An Overview of Human Health Issues in the Great Lakes Basin.

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The integrity of the Great Lakes has been the subject of interest for the past 30 years with concerns about potential harmful effects of toxic chemicals on humans and wildlife. Much of the effort to understand the relationship between contaminants and health have focussed on persistent toxic substances (PTSs) like PCBs, DDT, and dioxins. Levels of DDT and other PTSs in human tissues have declined dramatically since the 1970s. However, some subpopulations (e.g., high consumers of contaminated sport fish) are at a higher risk of exposure to these substances. Health effects of concern with PTSs include cancer, reproductive, immunological and neurodevelopmental effects. Evidence from wildlife and laboratory studies, and epidemiological studies indicate that human health could be affected by PTSs. It is not clear, however, that health effects occur at current levels of exposure to these contaminants although air pollution studies have convincingly linked low levels of ozone, particulate matter and acid aerosols to increased rates of cardiorespiratory hospital admissions and mortality. Future human health issues include continued research on the effect of PTSs, especially endocrine disruptors. The health impact of air pollution will require further study and will need to be considered in policies to mitigate air pollution. The health impact of climate change will need to be assessed. These include the impacts on ambient air, drinking water and recreational water quality, the health consequences of predicted increases in extreme climatic events like severe storms and floods, and the changes in the ecological distribution of infectious parasites and other micro-organisms.