Los Angeles Region Contaminated Sediments Task Force
Sediment Thresholds Subcommittee
October 8, 2002.

Attendees: Nick Buhbe (AMEC), Michael Lyons (LARWQCB), Paul Johansen (POLA), Steve Bay (SCCWRP), Tom Johnson (POLB), Doris Vidal (SCCWRP), Steve Cappellino (Anchor), Kathy Anderson (Corps), David Moore (MEC), Guangyu Wang (SMBRP), Omer Kadaster (Brown & Caldwell), Robert Flores (BBL), Bill Paznokas (CDFG) via conference call, Steven John, (EPA).

Agenda:

(1) Pellston Workshop Summary - August 17, 2002 workshop on the predictive ability and application of sediment quality guidelines. (David Moore).

Five workgroups on Sediment Quality Guidelines were organized: (1) scientific basis (the underpinnings) of existing SQGs; (2) predictive ability of SQGs by direct benthic infauna impacts or indirect impacts to higher trophic levels; (3) use of SQGs for dredged material assessment, site clean-up; (4) other assessment tools – SQGs and other lines of evidence (e.g., chemistry); and (5) Complex systems – current SQGs developed for coastal/marine systems. How can SQGs be made to work for more dynamic systems (rivers, streams, etc.)? A series of white papers will be developed and published by 2003 (Executive Summary to be prepared by November 2002).

Pellston "take home" message – SQGs have a level of predictive ability; are not "bright line" values; can be used to make management decisions and can be used with other tools (e.g., other chemistry data).

(2) CSTF Sediment Quality Database Update.

Version 1.0 distributed for review by the subcommittee (comments should be directed to S. Bay). Public distribution (via SCCWRP and CSTF websites) in November pending CSTF Management Committee and Sediment Thresholds Subcommittee approval.

Contents of Database CD: Archive Files; documentation files (technical and user manuals); CSTF database files; metadata database files; shape and support files; templates; readme & setup files. Database continues to be modified (e.g., new dredged study data, additional tissue data, enhanced query tool). Sediment quality data from Consolidated Slip and NEIBP CAD long-term monitoring will be added to the database.

(3) SQG Development Project Update.

SQG development project – objectives: develop guidance for use of SQGs in evaluating sediments for disposal (level I LA SQG – low concern for biological effects, e.g., 10% toxic samples; level II LA SQG – high concern for biological effects, e.g., >80% toxic samples); evaluate the need for region-specific SQGs vs existing national SQGs. SQG development project – workplan: Phase 1 – prepare analysis datasets; Phase 2 – select and evaluate candidate SQGs (summary of SQG approaches, select and evaluate performance of subset of SQGs); Phase 3 – evaluate regional differences in LA sediment contamination effects (compare contaminant-toxicity relationships; compare ERM/ERL predictive ability); Phase 4 – develop level I and II LA SQGs using best available guidelines (modify/adapt best-performing SQGs from Phase 2); Phase 5 – derive improved SQGs using alternative methods (investigate methods proposed by other organizations); Phase 6 – recommendations (technical report summarizing results; recommended SQGs and calculation methods).

Progress: established Technical Advisory Committee; prepared summary of SQG approaches; received TAC comments on workplan and SQG summary documents (addressed concerns, selected performance measures of sensitivity and efficiency); draft SQG selection and evaluation approach for Phase 2 (currently under TAC review). Phase 2 SQG evaluation – identify candidate SQGs for evaluation (rank established approaches described in SQG summary document; select approaches and parameters best suiting CSTF objectives); evaluate performance of candidate SQGs (Southern California sediment toxicity dataset, level I and level II sensitivity and efficiency).

Phase 2: SQG approaches evaluated include Apparent Effect Threshold (AET), Effect Range Approach (ERM/ERL), Effects Level Approach (TEL/PEL), Screening Level Concentration (SLC), Equilibrium Partitioning for organics and metals (EqP), Consensus Guidelines (TEC/MEC/EEC) and Tissue Residue Approach. Selection criteria includes: availability of performance data; availability of published values; similarity of uses; feasible calculation; wide applicability; local conditions represented; addresses mixture effects; correspondence with toxic effects. Additional candidate SQG recommendation is Composite MEAN SQG quotient (SQGQ1) developed by State of California and NOAA, based on performance using California toxicity data with improved ability to predict toxicity. Incorporates elements from multiple approaches (PEL, ERM, Consensus).

Candidate SQG constituents: ERM/ERL (DDTs, PAHs, PCBs, 9 metals); AET (DDTs, PAHs, PCBs, 10 metals, 23 semivolatiles); EqP organics (PAHs, 30 semivolatiles), Consensus (PAHs, PCBs, DDTs); SQGQ1 (PAHs, PCBs, chlordane, dieldrin, Cd, Cu, Ag, Pb, Zn).

Next steps: establish analysis datasets (SoCal sediment toxicity - Phases 2 & 3; Los Angeles region sediment toxicity - Phase 3); describe performance of candidate SQGs (calculate sensitivity and efficiency for Level I & II parameters; compare among candidate SQGs); investigate regional differences (regression analyses by NOAA, compare ERM quotients performance against national data).

CSTF data screening criteria: marine amphipod sediment toxicity data only; control survival >85%; matching sediment data available; acceptable chemistry data completeness; chemistry detection limits <0.2ERM; ammonia below toxicity test thresholds; include reference station data; use normalized significant effect classification.

Next CSTF Sediment Thresholds Subcommittee meeting: December 3, 2002, at Port of Los Angeles, 10am - 12pm. From 12pm - 2pm David Moore and Steve Bay will present an expanded summary of the Pellston workshop.