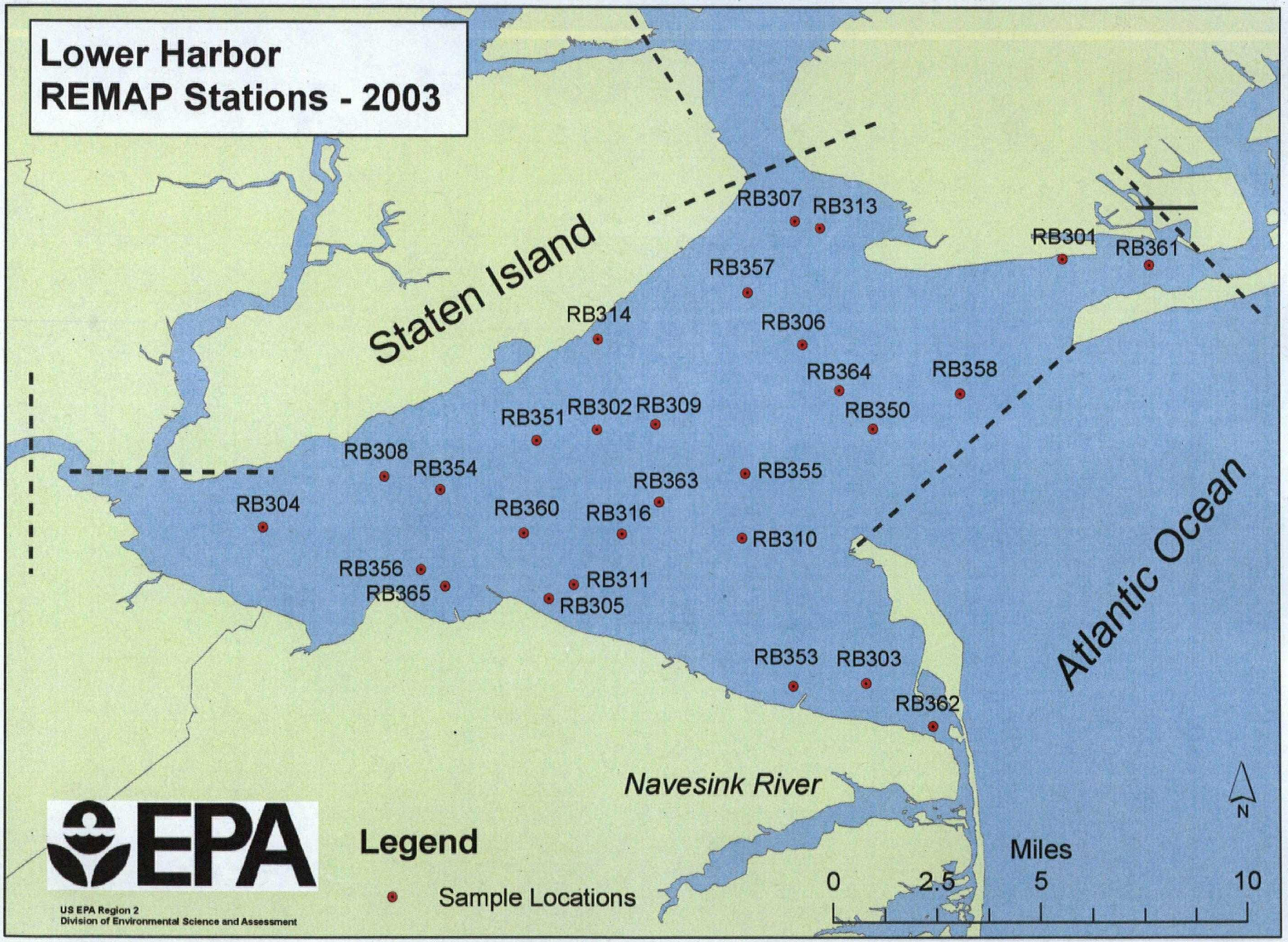
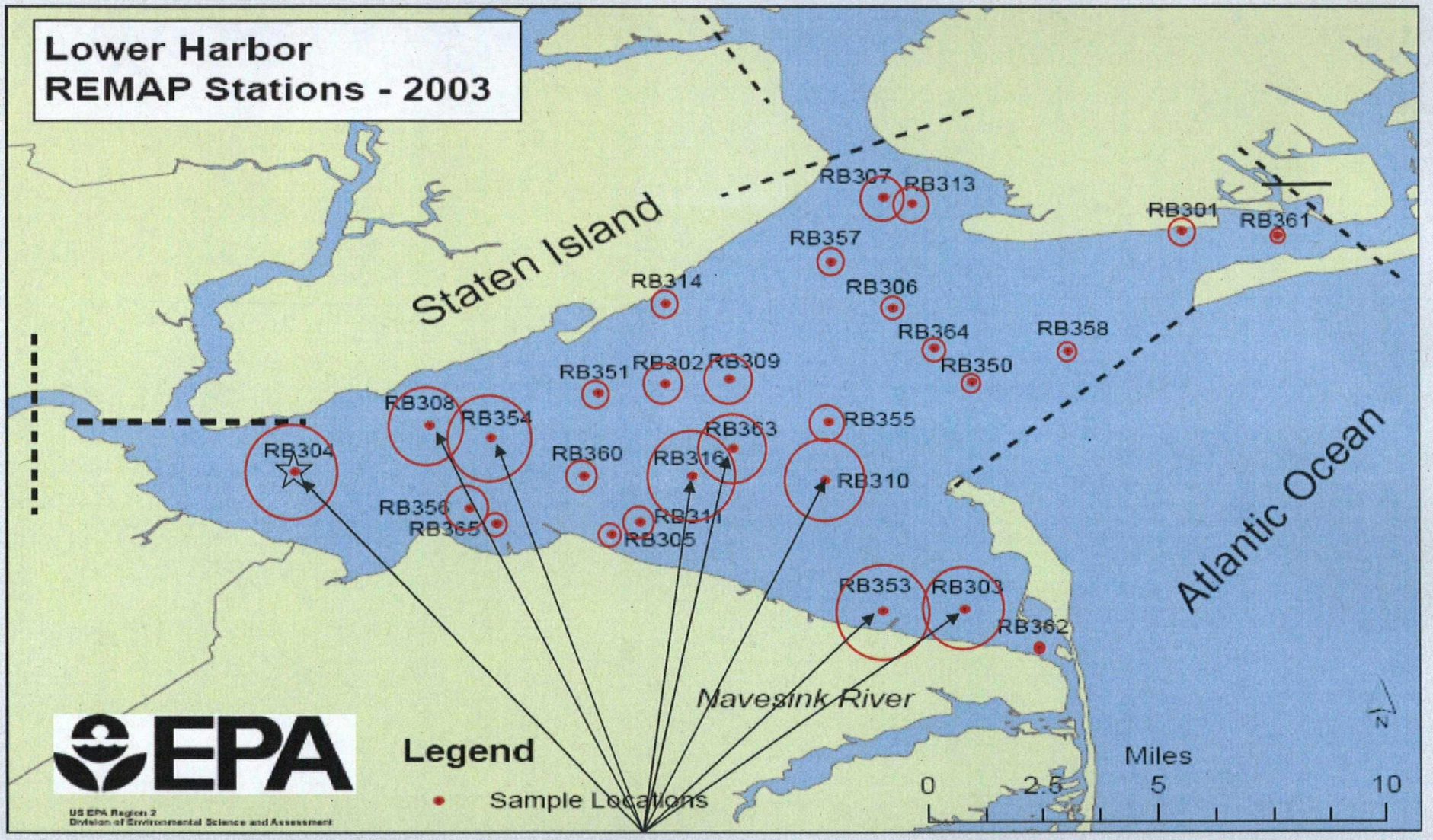
153531


