Proposal for Contingency Funds
To Analyze Duplicate Field Water Samples
For Neonicotinoid Compounds by Two Analytical Methods

Background

The Central Coast Regional Water Quality Control Board has recently expressed concerns regarding the validity of data for neonicotinoid data produced by unvalidated GC/MS methods. Similar concerns were received from Andrew Hamilton, State Water Board Quality Assurance Officer, during a teleconference on October 16, 2025. The primary concern focused on the high injector temperatures required to elute analytes to produce chromatograms for quantitation and the effects of those temperatures on sample integrity, and the complex statistical process used to produce calibration curves at lower concentrations. Both State and Regional Water Board Quality Assurance staff stated that they would no longer accept, for regulatory purposes, neonicotinoid results for aqueous samples generated by GC/MS the current methods. Instead, they will require analysis by either LC/MS/MS or HPLC/MS.

Potential Impacts on CCLEAN Data

Since 2013, Physis is the laboratory that has been analyzing CCLEAN water samples for neonicotinoid compounds using GC/MS methods based on EPA 8270E-MRM. They have recently submitted a validation package for analysis of water with this method and are awaiting a response. If their GC/MS method is validated and accepted by the Water Board, seamless continuity/comparability of CCLEAN neonicotinoid data across time will be preserved. If the Water Board continues to refuse consideration of GC/MS data, an LC/MS/MS or HPLC/MS method will have to be implemented with attendant concerns for the comparability of data from before and after the change in analytical method.

Proposal

Paired comparisons will be made in 10 water samples collected during the 2026 wet season for analysis with both the current EPA method by Physis and EPA 538 LC/MS/MS by Weck Laboratories. Data will be provided in CEDEN compliant EDDs. Five samples will be from effluent, three from rivers, and two from ocean waters. As has been done for analytes previously measured by Weck, Physis will receive a single large sample from each site that they will split between themselves and Weck. Timing of these sample collections will be coordinated with sampling by Preservation, Inc., which performs the Ag Lands discharge waiver monitoring program. The analytical cost for CCLEAN samples will be $490 per sample, plus 15% AMS overhead, for a total of $5635.00.

A short Technical Memo will be provided to the CCLEAN Steering Committee that graphically compares data provided by each analytical method for CCLEAN samples so that effects of method and matrix (sample source) can be interpreted. Results from Preservation, Inc. will also be considered in the interpretation.