

RISK ASSESSMENT

SRC is committed to supporting site-specific risk assessment needs through **methodology development**

SITE-SPECIFIC SERVICES

SRC, Inc.'s, services encompass all components of human health and ecological risk assessment projects, including:

- Development of conceptual site models
- Creation of abiotic and biotic sampling and analysis plans specifically designed to support human and ecological risk assessment
- Development of chemical-specific toxicity values
- Development of site-specific exposure parameters
- Bioavailability assessment for metals in soil
- Screening level and advanced risk calculations, including Monte Carlo-based approaches
- Quantitative evaluation of uncertainty
- Development of risk-based concentrations and preliminary remediation goals
- Design, performance and evaluation of biomonitoring studies

REVIEW AND ANALYSIS OF EXISTING RISK ASSESSMENTS

On behalf of its clients, SRC performs independent critical review of site-specific or chemical-specific risk assessments performed by other parties. SRC's critical reviews include evaluation of the following:

- Compliance with current U.S. Environmental Protection Agency guidance

- Selection and documentation of the chemicals of concern
- Adequacy of the conceptual site model
- Description of chemical hazards and selection of toxicity factors
- Reproducibility of risk calculations
- Identification and description of uncertainties in exposure and risk calculations

RISK ASSESSMENT TRAINING

SRC has extensive experience in the development and presentation of training courses for risk assessment. The target audiences for these courses have included USEPA, Health Canada, Environment Canada, state agency employees, academic scientists and attendees at scientific meetings.



SRC PROVIDES A WIDE SCOPE OF TECHNICAL SERVICES FOR SITE-SPECIFIC RISK ASSESSMENT



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METHODS DEVELOPMENT

SRC has supported the development of regional and national risk assessment methodologies used by the USEPA. Some examples include:

- Integrated Stochastic Exposure, or ISE, Model for Lead in Children
- Office of Solid Waste and Emergency Response, or OSWER, Soil Lead Guidance
- Risk Assessment Guidance for Superfund, or RAGS Volume 3, Process for Conducting Probabilistic Risk Assessment
- GeoSpatial Exposure Model (a software package for geospatial modeling of environmental data)
- Ecological Soil Screening Level, or ECOSSL, methods and values development
- Wildlife Toxicity Reference Values, or TRVs, methods and values development
- Measurement and use of relative bioavailability estimates for metals in soil
- Metal speciation and isotope ratio analysis for source attribution

RISK ASSESSMENT PROJECTS

SRC has conducted many site-specific risk assessments that include human health and/or ecological risk components. SRC provides scientific and technical support to USEPA

Headquarters and Regions. The scope of these assessments ranges from relatively simple assessments, with one or two chemicals of concern and one or two exposure scenarios, to highly complex assessments with multiple chemicals and receptors and complex food web modeling. Most have involved multiple rounds of site-specific data collection. A few recent examples include:

Colorado

- Rocky Flats (human health risk from radionuclides)
- Vasquez Boulevard (human health risks from lead and arsenic in an urban setting)
- Upper Arkansas River (developed site-specific phytotoxicity and plant uptake models to support ecological risk assessment and feasibility study preparation)

Montana

- Clark Fork River (human health and ecological risk from metals)
- Libby (human health risk from asbestos)

Utah

- Ogden Rail Yard (human health and ecological risk from solvents, polycyclic aromatic hydrocarbons, or PAHs, and polychlorinated biphenyls, or PCBs)



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