Lower Harbor
REMAP Stations - 2003
Staten Island
Atlantic Ocean
Navesink River
RB307
RB313
RB301
RB361
RB357
RB314
RB306
RB364
RB358
RB350
RB351
RB302
RB309
RB308
RB354
RB363
RB355
RB304
RB360
RB316
RB310
RB356
RB365
RB311
RB305
RB353
RB303
RB362
N
Miles
0
2.5
5
10
Legend
Sample Locations
EPA
US EPA Region 2
Division of Environmental Science and Assessment

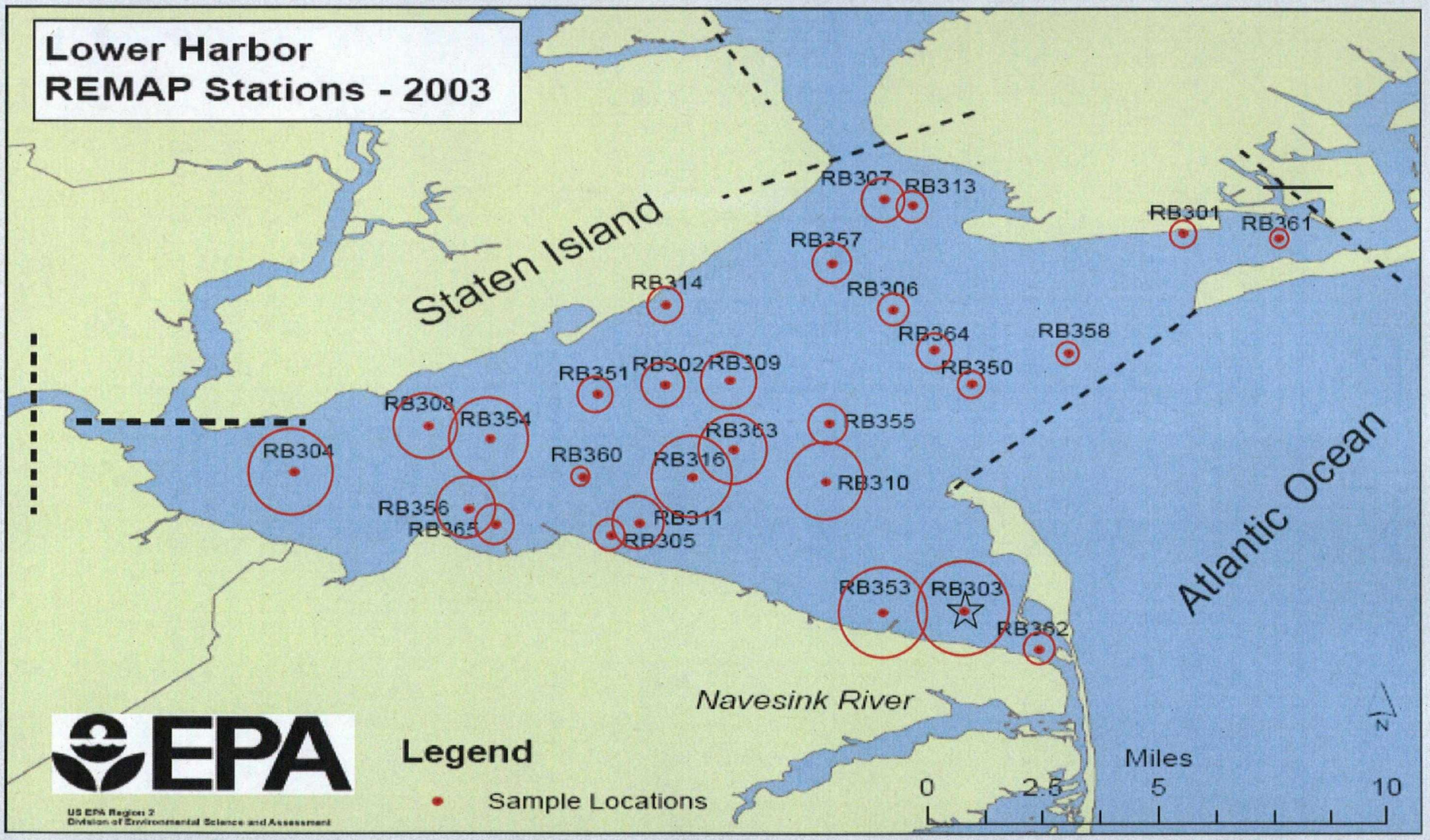
# Relative Lead Levels in Raritan Bay




Lead shows high concentrations at these 8 sites, typical of most metals.

