf>

*Decision Making at Contaminated Sites: Issues and Options in Human Health Risk Assessment*, ITRC, Section 3.2, January 2015. [Decision Making at Contaminated Sites: Issues and Options in Human Health Risk Assessment - ITRC | ITRC](https://www.itrcweb.org/decision-making-at-contaminated-sites-issues-and-options-in-human-health-risk-assessment/)

*Soil Screening Guidance: User's Guide*, EPA, Publication 9355.4-23, Attachment A, July 1996. <https://www.epa.gov/superfund/superfund-soil-screening-guidance>

*Conceptual Site Model (CSM) presentation*, TechLaw and USEPA Region 4. <https://archive.epa.gov/epawaste/hazard/web/pdf/csm.pdf>

## **Data Collection Guidelines and Evaluation Before the Risk Assessment**

*Guidance on Systematic Planning Using the Data Quality Objectives Process*, EPA/240/B-06/001, January 2006. <https://www.epa.gov/quality/guidance-systematic-planning-using-data-quality-objectives-process-epa-qag-4>

*Guidance on Choosing a Sampling Design for Environmental Data Collection*, EPA/240/R-02/005, December 2002. <https://www.epa.gov/quality/guidance-choosing-sampling-design-environmental-data-collection-use-developing-quality>

*Quality System and Technical Procedures for LSASD Field Branches*, EPA Region 4 Laboratory Services and Applied Science Division. <https://www.epa.gov/quality/quality-system-and-technical-procedures-lsasd-field-branches>

*Risk Assessment Guidance for Superfund, Part A*, Chapter 4, EPA/540/1-89/002, December 1989. <https://www.epa.gov/risk/risk-assessment-guidance-superfund-rags-part>

ITRC document *Soil Background and Risk Assessment*, December 2021. <https://sbr-1.itrcweb.org/>

*RCRA Groundwater Monitoring: Draft Technical Guidance*, EPA Office of Resources Conservation and Recovery (ORCR), EPA/530R-93/001, NTIS PB 93-139350. <https://www.epa.gov/quality/rcra-ground-water-monitoring-draft-technical-guidance>

*Low-Flow (Minimal Drawdown) Ground-Water Sampling Procedures*, EPA/540/S-95/504, April 1996. <https://www.epa.gov/sites/default/files/2015-06/documents/finalsopls1217.pdf>

EPA's Lead at Superfund Sites: Guidance webpage. <https://www.epa.gov/superfund/lead-superfund-sites>

EPA's Hazardous Waste Test Methods/SW-846 webpage. <https://www.epa.gov/hw-sw846>

*Guidance for Data Useability in Risk Assessment*, EPA OSWER, Publication 9285.7-09FS, June 1992. <https://www.epa.gov/risk/guidance-data-useability-risk-assessment-part-1-final-april-1992>

Georgia Rules for Commercial Environmental Laboratories, Rule 391-3-26. <https://rules.sos.ga.gov/GAC/391-3-26>

## **Determining and Use of Background Levels**

*Establishing Background Levels*, Quick Reference Fact Sheet, USEPA, Directive 9285.7-19FS, EPA/540/F-94/030, September 1995. <https://semspub.epa.gov/work/HQ/174005.pdf>

*Frequently Asked Questions About the Development and Use of Background Concentration at Superfund Sites: Part One, General Concepts*, USEPA, OLEM Directive 9200.2-141 A, March 2018. <https://semspub.epa.gov/work/HQ/100001657.pdf>

*Guidance for Comparing Background and Chemical Concentration in Soil for CERCLA Sites*, OSWER 9285.7-41, EPA 540-R-01-003, September 2002. <https://www.epa.gov/sites/default/files/2015-11/documents/background.pdf>

*Role of Background in the CERCLA Cleanup Program*, US EPA OSWER 9285.6-07P, April 26, 2002. [https://www.epa.gov/sites/default/files/2015-11/documents/bkgpol\\_jan01.pdf](https://www.epa.gov/sites/default/files/2015-11/documents/bkgpol_jan01.pdf)

## **Toxicity Values**

Integrated Risk Information System (IRIS): <https://www.epa.gov/iris>

Provisional Peer-Reviewed Toxicity Values (PPRTVs): <https://www.epa.gov/pprtv>

Agency for Toxic Substances and Disease Registry

California EPA Toxicity Values: <https://data.ca.gov/dataset/toxicity-criteria-database/resource/0d417a2b-6559-4725-820f-add7c57a8bc9>

Health Effects Assessment Summary Tables (HEAST):  
<https://assessments.epa.gov/risk/document/&deid=2877>

## **Ecological Risk Assessment**

*Region 4 Ecological Risk Assessment Supplemental Guidance (March 2018 Update)*. USEPA Region 4. <https://www.epa.gov/risk/regional-ecological-risk-assessment-era-supplemental-guidance>

*Ecological Risk Assessment Guidance for Superfund: Process for Designing and Conducting Ecological Risk Assessments – Interim Final* (June 1997), USEPA.  
<https://www.epa.gov/risk/ecological-risk-assessment-guidance-superfund-process-designing-and-conducting-ecological-risk>

*Eco Update: The Role of Screening-Level Risk Assessments and Refining Contaminants of Concern in Baseline Ecological Risk Assessments* (June 2001), USEPA.  
<https://www.epa.gov/risk/role-screening-level-risk-assessments-and-refining-contaminants-concern-baseline-ecological>

