

Summary of State Responses to Emerging Contaminant Survey

Introduction

At the ECOS-DoD Sustainability Work Group's November 2005 Forging Partnerships on Emerging Contaminants Forum, one of several priority issues identified by attendees was the need for greater information on the status of state Emerging Contaminant programs and research. In response to this, the Work Group's Emerging Contaminants Task Group developed a survey for state agencies on these issues. Distributed at the ECOS Annual Meeting in August 2006, the online survey was completed by 38 state environmental agencies and the public health agencies of Alabama and Massachusetts.

This question included a list of 17 Emerging Contaminants (ECs) of interest to DoD as well as Chiral Compounds, MTBE and Organotins and allowed respondents to identify other ECs. Key findings of general interest include that TCE, Perchlorate, MTBE, Tetrachloroethylene, 1,4 dioxane, and PBDEs were most frequently identified in the top tier of contaminants of concern. Respondents reported numerous contaminants in the "other" category, with several contaminants identified by multiple states. These are: Flame Retardants, Phthalates, Pharmaceuticals and Personal Care Products, Endocrine Disruptors, Antibiotics, Hormones, Algal Toxins, Lead and Mercury. Notably, Pharmaceuticals and Personal Care Products were listed by 10 states.

The Emerging Contaminants Task Group will review and discuss the findings to determine whether and how they affect the current and future plans for the working group. Individual states, and other parties may also find the survey results useful.

Following below is a technical summary of the data submitted. For an exhaustive listing of state responses, please refer to the spreadsheet entitled "Final Survey Responses" posted on the ECOS-DoD Sustainability Work Group's web page (http://www.ecos.org/files/2525_file_EC_Survey_response_spreadsheet.xls).

Responding states:

Alabama, Arizona, California, Colorado, Connecticut, Delaware, Florida, Georgia, Hawaii, Idaho, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Missouri, Nebraska, Nevada, New Jersey, New York, North Carolina, Oklahoma, Pennsylvania, Rhode Island, South Carolina, South Dakota, Tennessee, Texas, Utah, Virginia, Vermont, Washington, Wisconsin, Wyoming

Question 1: *Does your state define the term "emerging contaminants"? If so, what is the definition?*

Three states reported having an emerging contaminant definition.

- Colorado reported that the State Water Quality Control Commission uses the Consortium for Research and Education on Emerging Contaminants (CREEC)

**ECOS-DoD Sustainability Work Group
Emerging Contaminant State Survey Summary
January 16, 2007**

definition: “Emerging contaminants (ECs) are those chemicals that recently have been shown to occur widely in water resources and identified as being a potential environmental or public health risk, and yet adequate data do not exist to determine their risk.”

- Massachusetts: “hazardous materials (chemical, microbial or radiological substances) or mixtures of interest that are characterized by: a perceived or real threat to human health, public safety or environment; no currently published health standard/guideline exists or it is evolving or being re-evaluated; there is insufficient or limited available toxicological information; or, a new source, pathway, or detection limit has been discovered. Emerging contaminants may be naturally occurring or manmade.”
- South Carolina: “Contaminants with potential threat to health and environment that have no regulatory standard.”

Question 2: *Do you use another term(s) with similar meaning?*

Seven states reported that they use another term with a similar meaning. Some of the terms noted by the states were “Emerging Chemicals of Concern,” “Endocrine Disrupting Chemicals,” “Microconstituents,” “Unregulated Contaminants,” and “Persistent Bioaccumulative Toxins.”

Question 3: *Do you have a statutory definition(s) for emerging contaminants?*

North Carolina was the only state to report that it had a statutory definition for emerging contaminants. However, while the statutory definition lists various definitions for contaminants and pollutants, it does not expressly define “emerging contaminant.”

Question 4: *Do you have a regulatory definition(s) for emerging contaminants?*

Washington and North Carolina reported that they have a regulatory definition for the term “emerging contaminants.” However, in Washington the definition appears to be part of a regulation directed at persistent bioaccumulative toxics. Additionally, two other states noted that while they do not have an existing regulatory definition for emerging contaminants, any environmental contaminant can potentially be regulated.

Question 5: *If your state has neither a statutory nor regulatory definition for emerging contaminants, do you think the term should be defined?*

Fifteen states reported that the term should be defined, while eighteen states reported that the term does not need to be defined. Four states gave no response or replied “maybe.”

Question 6: *If your state does not currently have a statutory and regulatory definition of emerging contaminants, does it have plans to develop a definition in the near future?*

**ECOS-DoD Sustainability Work Group
Emerging Contaminant State Survey Summary
January 16, 2007**

Kentucky, Nevada, South Carolina and the Massachusetts Department of Public Health reported that they plan to develop a definition in the near future.

Question 7: *Identify which of the following your state considers to be an emerging contaminant or no longer considers an emerging contaminant but rather a regular contaminant?*

This question listed the 17 ECs on the DoD EC Watch and Action lists as well as Chiral Compounds, MTBE and Organotins. It also allowed respondents to fill in a section marked “other.” Responses to this section generally split the contaminants almost evenly between the EC and “regular contaminant” options. Six responses did not identify any of the contaminants as “emerging.”

Respondents reported numerous contaminants in the “other” category, with several contaminants identified by multiple states. These are: Flame Retardants, Phthalates, Pharmaceuticals and Personal Care Products, Endocrine Disruptors, Antibiotics, Hormones, Algal Toxins, Lead and Mercury. Notably, Pharmaceuticals and Personal Care Products were listed by 10 states.