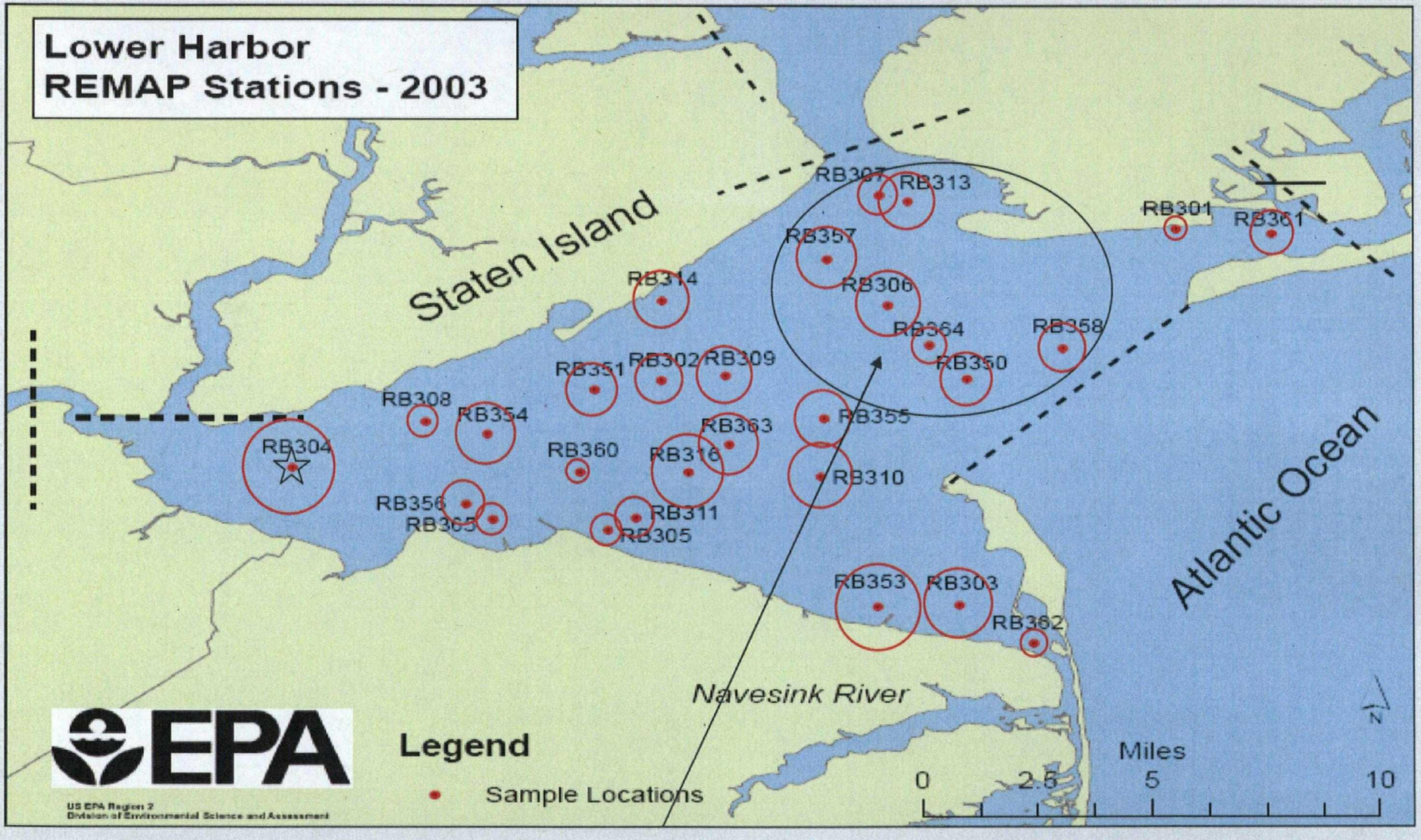
☆ - Indicates highest recorded value.

