

SAVANNAH RIVER ECOLOGY LABORATORY BACKGROUND

The Savannah River Ecology Laboratory (SREL) was established in 1951, after the Atomic Energy Commission acquired 310 square miles of land along the Savannah River to establish the Savannah River Site (SRS). SREL is operated through an agreement with the University of Georgia. SREL has a staff of about 180. Most are employees of the University of Georgia.

SREL is important to the Department of Energy in three areas: Ecological Risks and Effects, Environmental Characterization, and Remediation and Restoration. Departmental funding for SREL has been more than \$8 million annually.

The primary mission of SREL is to provide an independent evaluation of the ecological effects of SRS operations through a program of ecological research, education, and outreach. This program involves both basic and applied environmental research, with emphasis upon expanding the understanding of ecological processes and principles, and evaluating impacts of land use activities on the environment.

This independent evaluation provides additional credibility to the Department of Energy's (DOE) processes for remediation to federal and state regulatory agencies, the general public, and other stakeholders.

1. Characterization – This is the important first step in determining environmental and health risks and devising remediation and restoration strategies. It has physical, chemical, and biological components and spans molecular to landscape scales. Scientific knowledge gaps exist that impair accurate risk assessment, limit remediation and restoration activities, and make cost-effective management decisions difficult.
2. Ecological Risks and Effects – This research attempts to reduce many of the knowledge gaps currently associated with ecological risk analyses and effects of contaminants. It studies metals contamination, environmental transport, chronic low-dose rate irradiation, biomarkers, and ecological risk analyses.

3. Remediation and Restoration – This multidisciplinary research area is designed to develop remediation and restoration techniques that are protective of both human as well as ecosystem health. It studies engineered remediation (reducing contaminant migration, bioavailability, or receptor exposure), biologically-based remediation (using biological processes to remediate contaminants), and restoration (revitalizing degraded ecosystems).