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Post Decommissioning Monitoring of Uranium Mines; A Watershed Monitoring Program Based on Biological Response

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ABSTRACT

Rio Algom Limited and Denison Mines own and operated uranium mines in the Elliot Lake area. The mines operated from the late 1950's to the mid 1960's and again for the early 1970's to the 1990's when the mines ceased operations. There are eleven decommissioned mines in the Serpent River watershed. At the time of decommissioning each mine had it's own monitoring program, which had evolved over the operating life of the mine and did not necessarily reflect the objectives associated with the monitoring of decommissioned sites. In order to assess the effectiveness of the decommissioning plans and monitoring the cumulative effects within the watershed, a single watershed monitoring program was developed in 1999: the Serpent River Watershed Monitoring Program which focused on water and sediment quality within the watershed and response of the biological community over time. In order to address other "source area" monitoring, three complimentary objective-focused programs were developed 1) the In-Basin Monitoring Program, 2) the Source Area Monitoring Program and 3) the TMA Operational Monitoring Program. Through development this program framework and monitoring programs that were objective-focused, more meaningful data has been provided while providing a significant reduction in the cost of monitoring. These programs allow for the reduction in scope over time in response to improvement in the watershed. This talk will describe the development of these programs, their implementation and effectiveness.