# Relative Iron Levels in Raritan Bay



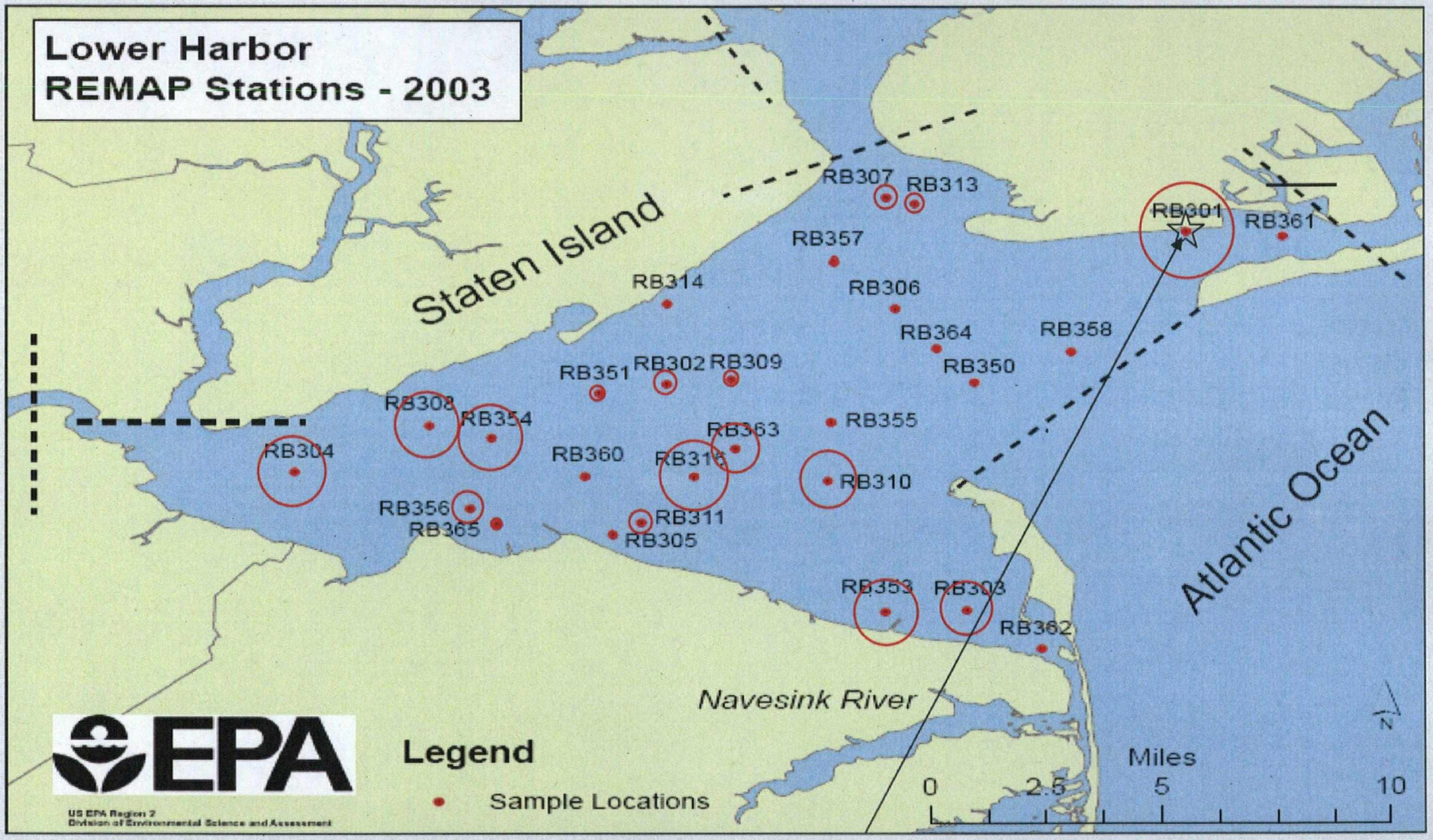

Relative iron levels are comparable to those of lead (0.96).

