



Patuxent Science Meeting 2004 Poster Abstract

Wildlife Toxicology Information and Data Gaps for Terrestrial Vertebrates in Chesapeake Bay.

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The Chesapeake Bay Program is attempting to assess the status of aquatic-dependent living resources in the Bay to toxics. The USGS has evaluated data on contaminant effects in wildlife to compliment this program and to meet Department of the Interior partner data needs related to understanding the factors affecting health of wildlife in the Bay watershed. The Contaminant Exposure and Effects--Terrestrial Vertebrates (CEE-TV) database summarizes ecotoxicological data for terrestrial vertebrates inhabiting estuarine and coastal habitat along the Atlantic, Gulf, and Pacific coasts, Alaska, Hawaii, and the Great Lakes. Data is compiled from published literature and unpublished sources, including reports from conservation agencies, private groups, and universities. Summary information includes contaminant exposure, biomarker responses, and adverse effects on reproduction and survival that can be queried by taxonomic, spatial, and temporal fields. Several conclusions can be drawn from an analysis of CEETV data for Chesapeake Bay. Despite its ban for hunting in wetlands, the effect of the lead shot ban has not yet been assessed for the Chesapeake Bay. Mercury does not currently appear to be posing a threat to terrestrial vertebrates in Chesapeake Bay, however, mercury methylation may be occurring at significant rates in smaller bodies of water within the bay, necessitating its continued monitoring. DDE and PCBs have steadily declined since restrictions on their use; high levels of these compounds and related effects can still be found in highly contaminated regions. Exposure to dioxins and dibenzofurans, cholinesterase-inhibiting pesticides, and rodenticides has not been adequately assessed for terrestrial vertebrates in Chesapeake Bay. In addition, several national parks and refuges within the Chesapeake Bay watershed lack terrestrial vertebrate ecotoxicological data. Compared to other estuaries in the United States, contaminant exposure and effects in Chesapeake Bay terrestrial vertebrate range from moderate to potentially significant.