

CRESP UPDATE: SAVANNAH RIVER

LETTER

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ECOLOGICAL HEALTH TASK GROUP

Fishing Along the Savannah River by Lynn Waishwell, Ph.D.

Two hundred-fifty eight fishermen along the Savannah River were interviewed in a study coordinated by Dr. Joanna Burger, Ecological Health Task Group Leader. Information about the types of fish collected, the amount of fish eaten, and the methods of food preparation was also obtained. General details about the people who fished and if they knew about issued fishing consumption advisories was also asked. Two local residents were hired to interview most of the fishermen. They traveled up and down the river on a boat or interviewed people from the shore. Everyone was quite willing to talk with the interviewers.

The amount of blacks (28%) and whites (66%) interviewed reflect the same proportion as that in the general population in South Carolina. About 50% of the blacks interviewed, compared to 70% of the white fishermen, knew of the advisory. However, there was no ethnic difference in the proportion of fishermen who thought the fish were safe to eat. Fully 80% of black and white fishermen thought the fish safe for consumption. For the most part, even those who knew that there was a fish advisory could not describe its important details. For example, only about half of those surveyed recalled that the warnings were about mercury; only one person said that pregnant women should limit the amount of fish eaten.

This study found that people are eating significantly more fish from the river than

expected. Government risk assessors usually assume that recreational fishermen eat 40 pounds (19kg) of fish a year. However, the CRESP study found that there were both black and white people who ate more. In fact, there were people who ate more than 110 pounds (50kg) a year, the amount designated as subsistence level. When looking at characteristics of people and the patterns of fish consumption, education and ethnicity explained the fish consumption patterns.

Dr. Burger has presented this information to both the SRS-Citizens Advisory Board and the SRS CDC Health Effects Committee. She recently submitted two manuscripts for publication from this study. If you would like further information, please contact Lynn Waishwell or Dr. Burger directly at 732-445-4318 (burger@biology.rutgers.edu).



EXPOSURE ASSESSMENT TASK GROUP

A major CRESP project, the Exposure and Dose Modeling and Analysis System, EDMAS, continues to progress. EDMAS is designed to predict the exposure and potential dose of contaminants that may have been released into the environment from a variety of sources. These sources include soil, groundwater, and air. EDMAS also incorporates sophisticated routines to estimate how contaminants get absorbed into the body by inhalation and through the skin.

EDMAS is a library of tools that can review standard risk assessment procedures to identify the need for better information, and the extent to which taking the time and cost to get new information will improve the quality of the risk assessment. A unique feature of EDMAS is its modular structure that allows for alternative models to describe where contaminants come from, where they go, and how they change along the way to be substituted for the standard models in risk assessment. As a result, EDMAS will allow stakeholders to assess the implications of assumptions used in developing these standard risk models. EDMAS will provide a method of testing the scientific robustness of SRS risk assessments.

SRS recently asked CRESP to determine the background concentrations at the site of approximately 30 contaminants, including aluminum, arsenic, mercury and tin. These substances occur naturally, and may have been present in the groundwater before the site was established. This project is underway in conjunction with the Remediation Technology Task Group. The goal is to determine the naturally occurring background levels at SRS, prior to the industrial activity at the site. This project is being accomplished by analyzing historical groundwater data collected from approximately 150 monitoring wells.

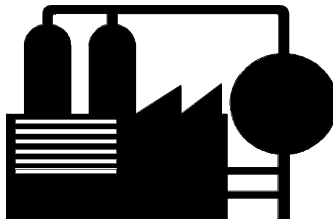
If you would like further information about this project, please contact Lynn Waishwell or Amit Roy directly at 732-445-1018 (amitroy@fidelio.rutgers.edu).

The SLUDGE Group, in cooperation with

OUTREACH AND COMMUNICATION TASK GROUP

Lynn Waishwell, Director of Outreach and Communication for CRESP-EOHHSI, spent April 22 and 23 at the Savannah River Site discussing outreach and educational activities with representatives from DOE, Westinghouse, Savannah River Ecology Laboratory, the Ruth Patrick Science Center in Aiken and the United States Forest Service. At the same time, Lynne Fahey McGrath, a CRESP researcher who works with the Health Hazard Appraisal and Exposure Assessment Task Groups, met with various DOE and Westinghouse personnel who conduct risk assessments. Both Lynn Waishwell and Lynne McGrath are participating in the newly formed Risk Management Working Group of the Risk Assessment and Future Use Subcommittee of the SRS-CAB. They both met with a variety of people to understand the ways that risk assessment and risk communication occurs at SRS in an effort to make timely contributions to the Working Group once it determines its goals and objectives.

