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Via Email Only

Memorandum



To: Jeanine Townsend, Clerk to the Board
State Water Resources Control Board

From: Robert H. Abrams

Subject: Comments on Draft Report: Conclusions of the Agricultural Expert Panel

The purpose of this memorandum is to provide support for certain sections of the draft *Conclusions of the Agricultural Expert Panel* (Draft Report). In particular, I support the conclusions regarding:

- Vulnerability & Risk
- Verification Measures

It is my professional opinion that the Agricultural Expert Panel correctly assessed the difficulties and ambiguities associated with defining “high vulnerability areas”, the ambiguity and potential non-usefulness of designating areas of high/low “risk” or “vulnerability”, the difficulties of source identification of nonpoint sources, etc., as outlined by Key Points A-H and J on page iv of the Draft Report.

Furthermore, it is my professional opinion that the Agricultural Expert Panel correctly identified the challenges of implementing verification measures, with regard to evaluating the effectiveness of changed fertilizer and irrigation management practices at the surface, as outlined by Key Points S and T on page v of the Draft Report.

Irrigation water from present-day use, which may or may not contain excess nitrates, can take years to decades to reach groundwater, and will be blended with groundwater that migrated from offsite. This offsite groundwater may contain elevated nitrate from sources at considerable distances from the overlying ground.

For example, I’ve seen nitrate concentration histories at irrigation wells that are remarkably constant across multiple seasons and years, and show no statistical correlations or trends with respect to hydrological variables. In many cases, concentration histories show no correlations or trends with time. Such wells reflect nitrate contributions from several sources at unknown distances over extended periods of time.

I have worked professionally with growers and can provide examples from my work, as well as from published reports by third parties, which provide the basis of my professional opinions.