# Relative Aluminum Levels in Raritan Bay



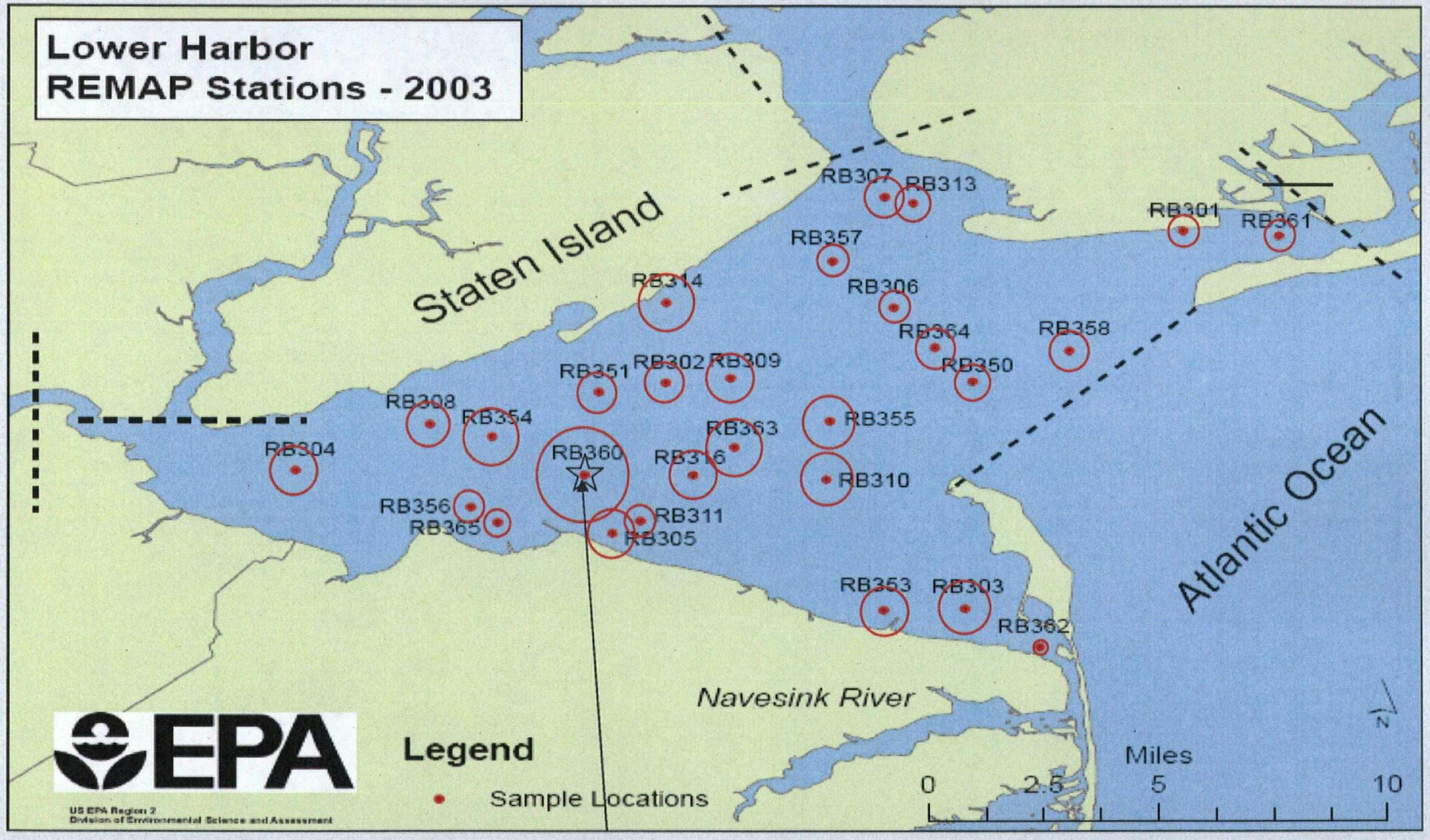

Aluminum is somewhat unique (0.66-0.77) because of slightly higher concentrations in this area and slightly lower concentrations at some of the usual 8 sites.