If you would like further information contact Lynn Waishwell at lwaishwe@eohsi.rutgers.edu.



the Outreach and Communication Task

SOCIAL, LAND USE, DEMOGRAPHIC, GEOGRAPHIC AND ECONOMIC TASK GROUP

One new project of the SLUDGE group takes Darien Simon, a doctoral candidate in the Department of Urban Planning at Rutgers University, to small DOE sites throughout the nation. She is learning how remediation and future land use decision making have involved public participation. In the first phase, she characterized the most recent demographic and economic status of seventy-seven small DOE sites in use during from the 1940s to the early 1970s. While many of these sites were cleaned up under Formerly Utilized Sites Remedial Action Program (FUSRAP) and Uranium Mill Tailings Remedial Action (UMTRA) programs, not all remediation is completed. The study sites selected are small (under 2000 acres), do not have any continuing nuclear mission, and ceased any nuclear work by the 1970s.

The first phase of this project, detailed in CRESP SLUDGE Group Report 17, *Demographic and Economic Characteristics Around Small DOE Sites*, describes population characteristics such as age, ethnicity, race and income, employment patterns, and housing at these sites and compares them to those in their counties and the nation as a whole. This report which may be obtained by contacting CRESP.

The next phase of the project is underway. Four officials from local sites: municipal planners, mayors or other elected local officials, health officers and tax assessors are being interviewed to understand how the remediation and future land use decision making processes involved local people. Two to three case studies will be developed that describe successful partnerships between local DOE representatives and community residents in dealing with the complex issues of clean up and land use issues.

Group, also issued Report 18, *Newspaper Coverage of Major United States Nuclear Weapons Sites: Comparison of Two Areas Over a One-Year Period*. This report discusses results of a content analysis study of newspaper coverage of three newspapers from the SRS area and two newspapers from the local Rocky flats, Colorado region. Sources of information used in the newspaper articles, and impacts of the facility are described. This Task Group also issued a report that describes an analysis of the economic impact of investing more money on education in the SRS region (Report 19). You can contact Lynn Waishwell or Karen Lowrie, a member of the SLUDGE Task Group, at 732-932-0387, ext. 577, klowrie@rci.rutgers.edu.

WORKER SAFETY AND HEALTH TASK GROUP

The Worker Safety and Health Task Group conducted two seminars at the American Occupational Health Conference in Boston (April 28-30). The first was "Preventing Community and Worker Exposure to Hazardous Waste" by Michael Gochfeld of CRESA and Paul Seligman of DOE Environmental Safety and Health. It is part of a new curriculum which will be made available to physicians providing medical and consultative services to communities and workers near and at DOE sites. The second was "New Directions and Applications of Biomarker Research," moderated by M. Gochfeld. Speakers included Bernard Goldstein, Principal Investigator of CRESA, on Challenges for Biomarker Research, Arnold Schecter of NIEHS on biomarkers of dioxins and PCBs, Richard Wedeen on biomarkers of kidney damage, Paul Brandt-Rauf (editor of the *Journal of Occupational and Environmental Medicine*) on biomarkers of chemical carcinogens, Tim Takaro (CRESA-University of Washington) on Beryllium biomarkers of exposure, susceptibility and effect, and M. Gochfeld on ethical challenges in biomarkers of susceptibility. CRESA is also contributing to a new edition of the book, "Protecting

CRESA Update

Workers at Hazardous Waste Sites," edited by W. Martin and M. Gochfeld, with publication anticipated in fall, 1998. This book will include new chapters on Toxicology and Risk Assessment (W. Hallenbeck and M. Gochfeld), Workers at DOE Sites (M. Gochfeld), and Protecting Ecological Field Workers (J. Burger and M. Gochfeld).

Gail Buckler, RN, MPH, COHN, director of the UMDNJ Occupational Health Nursing Training Program, recently joined the Task Group.

For more information contact Mike Gochfeld at 732-445-2917, gochfeld@eoysi.rutgers.edu.

OTHER NOTES

EOHSI Seminars

On April 2, Dr. William Clark, Ph.D., Harvard University, presented a seminar entitled, "Global Environmental Change: How to Assess the Assessments."

On April 15, Ms. Josephine Cooper, Vice President, Regulatory Affairs, American Forest and Paper Association, presented a seminar entitled, "Environmental Policy: The View from Capitol Hill, EPA, and Industry."

On April 22, Dr. Dorothy Patton, Ph.D., Director, Science Policy, Office of Research and Development, Environmental Protection Agency, presented a seminar entitled, "Environmental Risk Assessment--Asking Good Questions, Telling the Whole Story."

CRESA

If you would like to be added to the mailing list for this publication, please

The Consortium for Risk Evaluation with Stakeholder Participation (CRESA) is a university-based national organization created specifically to develop a credible strategy for providing information needed for risk-based cleanup of complex contaminated environments, especially those for which the Department of Energy is responsible. The Consortium specifically responds to the request by the Department of Energy and the National Research Council for the creation of an independent institutional mechanism capable of integrating risk evaluation work. As a result of a national competition, a five-year cooperative agreement was awarded to CRESA in March of 1995. "CRESA UPDATE" is one approach that we are using to share research plans and programs with SRS stakeholders.

CRESA Task Group Leaders at EOHSI

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CRESP Information

If you would like information about CRESP or any of the activities described, contact Lynn Waishwell, Director of Outreach and Communication, at 732-445-0920. She would be happy to facilitate your dialogue with Task Group Leaders.

**Please visit our Web site at
www.cresp.org.**