



UTAH DEPARTMENT OF ENVIRONMENTAL QUALITY DIVISION OF WATER QUALITY

Liberty Park Lake Human Health Risk Assessment
Information Sheet

August 4, 2011

Introduction

After the June 2010 Red Butte Creek oil spill, Liberty Park Lake was drained and the oil contamination removed. Sediment samples were then collected to confirm that the oil was removed. The sampling showed very low levels of petroleum hydrocarbons. The petroleum hydrocarbons, including polycyclic aromatic hydrocarbons (PAHs), may be from the crude oil and/or from non-oil spill related sources such as parking lots and roads that are commonly contaminated with oil.

Although swimming and wading in the Lake have always been, and continues to be prohibited, the agencies overseeing the cleanup effort, Salt Lake City and the Utah Department of Environmental Quality, asked that a human health risk assessment (HHRA) be conducted to evaluate if exposure to the petroleum residues remaining in Lake sediment could pose a potential health risk.

Objective of the human health risk assessment

The objective of the HHRA was to determine if clean up was complete and the Lake was safe for recreation. This was done by evaluating both potential cancer risks and potential non-cancer hazards (for instance, liver damage) from the hydrocarbon residues detected in sediment samples. The samples were collected from the bottom and beneath the former walls of the Lake, and from beneath the concrete structures of the Red Butte Creek and Emigration Creek inlets.

Hypothetical users and exposure pathways

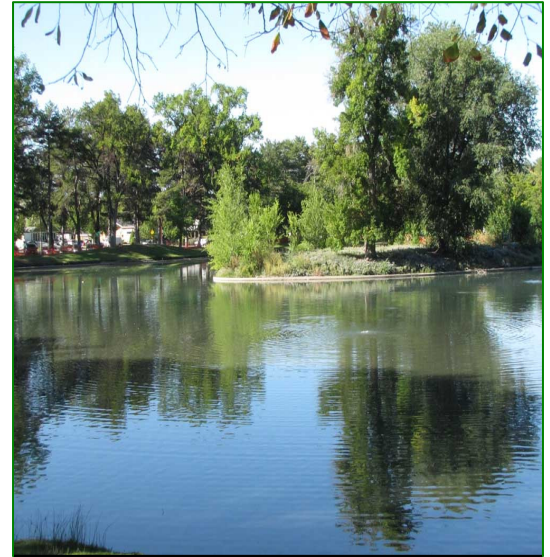
Realistically, park visitors are not likely to come into contact with Lake sediment for a number of reasons, primarily use restrictions and physical barriers. Recreational activities on the Lake are limited to launching and retrieving paddle boats, but occasional contact might occur if a park visitor fell out of a paddle boat or ignored the wading and swimming prohibition.

The HHRA evaluated potential health impacts for two scenarios. The first is residents using the Lake in the future when land use and access could be unrestricted. While not realistic for the park, this scenario corresponds to common practice in evaluating safety in areas of unrestricted land use where the strictest standards have been applied to environmental cleanups. The second—and more realistic scenario—is a recreational user. Exposure pathways considered in this HHRA included unintentional ingestion of sediment and skin contact every day for 30 years for the unrestricted land use scenario and twice a week for summer months for 30 years for the recreational scenario. These assumptions were made following USEPA regulatory guidance.

Human health risk assessment results

The HHRA found that the cancer risks associated with residential and recreational use of the Lake are below or within what the USEPA considers the safe range. The non-cancer hazards are well below the USEPA level of concern and no adverse health effects are likely. Based on the methods used to clean the Lake and the results of the HHRA, Liberty Park Lake is safe for recreational activities. Additional details can be found in the May 10, 2011 Human Health Risk Assessment Post-Remediation Sediment Evaluation found here:

http://www.deq.utah.gov/Issues/redbuttespill/docs/051011_HHRA.PDF



QUESTIONS?

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