



Association of State and Interstate Water Pollution Control Administrators (ASIWPCA)
1221 Connecticut Avenue, NW Washington, DC 20036 www.asiwpca.org

For further information contact:
Linda Eichmiller, 202-756-0600

Emerging Chemicals of Concern – Why This is a High Priority for States

Summary: State water quality managers are increasingly faced with decisions on how to move our programs forward to address new challenges associated with emerging chemicals that have been found in the nation's waters. Examples include phthalates, polybrominated diphenyl ethers (PBDEs), perfluorinated compounds, NDMA, pesticides, pharmaceuticals and personal care products such as toiletries, sun-screen agents, lotions, and cosmetics.

Although many are not “new”, certain chemicals, and classes of chemicals have been “emerging” as issues of concern for a number of reasons, including the fact that (1) we have increased monitoring to look for these compounds, (2) we have improved analytical methods for detection, and (3) research has demonstrated the toxicological and endocrine-disrupting effects of these chemicals.

There are extensive demonstrations in the literature of serious endocrine disrupting effects on fish and wildlife (e.g., feminized fish, premature spawning, eggshell thinning, abnormal reproduction, birth defects) from many of these chemicals. Human exposure is a concern, although it is less clear what levels, and combinations of, chemicals cause harm. Wastewater treatment is only partially effective at removing many of these chemicals and different technologies tend to work for different compounds.

Recommendation: States and USEPA need to jointly undertake the following:

- ✓ Prioritize chemicals (or classes of chemicals) that pose the biggest threat to humans and/or aquatic life.
- ✓ Develop monitoring programs to address emerging chemicals (or classes of chemicals) of concern. Develop/share a companion list of methods for these chemicals.
- ✓ Establish forums to share knowledge (at both the technical and management levels) and to brainstorm about how to incorporate what we learn and share into 1) monitoring, 2) regulatory, 3) source control, and 3) educational programs.
- ✓ Develop communication strategies due to the increasing public and legislative interest in how we are dealing with this issue.

Background: Some of the questions States have posed include the following. Answers need to be developed jointly with USEPA:

- Which chemicals pose the biggest short and long term threats to humans and aquatic life?
- What should we be monitoring for in the near term? How do we keep on top of the latest analytical methods? What monitoring should we require for various types of permits (i.e., discharges to surface vs. groundwaters)?
- Which of these chemicals need numeric criteria? How do we prioritize these on an ongoing basis?
- How can we better craft and utilize our narrative criteria to regulate these chemicals?
- EPA should proceed with developing criteria for the highest priority emerging chemicals, but won't be able to deal with the myriad (1000s) of chemicals with their current resources. For this issue, shouldn't we consider a different paradigm than regulating on a chemical by chemical basis (i.e. focus on certain treatment technologies to solve the problem)?
- What kinds of biological monitoring should we require to identify and evaluate the effects of endocrine disrupting chemicals on organisms and populations?
- How do we make impairment decisions (based on water and/or biological impairments) for these compounds?
- When do we segue from monitoring into deriving effluent limits for a particular chemical? What scientific information should we use to develop the limits? How would we determine Reasonable Potential?

In late summer, 2007, State and Interstate members of ASIWPCA were surveyed on their interest, activities, and priorities for the future). The results of this survey are available from ASIWPCA. Short and long-term State and Interstate needs included:

- **Near term:** #1 = analytical methods, #2 = research on EDCs, #3 = develop criteria,
- **In the next 5 years:** shift to criteria development and development of treatment technologies.
- **Overarching need:** Various forums (e.g., State to State, State-EPA, State-EPA and the research community) to share information.

Also, EPA has been gathering information and conducting activities, including (1) an EDC Screening Program (congressional mandate), (2) a Fish Tissue Study, (3) a POTW Study, (4) a National Sewage Sludge Study, (5) Development of a Searchable (Literature) Inventory, (6) Drinking Water Contaminant Candidate List (CCL), and (7) a Federal Interagency Task Group on Pharmaceuticals in the Environment. Hopefully, results from these studies will be shared with states on a timely and ongoing basis and we can continue to work together to advance our understanding of, and regulation of, these compounds.