*Framework for Application of the Toxicity Equivalence Methodology for Polychlorinated Dioxins, Furans, and Biphenyls in Ecological Risk Assessment* (June 2008), USEPA.  
<https://www.epa.gov/risk/framework-application-toxicity-equivalence-methodology-polychlorinated-dioxins-furans-and>

## **Ecological Screening Values**

*Region 4 Ecological Risk Assessment Supplemental Guidance (March 2018 Update)*. USEPA Region 4. <https://www.epa.gov/risk/regional-ecological-risk-assessment-era-supplemental-guidance>

Region 3 BTAG Screening Benchmarks <https://www.epa.gov/risk/biological-technical-assistance-group-btag-screening-values>

National Oceanic and Atmospheric Administration (NOAA) Screening Quick Reference Tables (SQuiRTs) <https://repository.library.noaa.gov/view/noaa/9327>

US Fish and Wildlife Service Information for Planning and Consultation.  
<https://ipac.ecosphere.fws.gov/>

Georgia Department of Natural Resources Biodiversity Portal.  
<https://georgiabiodiversity.org/portal/>

NOAA Fisheries: <https://www.fisheries.noaa.gov/>

### **Ecological Risk Assessment Supplemental Sources for Food Chain Modeling Inputs (refer to EPA EcoBox)**

#### Exposure Parameters<sup>1</sup>:

*Wildlife Exposure Factors Handbook*. EPA/600/R-93/187. (1993). EPA.  
<https://assessments.epa.gov/risk/document/&deid=2799>

*Food requirements of wild animals: Predictive equations for free-living mammals, reptiles, and birds*. (2001). Nagy. <https://escholarship.org/uc/item/18s7d943>

*Methods and tools for estimation of the exposure of terrestrial wildlife to contaminants*. (1997). Sample et al. <https://rais.ornl.gov/documents/tm13391.pdf>

#### TRVs<sup>1</sup>:

Ecological Soil Screening Levels (Eco-SSLs). EPA. <https://www.epa.gov/chemical-research/ecological-soil-screening-level>

*Toxicological Benchmarks for Wildlife: 1996 Revision*. ES/ER/TM-86/R3. (1997). Oak Ridge National Laboratory. <https://rais.ornl.gov/documents/tm86r3.pdf>

ECOTOXicology database (ECOTOX). EPA. <https://cfpub.epa.gov/ecotox/>

ATSDR Toxicological Profiles <https://www.atsdr.cdc.gov/toxicological-profiles/about/index.html>

#### BAFs/BCFs:

*Bioaccumulation and Bioconcentration Screening Manual: ERD-AG-003* (1999). Environmental Restoration Division. <https://www.srs.gov/general/programs/soil/ffa/rdh/p74.PDF>

*Screening Level Ecological Risk Assessment Protocol for Hazardous Waste Combustion Facilities. Volume One*. EPA530-D-99-001A. (1999). EPA.  
<https://archive.epa.gov/epawaste/hazard/tsd/td/web/pdf/chap1.pdf>

*Estimation Programs Interface (EPI) Suite* (2012). EPA. <https://www.epa.gov/tsca-screening-tools/epi-suitetm-estimation-program-interface>

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<sup>1</sup> Contact EPA Region 4 Scientific Support Section for the latest updated values of preferred TRVs and wildlife exposure parameters. <https://www.epa.gov/risk/region-4-risk-assessment-contacts>

*The Risk Assessment Information System* (2024). Oak Ridge National Laboratory.  
<https://rais.ornl.gov/>

### **State and National Criteria for Surface Water and Drinking Water**

Georgia Water Quality Standards (Rule 391-3-6-.03): <https://rules.sos.ga.gov/gac/391-3-6-.03>

National Recommended Water Quality Criteria: <https://www.epa.gov/wqc/national-recommended-water-quality-criteria-tables>

Georgia Drinking Water Standards (Rule 391-3-5-.18): <https://rules.sos.ga.gov/gac/391-3-5-.18>

### **Tools**

USEPA Regional Screening Level (RSL) calculator: [https://epa-prgs.ornl.gov/cgi-bin/chemicals/csl\\_search](https://epa-prgs.ornl.gov/cgi-bin/chemicals/csl_search)

The Risk Assessment Information System (RAIS) Preliminary Remedial Goal (PRG) calculator: [https://rais.ornl.gov/cgi-bin/prg/PRG\\_search?select=chem](https://rais.ornl.gov/cgi-bin/prg/PRG_search?select=chem)

The Risk Assessment Information System (RAIS) Chemical Risk Calculator: [https://rais.ornl.gov/cgi-bin/prg/RISK\\_search?select=chem](https://rais.ornl.gov/cgi-bin/prg/RISK_search?select=chem)

Adult Lead Methodology (ALM): [https://rais.ornl.gov/cgi-bin/lead\\_model/prg\\_model](https://rais.ornl.gov/cgi-bin/lead_model/prg_model)

Integrated Exposure Uptake Biokinetic Model: <https://www.epa.gov/superfund/lead-superfund-sites-software-and-users-manuals>

All Ages Lead Model: <https://www.epa.gov/land-research/all-ages-lead-model-aalm>

ProUCL Software: <https://www.epa.gov/land-research/proucl-software>

EPD ScreenTool (Draft copy included in folder) – will be posted on EPD website

EPD Food Chain Model (FICMIC) – Under Development