

An Evaluation and Review of State Surface Water Monitoring Programs in Region V: A Template for Evaluating State Programs

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Abstract

We conducted an initial, but detailed assessment of the current status of monitoring and assessment programs in the EPA Region V states, with a primary emphasis on biological assessment programs. Specifically, the assessment focused on all relevant uses of monitoring and assessment including status and trends, reporting, and primary water quality management programs (WQS, planning, TMDLs, permitting). The evaluation was based on information gathered during on-site interviews with each state and published information provided by each. This process differs markedly from other contemporary efforts that are based on a questionnaire approach. The extent of program development and implementation resulting from national and regional EPA initiatives (CALM, tiered aquatic life uses, biocriteria) was also evaluated. While all of the states operate active monitoring and assessment efforts, the quality and make-up of the programs between the states varies widely in terms of design, indicators used, extent of derivation and calibration, and the extent to which water quality management programs are directly supported. The assessment of status for reporting (305b) and listing (303d) purposes is a significant, and in some cases the de facto driver of the monitoring and assessment approaches embraced by each state. The recent emphasis on TMDLs and the CALM process by EPA has amplified this issue. However, it was evident that an over-emphasis on this function of monitoring and assessment can deter the ability of States to address emerging issues such as refined uses, use attainability analyses, and improved integration with water quality management programs in general. The guiding principles of this assessment are based on the belief that monitoring and assessment programs should achieve levels of standardization, rigor, reliability, reproducibility, accuracy, comparability, and comprehensiveness that is reasonably attainable within the constraints of available technology and cost-effectiveness. Achieving these depends on the ability and willingness of states to appreciate their relevance to supporting water quality management outcomes and having access to and effectively executing the use of that technology.