# Relative Mercury Levels in Raritan Bay

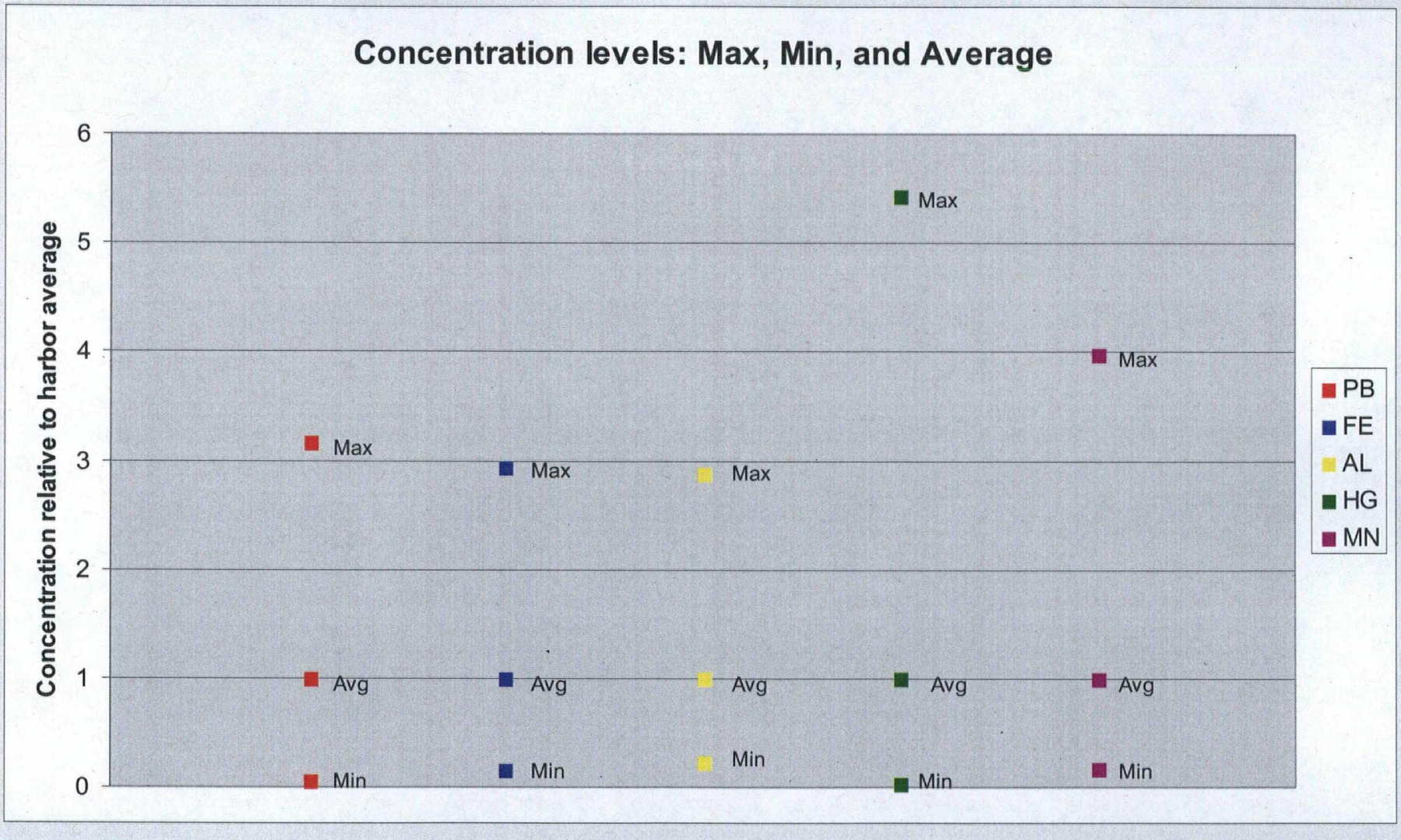



For mercury, the 8 typical sites are present, but overshadowed by this site, which has ~5.5 times the mean concentration (as compared to the typical max of ~3x avg.).

