

**Contingency Plan Report**  
First Quarter 2012

**Ambient Monitoring**

MWRA gathers data from the outfall location in Massachusetts Bay on various thresholds in its Deer Island outfall discharge permit. This report shows relevant ambient monitoring results that became available in the January-March 2012 time period. There were no contingency plan threshold exceedances.

**SEDIMENT CONTAMINATION**

Sediment contamination levels at the outfall site in 2011 were well below the thresholds.

The sediment contamination thresholds would indicate any unexpected accumulation of toxic contaminants in soft sediments near the outfall. Contaminant levels are compared to sediment guidelines issued by the National Oceanic and Atmospheric Administration (NOAA). These NOAA "ER-M" levels indicate toxic contaminant concentrations above which adverse effects on marine life are often detected. Baseline sediment contamination levels are all well below the ER-M levels for all contaminants, with only low molecular weight polycyclic aromatic hydrocarbons (LMWPAH) reaching to more than half the threshold value.

2011 contaminant levels were within or below the baseline (pre-discharge) range, and except for p,p'-DDE, also within or below the post-discharge range. This continues the pattern consistently seen since the outfall went on-line: little to no change in sediment contaminant levels at sites potentially affected by the discharge.

	contaminant	baseline range*	warning level threshold	2011 value
<u>PAHs (ng/g dry weight)</u>				
	acenaphthene	22.7 - 43.5	500	17.1
	acenaphthylene	30.3 - 43.1	640	18.3
	anthracene	101 - 159	1100	93.6
	benz(a)anthracene	206 - 302	1600	186.
	benzo(a)pyrene	204 - 298	1600	216
	chrysene	164 - 296	2800	181.
	dibenzo(a,h)anthracene	27.8 - 38.3	260	31.0
	fluoranthene	422 - 621	5100	400.
	fluorene	35.5 - 66.6	540	23.2
	naphthalene	53.6 - 103	2100	54.9
	phenanthrene	273 - 431	1500	214.
	pyrene	412 - 579	2600	351
	sum HMWPAH	2790 - 3850	9600	2854
	sum LMWPAH	1390 - 1630	3160	1083
	total PAH	4180 - 5400	44792	3937

	contaminant	baseline range*	warning level threshold	2011 value
<u>Other organic contam. (ng/g)</u>				
	p,p'-DDE	0.386 – 1.00	27	0.64
	total DDT	2.51 - 5.69	46.1	2.62
	total PCB	10.2 - 20.2	180	7.18
<u>Metals (ug/g dry weight)</u>				
	cadmium	0.0727 - 0.185	9.6	0.10
	chromium	59.2 - 79.9	370	43.4
	copper	19.1 - 25.2	270	15.4
	lead	41.1 - 46.3	218	39.1
	mercury	0.159 - 0.353	0.71	0.19
	nickel	15.7 - 17.2	51.6	15.4
	silver	0.335 - 0.485	3.7	0.19
	zinc	49.5 - 57.5	410	49.8

\* Baseline range of nearfield mean concentrations, including just those eleven nearfield stations currently sampled.