

- 1) My name is Dave Vogel. I'm a scientist who's conducted nearly 100 research projects on Central Valley salmon over the past 28 years.
- 2) So far in this hearing, you've heard mostly bad news. I'm here today to tell you some good news.
- 3) This primarily pertains to large-scale Central Valley ecosystem restoration programs and fish protection projects that are unprecedented in value and scope.
- 4) For example, you have in your packets 2 papers summarizing substantial federal, state, and local fish screening and fish passage projects costing in excess of \$126M and resulting in screening water diversions totaling more than 4,200 cfs (or cubic feet per second of water flow). This does not include the successful, recently-completed Glenn-Colusa Irrigation District 3,000 cfs fish screen project costing \$70M. This is one of the largest, most-up-to-date facility in the nation.
- 5) Just last year, on behalf of state and federal agencies, I completed a comprehensive 170-mile, in-river survey of the remaining unscreened diversions in the Sacramento River between Sacramento and Red Bluff. Unlike traditional survey techniques, I mapped the underwater diversion structures using a new, very high-tech sonar movie camera originally developed for the Navy. These surveys have vastly improved our ability to identify the most important problems areas for fish.
- 6) Using those surveys, and more research beginning next month, the state and federal agencies have initiated projects to identify the highest priority water diversions for fish screens and install an additional 15 new fish screens over the next 5 years.
- 7) Also, there have been some amazing breakthroughs in technology to understand where and why young salmon die in the Delta. This is a new miniature acoustic transmitter I've been surgically implanting in baby salmon to track their movements through the Delta. I BETA tested this technology for the State of California several years ago and it is now employed in projects in the north, central, and south Delta.
- 8) We have already fixed many of the problems for salmon in the Sacramento River but the issues in the Delta are much more challenging. However, using these new tools previously unavailable, we are in the middle of projects to pinpoint exactly where those problems exist and how to fix them.
- 9) Thank you for the opportunity to speak here today and I'd be happy to answer any questions.