# Relative Manganese Levels in Raritan Bay




Manganese levels are fairly constant throughout the harbor with the exception of this site, which has ~4 times the average concentration.




Mercury and Manganese maximum values are proportionally higher than most other metals.

| | | | | Metals (mg/kg) | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| STATION | DATE | LAT83ACT | LON83ACT | AL | SB | AS | CD | CR | CU | FE | PB | MN | NI | SE | AG |
| RB301 | 8/15/2003 | 40.57465 | -73.94295 | 3270 | 0.26 | 2 | 0.63 | 13.9 | 4.8 | 6360 | 14.9 | 236 | 4.7 | 0.76 | 0.15 |
| RB302 | 7/7/2003 | 40.51483333 | -74.10535 | 11500 | 0.43 | 4.5 | 0.93 | 35.7 | 14.3 | 14100 | 31.7 | 334 | 8.4 | 1 | 0.67 |
| RB303 | 8/2/2003 | 40.42585 | -74.0116 | 22100 | 1.7 | 22.3 | 2.5 | 123 | 97.2 | 59300 | 133 | 526 | 31.7 | 2.7 | 2.5 |
| RB304 | 8/2/2003 | 40.48048333 | -74.22255 | 40100 | 2.3 | 20 | 2.7 | 135 | 134 | 50000 | 169 | 495 | 41.8 | 2.7 | 4 |
| RB305 | 8/2/2003 | 40.45545 | -74.12218333 | 5400 | 0.35 | 4.4 | 0.4 | 10 | 3.8 | 7470 | 14.1 | 476 | 5.4 | 0.92 | 0.065 |
| RB306 | 8/15/2003 | 40.54461667 | -74.03386667 | 19900 | 0.35 | 2.6 | 0.59 | 17.7 | 3.8 | 8560 | 12.3 | 208 | 6.2 | 0.86 | 0.1 |
| RB307 | 8/22/2003 | 40.58798333 | -74.03666667 | 7520 | 0.52 | 5.2 | 0.93 | 36.3 | 21.1 | 13600 | 37.7 | 335 | 12.7 | 0.96 | 0.7 |
| RB308 | 8/16/2003 | 40.49831667 | -74.18 | 5070 | 1.8 | 12.3 | 2.4 | 94.2 | 82.3 | 30500 | 115 | 419 | 28.8 | 1.6 | 2.8 |
| RB309 | 8/19/2003 | 40.51671667 | -74.08505 | 14800 | 0.52 | 17.8 | 0.47 | 35.5 | 6.8 | 22700 | 49.9 | 505 | 10.6 | 0.92 | 0.14 |
| RB310 | 7/25/2003 | 40.47681667 | -74.05508333 | 20400 | 1.3 | 16.4 | 2.3 | 120 | 90.1 | 40300 | 124 | 535 | 34.9 | 2 | 3.1 |
| RB311 | 8/2/2003 | 40.46036667 | -74.11348333 | 8260 | 0.49 | 6.8 | 0.57 | 24.2 | 18.2 | 18200 | 22.8 | 227 | 5.6 | 0.94 | 0.59 |
| RB313 | 7/31/2003 | 40.58548333 | -74.02765 | 15300 | 0.3 | 3.6 | 0.64 | 21.3 | 10.4 | 8600 | 26 | 264 | 6.7 | 0.94 | 0.3 |
| RB314 | 7/11/2003 | 40.54645 | -74.10505 | 14900 | 0.33 | 3.7 | 0.41 | 21.6 | 5.7 | 9030 | 17.8 | 655 | 15.4 | 0.93 | 0.077 |
| RB316 | 7/25/2003 | 40.47821667 | -74.09683333 | 24700 | 1.6 | 17.6 | 2.4 | 141 | 109 | 44400 | 152 | 477 | 38.2 | 2.1 | 3.9 |
| RB350 | 8/21/2003 | 40.51515 | -74.00916667 | 12900 | 0.18 | 1.8 | 0.19 | 9.9 | 2.6 | 5790 | 9.2 | 277 | 4.9 | 0.71 | 0.043 |
| RB351 | 7/7/2003 | 40.51108333 | -74.12648333 | 13800 | 0.31 | 3.1 | 0.2 | 20.5 | 7.6 | 8640 | 18.1 | 366 | 6.3 | 0.95 | 0.22 |
| RB353 | 7/25/2003 | 40.42498333 | -74.0371 | 32700 | 2.1 | 22.6 | 2.5 | 140 | 121 | 55300 | 168 | 505 | 38.1 | 2.4 | 3.6 |
| RB354 | 7/10/2003 | 40.47711667 | -74.16031667 | 18400 | 1.5 | 17.3 | 2.1 | 121 | 93.3 | 42600 | 139 | 595 | 37.3 | 2 | 3.2 |
| RB355 | 7/14/2003 | 40.49946667 | -74.05391667 | 15800 | 0.23 | 3.9 | 0.53 | 29.2 | 4.8 | 11700 | 28.6 | 513 | 6.9 | 0.82 | 0.1 |
| RB356 | 7/14/2003 | 40.46565 | -74.1669 | 9610 | 0.68 | 14.1 | 1 | 36 | 30 | 24300 | 39 | 228 | 8.6 | 1.1 | 0.84 |
| RB357 | 7/1/2003 | 40.56295 | -74.05306667 | 16300 | 0.2 | 2.8 | 0.41 | 15.9 | 6.4 | 11200 | 15 | 229 | 9.1 | 0.61 | 0.19 |
| RB358 | 8/15/2003 | 40.52748333 | -73.97878333 | 11600 | 0.23 | 1.8 | 0.43 | 8.6 | 2.3 | 5200 | 8.1 | 352 | 5.1 | 0.73 | 0.034 |
| RB360 | 7/11/2003 | 40.47848333 | -74.13095 | 3130 | 0.68 | 3.9 | 0.2 | 5.1 | 6 | 3700 | 22.7 | 1690 | 15.2 | 0.64 | 0.025 |
| RB361 | 7/31/2003 | 40.5727 | -73.91293333 | 9720 | 0.3 | 0.94 | 0.26 | 6.5 | 1.6 | 3170 | 6.9 | 245 | 2.2 | 0.72 | 0.027 |
| RB362 | 8/2/2003 | 40.41086667 | -73.98826667 | 3560 | 0.22 | 1.6 | 0.23 | 11.2 | 1.6 | 7250 | 3.4 | 70.9 | 1.5 | 0.65 | 0.035 |
| RB363 | 8/16/2003 | 40.48945 | -74.08388333 | 16400 | 0.9 | 11.1 | 2 | 80.7 | 54.4 | 31900 | 94.8 | 630 | 26.7 | 1.4 | 2 |
| RB364 | 8/19/2003 | 40.52855 | -74.02091667 | 6870 | 0.23 | 2.6 | 0.62 | 18.5 | 3.6 | 10200 | 11.1 | 358 | 7.3 | 0.73 | 0.078 |
| RB365 | 8/22/2003 | 40.45975 | -74.15846667 | 5480 | 0.37 | 4.2 | 0.51 | 14.4 | 9.8 | 11100 | 14.6 | 152 | 3.4 | 0.66 | 0.29 |

