Welcome and Introduction

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Dr. Southerland

Dr. Southerland welcomed the participants and turned the podium over to Dr. Thomas Armitage to outline the agenda for the conference.

Dr. Armitage

I would like to take this opportunity to welcome you to the National Sediment Bioaccumulation Conference sponsored jointly by the Office of Water and the Office of Research and Development. I would also like to acknowledge the assistance we received in planning the conference from the Great Lakes National Program Office and EPA Region 5.

We are very pleased to finally be holding this conference. Planning for this conference began over a year ago. We persevered through the federal budget crisis and government shutdowns, and are delighted to finally have all of you here to participate. The response to our announcement of this bioaccumulation conference was overwhelming. When we started planning this conference, we had no idea that so many people would be interested in attending. Over 400 people are here today, which clearly indicates that assessment of bioaccumulative sediment contaminants is an issue of major interest and importance in the scientific and regulatory community.

For the next two and one-half days, we will be hearing from a number of distinguished experts in the field of assessment of bioaccumulative sediment contaminants. We have organized the conference into several sessions. Each session will be chaired by a moderator who will lead a discussion and question and answer session following the presentations. We encourage audience participation during the discussion period and have provided microphones in the aisles for your comments and questions. During the first two days of the conference, there will be sessions covering field and laboratory methods for measuring bioaccumulation, interpreting and applying bioaccumulation results, modeling bioavailability of sediment contaminants, and assessing human health and ecological risks associated with bioaccumulative contaminants. On the final day of the conference, an EPA program panel will address how results of bioaccumulation assessments are being integrated into EPA's decision-making process.

The assessment of bioaccumulative contaminants in sediment has become an important issue for EPA and other Federal agencies. From our work to date on the National Sediment Quality Survey and the Listing of Fish and Wildlife Advisories, it is becoming increasingly apparent that the presence of bioaccumulative substances in sediments is a potentially serious widespread national problem. EPA evaluated more than 21,000 sampling stations nationwide to develop the National Sediment Quality Survey. Of the sampling stations evaluated, 26 percent were classified as Tier I and 49 percent were classified as Tier 2. Tier I is a category indicating that associated adverse effects are probable, and Tier II is a category indicating that associated adverse effects are possible, but expected infrequently. The classes of bioaccumulative contaminants most frequently associated with contaminated sediment sites include metals, polychlorinated biphenyls (PCBs), organochlorine pesticides, and polynuclear aromatic hydrocarbons (PAHs). The 1996 update of the Listing of Fish and Wildlife Advisories includes all available information describing state-, tribal-, and federally-issued fish consumption advisories for the 50 states, the District of Columbia, four U.S. territories, and several Native American tribes. It has been expanded to also include fish advisories issued for the 12 Canadian provinces and territories. The total number of advisories in the United States increased by 26 percent from 1995 to 1996. Advisories increased for four major contaminants, including mercury, PCBs, chlordane, and DDT. More monitoring accounts for part of the increase in the number of advisories, but it also indicates a greater awareness of the problem and underscores the

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need for increased monitoring and reliable techniques for assessing the risks of exposure to these chemicals.

EPA uses information and data on bioaccumulation to support program responsibilities in a number of its regulatory programs. The Office of Pesticide Programs requires bioaccumulation studies for the registration of pesticides under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA). The Office of Pollution Prevention and Toxics uses bioaccumulation data to assess new and existing industrial chemicals under the Toxic Substances Control Act (TSCA). The Superfund Program in the Office of Solid Waste and Emergency Response uses bioaccumulation data to assess contaminated sites for cleanup. The Office of Water incorporates results of bioaccumulation tests in the review process for dredged material disposal permits and National Pollution Discharge Elimination System (NPDES) permits. Advancing the state of our knowledge in bioaccumulation testing and assessment will benefit all of these programs.

A number of important unresolved issues remain for bioaccumulation assessment, including uncertainties in test procedures and limited understanding of the relationships between contaminant body burdens and adverse ecological effects. I would like to again acknowledge the Office of Research and Development (ORD) cosponsorship of this conference and stress that we are looking to ORD to maintain leadership in answering some of these questions.

We organized this conference to provide a forum to discuss the current state of our knowledge of assessment of bioaccumulative sediment contaminants and to examine how bioaccumulation data are integrated into EPA's decision-making processes. We will be publishing a conference proceedings and are currently working on a report summarizing the status of bioaccumulation testing and interpretation for the purpose of sediment quality assessment. This conference and our status report will help us to better understand the state of the science, to identify the data and knowledge gaps, to focus research efforts on providing answers to the most important questions, and to eventually develop consistent cross program guidance on interpretation of bioaccumulation data for use in EPA's regulatory programs.

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