Question 8: *For the contaminants you identified above as emerging contaminants, what is the basis (newly discovered; re-emerging [newly discovered pathway]; or reassessment [change in toxicity]) for considering the materials as emerging contaminant in your state?*

While many contaminants were identified in multiple categories, several dominant reasons emerged. While not exhaustive, the following are the 5 contaminant-basis pairs most frequently identified.

- (1) Nanomaterials -- newly discovered [18 responses]
- (2,3,4 tied) PFOA, Perchlorate and PBDE -- newly discovered [each received 16 responses]
- (5) PFOA -- re-emerging: [9 responses]

Question 9: *For the contaminants you identified above as emerging contaminants, how frequently are you encountering them in your state (often, occasionally, rarely, never/none to date)?*

In this question, the only contaminants marked as being encountered “often” by more than 3 states were: TCE (11 responses), Tetrachloroethylene (6 responses), MTBE (6 responses), and Perchlorate (4 responses). Among those identified as “never” having been encountered to date by 5 or more respondents were Chiral Compounds, Nanomaterials, PFOA, PBDE and Perchlorate.

Question 10: *For those contaminants you selected above in question 7, which, if any, have an established state background level?*

**ECOS-DoD Sustainability Work Group
Emerging Contaminant State Survey Summary
January 16, 2007**

Ten states reported that there is an established state background level for each of the contaminants listed in question seven. Beryllium and Naphthalene were the two contaminants noted most often.

Question 11: *For those contaminants you identified as “emerging,” please identify the top five contaminants with which your state is most concerned.*

In this question, TCE, Perchlorate and MTBE were the three most frequently identified “number 1” contaminant of concern, with 10, 7 and 6 responses, respectively. Tetrachloroethylene, Perchlorate, 1,4 dioxane and PBDEs were most frequently identified as the second most important contaminant of concern with 7, 4, 4, and 4 responses, respectively.

Question 12: *In which media are the contaminants you identified as “emerging” being addressed in your state?*

Responses to this question were as follows:

	Waste water	Drinking water	Surface water	Ground water	All waters	Soils	Indoor	Outdoor Air	Biota	Other
Beryllium		2		2	4	6	2	4	1	
Chiral compounds					1	1			1	
Chromium VI			1	5	4	10		5		
Dichlorobenzenes		1			5	6		3		
Dioxin				4	4	1			4	
Di-nitrotoluenes (DNT)			2	3		5		2		
Methyl-tertiary-butyl ether (MTBE)	2	7	3	14	4	11	1	3		
Nanomaterials		1				1	1	1	2	
Naphthalene	1	1	2	7	3	6	2	4	1	
N-Nitrosodimethylamine (NDMA)	1	2	2	3	1	1		2	1	
Organotins	1		3	1	3	4			2	
Perchlorate	3	5	5	14	3	11			1	
Perfluorooctanoic acid (PFOA)	1		3	3		2	1	1	4	
Polybrominated diphenyl ethers (PBDEs) and polybrominated biphenyls (PBBs)	1		4	2	1	4	3	1	5	
Royal Demolition Explosive (RDX)/cyclotrimethylenetrinitramine		2	1	5	1	5				
Tetrachloroethylene	1	5	1	10	4	9	6	5	2	
Trichloroethylene (TCE)	1	6	2	11	6	14	8	5	2	
Tungsten and alloys		2	1	2		5		1	1	
1,4 dioxane		1	7		2	5		2		
1,2,3-trichloropropane (TCP)		1	1	3	1	1				

**ECOS-DoD Sustainability Work Group
Emerging Contaminant State Survey Summary
January 16, 2007**

Question 13: *Does your state have any specific programs to deal with emerging contaminants?*

Ten states reported that they have a specific program to deal with emerging contaminants. Of these, Colorado, Maine and Washington reported having dedicated funding for portions of their emerging contaminants programs. An additional twelve states reported that while they do not have a specific program, they have a division that addresses emerging contaminants. Of these, Pennsylvania reported having dedicated funding for this division.

Question 14: *In your state, has there been any media attention or attention by policy makers to the issue of emerging contaminants? If yes, please describe.*

In this question, twenty-one states reported having had media attention on the EC Issue. Contaminants subject to media attention included: PFOA, Perchlorate, Endocrine Disrupting Compounds, MTBE, PBDE, Microconstituents, TCE, Tritium, Tungsten, Brominated Flame Retardants other than PBDE/PBB, Personal Care and Pharmaceutical Products, Organotins, PCBs and Mercury.

Question 15: *Is your state coordinating with other states concerning emerging contaminants?*

Twenty-two states reported that they coordinate with other states concerning emerging contaminants. Most of the discussion between states is an informal sharing of information at national and regional conferences and forums.

Question 16: *How does your state receive information on bordering states' emerging contaminants?*

Of the twenty-eight states that answered this question, the most common information receipts were through informal discussions at conferences, scientific articles and involvement with organizations such as EPA, ECOS, and ASTWMO.

Question 17: *Which organization(s) (such as other state agencies, NGOs, etc) is your state working with concerning emerging contaminants?*

Twenty-eight states reported that they work with organizations concerning emerging contaminants. While the states varied on the different organizations they work with, ASTSWMO, ITRC, ECOS and USGS were frequently listed.

Question 18: *Is your state currently conducting sampling for emerging contaminants? If so, which constituents is it sampling for?*

Twenty-two states reported that they are currently sampling for emerging contaminants. Contaminants reported to be undergoing monitoring by multiple states

ECOS-DoD Sustainability Work Group
Emerging Contaminant State Survey Summary
January 16, 2007

Question 20: *Does your state communicate to the public about possible health risks and uncertainties associated with emerging contaminants?*

Twenty-five states reported that they communicate to the public about possible health risks and uncertainties associated with emerging contaminants. The majority of responses indicated that most information distributed is via public meetings or the Department website.