NEW YORK STATE | Department of Environmental Conservation

Environmental Monitoring

The Environmental Monitoring Section in the DFWMR Bureau of Ecosystem Health annually plans, carries out and reports on biological monitoring related to:

- contaminant trackdown
- fish consumption advisories
- contaminated site cleanup
- biotic disturbances in the aquatic environmental resulting from pesticides, other chemicals and toxic substances.

Gas Chromatograph used for analyzing organic chemical contaminants such as PCBs

Monitoring occurs statewide and is conducted by staff of the Environmental Monitoring Unit, the Aquatic Toxicant Field Research Unit, and regional fishery biologists. Analytical and quality control work is conducted at the Hale Creek Field Station by staff from the Analytical Services and Quality Assurance Units. Results from fish tissue analyses are used by the NYS Department of Health to issue the annual health advisories for consuming sportfish and game. The advisory explains how to minimize your health risks from eating sportfish and game that are likely to contain elevated levels of chemical contaminants. The Ecotoxicology and Standards Unit develops water quality and other standards for protection of fish and wildlife and conducts risk assessments for pesticides proposed for registration in New York State. For further information on environmental monitoring in fish and wildlife, contact Wayne Richter at 518-402-8974.

- PCBs and Organochlorine Pesticide Residues in Young-of-the-Year Fish from New and Traditional Near-shore Sampling Areas in the Eastern Portion of New York's Great Lakes Basin, 2011 and 2012 (PDF) This study reports the results of fall 2011 and 2012 sampling of young-of-year fish, collected from near-shore areas in New York State waters of Lake Ontario, the St. Lawrence River, and St. Lawrence River tributaries near Massena, for PC, organochlorine pesticide and mercury residues. It completes the study begun by Preddice et al. (2011).
- Xenobiotics in Fish from the St. Lawrence River and Connecting Tributaries with Emphasis on the St. Lawrence River Area of Concern at Massena/Akwesasne (PDF) This study comparing contaminants in fish from the Massena/Akwesasne Area of Concern (AOC) with fish from nearby waters found that the fish inside the AOC were significantly more contaminated than fish outside of the AOC, with PCBs being the primary contaminant of concern. PCB concentrations in the AOC did, however, drop somewhat since previous sampling, allowing the Saint Regis Mohawk Tribe to reduce some fish consumption restrictions.
- Xenobiotics in Fish from Lake Erie, the Niagara River, Cayuga Creek and Lake Ontario, New York (PDF)This study reports the results of fish collected from 2010 through 2012 from Lakes Erie and Ontario, the Niagara River and Cayuga Creek, and analyzed for mercury, polychlorinated biphenyls

(PCBs), organochlorine pesticides, polybrominated dibenzo-p-dioxins and dibenzofurans (PBDD/Fs) and polybrominated diphenyl ethers (PBDEs). Concentrations of many contaminants were lower than in earlier sampling.

- Xenobiotics in Fish from NYS Great Lakes (PDF) This study reports on PBDEs and PCDD/Fs in over 1,200 fish. PBDEs did not pose a risk to human consumption but concentrations exceeded criteria for wildlife. PCDD/Fs have delined in fish from Caygua Creek, the receiving water for Love Canal, but still exceeded human health criteria. PCDD/Fs from Caygua Creek continued to affect fish in Lake Ontario. Nonetheless, PCDD/F concentrations in Lake Ontario salmonids declined enough to allow fish consumption advisories to be partially relaxed.
- Cadmium, mercury and PCB residues in blue crab (Callinectes sapidus) taken from the Hudson River and New York's marine district (PDF)
- Some Xenobiotic Chemicals in Smallmouth Bass (*Micropterus dolomieu*) and Striped Bass (*Morone saxatilus*) in the Hudson River (PDF) A study examining the concentration distributions and cogener distributions of polybrominated diphenyl ethers (PBDEs), polychlorinated dibenzo-*p*-dioxins and dibenzofurans (PCDD/Fs), polybrominated dibenzo-*p*-dioxins and dibenzofurans (PBDD/Fs) and PCBs in smallmouth bass in an approximate 246 km portion of the freshwater Hudson River and in striped bass from a 203 km portion of the tidal Hudson River.
- PCBs and Organochlorine Pesticide Residues in Young-of-Year Fish From Western Portion of New York State's Great Lakes Basin, 2009 (PDF) This study reports the results of September 2009 sampling of young-of-year fish, collected from near-shore areas in New York State's western Great Lakes Basin, for PCB and organochlorine pesticide residues.
- 2009 Environmental Monitoring Report (PDF) A brief review of work conducted and/or reports finalized by the Bureau of Habitat's Environmental Monitoring Section in 2009. This section annually plans, carries out and reports on biological monitoring of contaminants and other toxic substances in the aquatic environment.
- New York State Fish Mortalities, 2009 (PDF) A summary report for fishery professionals describing the 90+ statewide freshwater and marine incidents reported to the Department's regional offices in 2009. The report describes causes, number of fish and waters affected, and makes comparisons to fish mortality data dating back to 1984.
- Chemical Residue Concentrations in Four Species of Fish and American Lobster from Long Island Sound, Connecticut and New York: 2006 and 2007 (PDF) A report of the bistate effort, supported by the United States Environmental Protection Agency, to update information on chemical residues in important fisheries, and in fisheries with existing health advisories or having a significant potential for health advisories.
- Data Report for Residues of Organic Chemicals and Four Metals in Edible Tissues and Whole Fish for Fish Taken from the Buffalo River, New York (PDF) This report of chemical residue data from fish taken from the Buffalo River is to be used in conducting both human health and ecological risk assessments of the contaminated resource. These risk assessments are necessary to establish criteria for a dredging project designed to remove contaminants from the Buffalo River and to restore some of the beneficial uses of the resource.
- Analysis of Fall Fish Data Collected Under the Baseline and Remedial Action Monitoring Programs of the Hudson River PCBs Superfund Site from 2004 through 2009 (PDF) This report analyzes fish collected in the fall period during each of five years prior to dredging PCBs from the Hudson River in

2009, and compares their contaminant levels to fish collected in 2009, which had been exposed for four months to elevated water column PCB concentrations due to dredging.

- PCB, Organochlorine Pesticide and Mercury Changes in Lake Trout (*Salvelinus namaycush*) from Five Finger Lakes, New York State (PDF) Data is presented on PCB, organochlorine and mercury residues measured episodically in lake trout of known age over an approximate 25 year period from four Finger Lakes (Canadice, Canandaigua, Keuka and Seneca), and from Cayuga Lake for nearly 40 years.
- Dioxins and Furans in Fish Below Love Canal, New York (PDF) A report detailing the monitoring of young fish for dioxins and furans as a means for examining the efficacy of remedial work conducted at the Love Canal inactive hazardous waste site.
