

APPENDIX W

Elevated Data Levels

Elevated Data Levels (EDL)

An EDL is defined for the purposes of the SMWP as that concentration of a toxic substance in mussels or clams that equals or exceeds a specified percentile (such as 85 percent) of all SMWP measurements of the toxic substance in the same species and exposure condition (resident or transplant) between 1977 and 1997. EDLs were determined as follows:

(1) All SMWP data from 1977 through 1997 were pooled by species and exposure, (2) The concentrations of each toxicant were ranked from highest to lowest concentration down to, and including, instances when a chemical was not detected, (3) The cumulative frequency of occurrence and percentile ranking for all concentrations were calculated, (4) The concentration of the toxic substance representing the 85th percentile was identified and designated the 85 percent EDL or EDL 85, and (5) The concentration of the toxic substance representing the 95th percentile was identified and designated the 95 percent EDL or EDL 95. The EDL 85 is that concentration of a toxic substance that equals or exceeds 85 percent of all SMWP measurements of the toxic substance in the same species and exposure between 1977 and 1997. The EDL 95 is that concentration of a toxic substance that equals or exceeds 95 percent of all SMWP measurements of the toxic substance in the same species and exposure between 1977 and 1997. EDLs for trace elements are summarized in Tables 5 and 7. EDLs for synthetic organic substances are summarized in Tables 8 through 12.

Because EDLs are based on the relative ranking of each measurement, rather than a percentage of the highest concentration obtained, they are not influenced by unusually high (anomalous) toxicant values. This characteristic of EDLs is especially desirable in the evaluation of synthetic organic toxicants where the highest concentration may be as much as ten times the next highest concentration. EDLs do, however, reflect the biases of the data upon which they have been based.

Because they are based on SMWP data rather than an absolute number external to the SMWP, EDLs, when exceeded, can provide a sensitive first indication of elevated toxicant levels in California waters. As such, EDLs fulfill the monitoring function of the SMWP effectively. In addition, EDLs may be expressed in dry weight to eliminate data variability due to moisture content and to conform to scientific literature relevant to mussel or clam monitoring programs worldwide. However, EDLs do not assess adverse impacts, nor do they necessarily represent concentrations that may be damaging to the mussels, clams, or to a human consuming these species. They do not directly relate to Maximum Tissue Residue levels (MTRLs), FDA action levels, NAS guidelines, or Median International Standards (MIS).