



Columbia Environmental Research Center

Publication Brief

Reproductive Health of Bass in the Potomac Drainage: II) Seasonal Occurrence of Persistent and Emerging Organic Contaminants

Upcoming Publication

The seasonal occurrence of organic contaminants, many of which are potential endocrine disruptors entering the Potomac River watershed, were investigated using a two-pronged approach during the fall of 2005 and spring of 2006, assessing organic environmental contaminants and their biological effects.

The upcoming publication describes the measurement of selected chemicals at sites that may be adversely impacted by environmental contaminants.

In addition, a companion manuscript describes USGS research findings using various biological indicators of contaminant exposure to determine the reproductive health of fish collected at these sites.

Passive sampling devices, the semipermeable membrane device (SPMD) and polar organic chemical integrative sampler (POCIS), were deployed in tandem at sites

above and below wastewater treatment plant discharges within the Potomac River watershed.

Sampling sites were selected based on their proximity to wastewater treatment plant discharges, which included the mainstem of the Potomac River and two of its tributaries, Conococheague Creek and the Monocacy River.

The SPMD extracts were analyzed for polycyclic aromatic hydrocarbons, organochlorine pesticides and total polychlorinated biphenyls. Selected organic wastewater chemicals, agricultural pesticides and hormones were measured in the POCIS.

Also, contaminants present in the POCIS extracts were assayed for estrogenicity or anti-estrogenicity using an *in vivo* bioluminescent yeast estrogen screen (BLYES).

The final, scientifically peer-reviewed publication on these research findings is due out later this year.

Alvarez, DA; Cranor, WL; Perkins, SD; Schroeder, VL; Iwanowicz, LR; Clark, RC; Guy, CP; Pinkney, AE; Blazer, VS; and Mullican, JE.
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http://www.cerc.usgs.gov/research/passive_samplers.htm