| | | | Percent Solids | TOC |
|---|---|---|---|---|
| SN | ZN | HG | % | mg/kg |
| 4.3 | 19.9 | 3 | 77 | 9500 |
| 8.6 | 118 | 0.23 | 76 | 7900 |
| 17.9 | 327 | 1 | 40 | 42000 |
| 27.7 | 288 | 1.7 | 40 | 76000 |
| 5.1 | 58.6 | 0.024 | 77 | 4600 |
| 4.1 | 18 | 0.017 | 77 | 8500 |
| 7.6 | 56.7 | 0.24 | 66 | 34000 |
| 19.4 | 232 | 1.4 | 53 | 32000 |
| 12.5 | 145 | 0.09 | 77 | 3900 |
| 19.7 | 222 | 1.2 | 38 | 62000 |
| 6.4 | 102 | 0.23 | 77 | 16000 |
| 5.8 | 31.3 | 0.18 | 75 | 14000 |
| 5.6 | 48.5 | 0.017 | 79 | 6700 |
| 25.3 | 263 | 1.7 | 42 | 37000 |
| 3.9 | 16.3 | 0.017 | 98.7 | 2100 |
| 6.4 | 74.5 | 0.088 | 77 | 26000 |
| 25.4 | 340 | 1.5 | 41 | 14000 |
| 22.7 | 233 | 1.4 | 37 | 58000 |
| 6.7 | 68 | 0.042 | 77 | 12000 |
| 9.4 | 174 | 0.37 | 75 | 8600 |
| 4.5 | 32.3 | 0.033 | 78 | 8700 |
| 3.7 | 12.2 | 0.017 | 80 | 2900 |
| 4.2 | 68.5 | 0.017 | 77 | 4500 |
| 3.5 | 7.1 | 0.017 | 80 | 3500 |
| 3.4 | 11.2 | 0.017 | 80 | 4000 |
| 16.4 | 171 | 0.82 | 52 | 19000 |
| 4 | 20.7 | 0.017 | 77 | 2500 |
| 5.2 | 57.1 | 0.075 | 78 | 6700 |