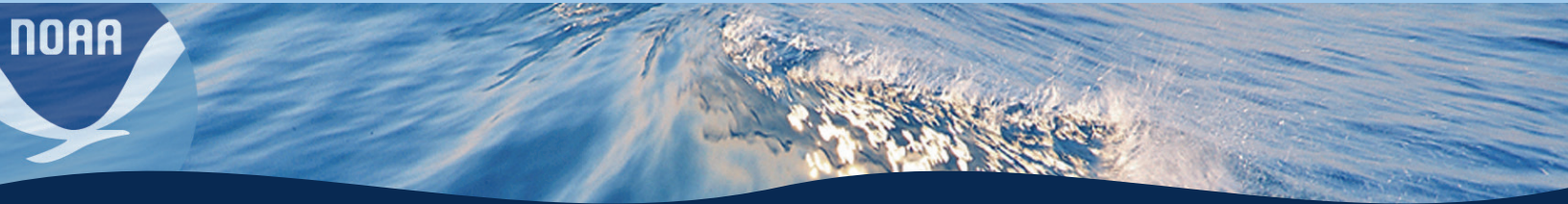


NATIONAL STATUS & TRENDS MUSSEL WATCH PROGRAM

Contaminants of Emerging Concern: The First-ever Nationwide Survey of Polybrominated Diphenyl Ethers (PBDEs) in the U.S. Coastal Zone & Great Lakes



EXECUTIVE SUMMARY

NOAA's *MUSSEL WATCH* REPORT ENTITLED "AN ASSESSMENT OF POLYBROMINATED DIPHENYL ETHERS (PBDEs) IN SEDIMENTS AND BIVALVES OF THE U.S. COASTAL ZONE" IS THE FIRST-EVER COMPREHENSIVE ASSESSMENT OF LEVELS OF A FLAME RETARDANT CHEMICAL (PBDE) FOUND IN U.S. COASTAL WATERS, INCLUDING THE GREAT LAKES. MUSSEL WATCH IS THE LONGEST RUNNING ESTUARINE AND COASTAL POLLUTANT MONITORING EFFORT IN THE UNITED STATES THAT IS NATIONAL IN SCOPE EACH YEAR.



IN RECENT YEARS, PBDEs HAVE GENERATED INTERNATIONAL CONCERN DUE TO THEIR GLOBAL DISTRIBUTION AND ASSOCIATED ADVERSE ENVIRONMENTAL AND HUMAN HEALTH EFFECTS. LABORATORY STUDIES INDICATE THAT PBDEs MAY IMPAIR LIVER, THYROID, AND NEUROBEHAVIORAL DEVELOPMENT, AND THE MOST SENSITIVE POPULATIONS ARE LIKELY TO BE PREGNANT WOMEN, DEVELOPING FETUSES, AND INFANTS. PBDE PRODUCTION HAS BEEN BANNED THROUGHOUT EUROPE AND ASIA, AND PRODUCTION OF SOME PBDE MIXTURES HAS BEEN VOLUNTARILY DISCONTINUED BY U.S. INDUSTRY, ALTHOUGH ONE FORM OF PBDE IS STILL PRODUCED. WHILE PRODUCTION OF PBDE FLAME RETARDANTS BEGAN IN THE 1970s AND PEAKED IN 1999 THEY ARE STILL FOUND IN MANY CONSUMER PRODUCTS INCLUDING MANY HOUSEHOLD ITEMS. BECAUSE THE APPLICATION OF PBDEs HAS BEEN SO WIDESPREAD — INCLUDING MANY CONSUMER PLASTICS, TEXTILES, ELECTRONICS, AND FURNITURE — SCIENTISTS SPECULATE THAT THEY MAY PRESENT AN ONGOING AND GROWING PROBLEM IN COASTAL ENVIRONMENTS.



TO ASSESS THIS POTENTIAL THREAT, THE *MUSSEL WATCH* PROGRAM, WITH ADDITIONAL FUNDING PROVIDED BY NOAA'S *OCEANS AND HUMAN HEALTH INITIATIVE*, CONDUCTED A RETROSPECTIVE STUDY OF PBDEs IN BIVALVE TISSUES AND SEDIMENTS. THE STUDY DETERMINED THAT PBDEs ARE FOUND THROUGHOUT THE U.S. COASTAL ZONE, INCLUDING THE GREAT LAKES. HIGHEST CONCENTRATIONS WERE DETECTED IN THE SOUTHERN CALIFORNIA BIGHT AND HUDSON-RARITAN ESTUARY, INCLUDING THE WATERS AROUND LOS ANGELES AND NEW YORK CITY. OVERALL, HIGHEST CONCENTRATIONS WERE FOUND NEAR INDUSTRIAL AND URBAN LOCATIONS, AND BOTH SEDIMENT AND MOLLUSK CONCENTRATIONS DIRECTLY CORRELATED WITH LOCAL HUMAN POPULATION.



THE NATIONAL AND WATERSHED PERSPECTIVES GIVEN IN THIS REPORT ARE INTENDED TO SUPPORT RESEARCH, LOCAL MONITORING, RESOURCE MANAGEMENT, AND POLICY DECISIONS CONCERNING THESE CONTAMINANTS. THAT IS WHY PBDE DISPOSAL IS DISCUSSED AS A CONCERN DERIVED FROM THE DATA PRESENTED IN THIS REPORT. GIVEN THE PRESENT LEVEL OF PBDE-CONTAINING CONSUMER PRODUCTS IN USE TODAY (E.G., FURNITURE AND ELECTRONICS), WASTE DISPOSAL POLICY MUST MITIGATE THE RELEASE OF PBDEs TO THE ENVIRONMENT. DETERMINING AND IMPLEMENTING BEST PRACTICES COULD HAVE A SUBSTANTIAL AND POSITIVE IMPACT ON FUTURE CONTAMINATION LEVELS ALONG U.S. SHORELINE.



 Download the Report <http://ccma.nos.noaa.gov/PBDEreport.html>

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