

## Robert Pyke, Consulting Engineer

### A Fix or a Farce? – Part 4

This open letter is a follow-up to my comments on a report on Delta levees by Brian Heap which was broadcast on KCRA3 this week <http://www.kcra.com/news/Expert-accuses-state-of-spinning-Delta-quake-threat/33233218>. I know from my own involvement that Brian was unusually thorough in researching this piece and that he only used quotes from me that had been substantiated by a several hours of discussion. However, he could not include most of my specific rebuttals to the outlandish things that were said by DWR spokesmen. Here are my comments on just a couple of these.

- 1. In your DRMS.** Apparently in response to my remarks the best that DWR could say is that they stood by the 2009 Delta Risk Management Study (DRMS). But even after forcing revisions to the methodology used in that study, a Peer Review Panel selected by the Delta Science Program concluded that the numerical results should not be taken at face value. This is illustrated by the fact that the report shows a 7 percent annual probability of failure of the levees protecting the Brookside subdivision in Stockton which are in good shape and among the best in the Delta, and a 2 percent annual probability of failure of the levees on the adjacent Wright-Elmwood tract whose levees are generally agreed to be among the worst in the Delta. Not only is the number for Brookside way too high but there is no way that the Wright-Elmwood number can be lower than Brookside.
- 2. The big whopper.** Defined by the American Heritage Dictionary as “a gross untruth”. I was stunned by DWR claiming that the April 1906 earthquake on the San Andreas fault contributed to 20 levee failures the following winter. There is no evidence for that. The very detailed Lawson report on that earthquake reports settlement of a railroad embankment in the Suisun Marsh but no damage in the Delta. Most levee failures in those days were in fact caused by overtopping and that is what caused the levee failures the next winter – a major flood (see next page), not an earthquake. And flooding remains a much bigger threat to both riverine and Delta levees than earthquakes, although floods do not interrupt water exports as is suggested on the Water Fix web site – there is too much fresh water and nowhere to put it. To be sure a San Andreas or Hayward fault earthquake might cause minor distortion of some Delta levees but won't DWR ensure that careful inspections are carried out after an earthquake? Maybe not – maybe they will just sit on their hands and hope that the levees fail in order to justify the The Fix.

Check out <http://FixCAWater.com> for the earlier open letters in this series.

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The great flood of March 1907 was actually the final straw that caused the Sacramento River Flood Control Project to come into being.

From *Battling the Inland Sea* by Robert Kelley, University of California Press, 1989:

It was the 19<sup>th</sup> March, 1907, and newspapers all over the Sacramento Valley were dark with screaming headlines: flood, torrential flood, flood to heights never known before! Out of the mountains huge outflows were pouring onto the Valley floor such as no-one had experienced, save the few who could remember the storied inundation of 1861-1862 almost half a century in the past. The mid-valley region from Marysville to Colusa, like the Valley as a whole, was devastated. The Feather River, which was raging out of the mountains at Oroville and flowing down-valley in a gigantic torrent, rose over its embankments at Hamilton Bend, several miles downstream from Oroville, to send a great arm of surplus floodwaters bursting entirely out of the Feather's watershed and running south-westerly across the Butte basin, north of Sutter Buttes, to rush into the Sacramento River above and below Colusa, overwhelming local levees. Even so, below Hamilton Bend the Feather still had too much water in its channel for the levees to contain, and six miles above Yuba City it overtopped them again, flowing a foot and a half deep over the District 9 embankment. Four miles further and it made another escape from its channel, at the Starr place, while on the following day the river broke through the levees below Yuba City, at Shanghai Bend, the countryside for many miles around being flooded. And so on .....

The DWR spokesperson in the KCRS3 report who attributed the failure of Delta levees in the winter of 1907 to the 1906 earthquake was said to be in charge of DWR's flood planning efforts. You might think he should have known about the 1907 flood, but maybe not.