Traditional Foods Consumption: Risk Management and Nutritional Value

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Human Health Risk Assessments (HHRAs) and Health Impact Assessments (HIAs) are two key methodologies used to evaluate potential impacts on human health within the context of environmental assessments and contaminated sites. These assessments involve characterizing potential health effects, including those associated with contaminants of potential concern (COPCs), for both the general public and Indigenous communities. For Indigenous Peoples, maintaining a connection to the land through traditional practices—such as consuming country foods for sustenance and medicinal purposes—is fundamental to supporting both individual health and community well-being. Risk management recommendations for COPCs identified in traditional food sources (e.g., fish, wild game,and traditional plants) often focus on reducing exposure due to projected unacceptable risks. However, these recommendations may insufficiently account for the nutritional benefits these foods provide. While risk management measures such as fish consumption advisories may be necessary to mitigate health risks, they frequently overlook the broader nutritional value of traditional foods and do not account for the health implications of avoidance of traditional foods. Evidence indicates that traditional diets are rich in omega-3 fatty acids, essential micronutrients, and vitamins, and are associated with reduced risk factors for various health outcomes. Additional studies suggest that the health benefits of moderate fish consumption generally outweigh the risks, provided that high-COPC food items (e.g., those with elevated mercury levels) are avoided, as an example. The First Nations Health Authority also advocates for the continued and increased consumption of traditional foods as a strategy to reduce the risk of certain health outcomes such as chronic disease. Therefore, the nutritional value of traditional food sources should be explicitly considered in contaminated site assessments and given greater weight when evaluating overall health impacts and determining appropriate mitigation strategies—particularly in the context of Indigenous health. This presentation explores the current research available on the health benefits of traditional foods and presents an approach for quantifying that value in the context of contaminated site assessment and risk management of environmental impact assessments of industrial applications.

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Dr. Lindsay McCallum is a Health Impact Assessment expert with more that 15 years of experience in the management and strategic oversight of large multi-stakeholder environmental and health assessment projects. She completed a Ph.D. in Health Impact Assessment at the University of Toronto, and has published several highly-cited scientific articles in the field of environmental health and HIA. Lindsay completed her Ph.D. in HIA of major infrastructure projects in the Department of Physical and Environmental Sciences at the University of Toronto. Her thesis focused on development and implementation of scientifically rigorous methodologies and assessment tools to facilitate the application of HIA to a variety of projects and policies. Lindsay has taught graduate-level lectures on HIA and has published several peer-reviewed articles in the field of HIA and environmental health. Lindsay was identified as a leading expert in HIA by the United Nations (Canada) and invited to speak as a subject matter expert at their 8th Innovation Team Session on Climate Change and Sustainable Development Goal (SDG) 3: Good Health and Wellbeing. Lindsay has led HIAs and other health and risk assessments for commercial and industrial development projects including oil refineries, waste management facilities, resource extraction projects (mining), renewable energy projects,contaminated sites, and others. Lindsay has also been involved with the development of Health Canada's guidance for conducting HIAs, with a focus on specific strategies and methodologies including stakeholder management and public communication initiatives. Dr. McCallum has chaired sessions and presented her work on HIA at numerous conferences including the National HIA Conference in Washington, DC and the International Association for Impact Assessment (IAIA) conferences in North America, South America and Europe.