The Delta Story:

Our beautiful delta area has been studied to death for many many years. But only a segment at a time by one agency after another with each one looking for a particular element and never looking at the overall picture. Most of these studies have been over the past 20 or 30 years and in order to see what has been happening and how man has changed it you must go back prior to 150 years and beyond.

When the Spaniards first saw the delta in the 1700's from Mt. Diablo, they thought they were looking at a great inland sea. It was early spring and flooded as it has done for centuries at this time of the year.

Sometime after gold was discovered and there was a great influx of people to the area the first dikes were built by enterprising farmers who discovered the rich peat soil would grow anything if the winter runoff could be controlled.

Building of the levee system as we know it now didn't really get going until the 30's with the invention of large clam shovels that could move massive amounts of earth. During these years, no one was concerned with subsidence. They might not have even known what the word meant. So for about 100 years after farming was started and before the main levees were built the delta started sinking at the rate of 1 l/2" to 2" per year.

At present, during the November high tides pushing against the normal out flow, the farming level is 14' to 16' below the high tide water level. To compound this problem even further, most of these levees have reached the shear capacity of the underlying soil. In other words you add more soil to the tops of the levees and it sinks and squishes out from underneath. Now we come to the actual water use, or miss use over the past years. It would be extremely complicated to list riparian rights of the many irrigation districts and Townships dating back to mid 1800's.

Before dams and diversion of waterways, there were (+-) 7 main tributaries feeding the delta. At present there are only 2 main feeders, the Sacramento and the American. After the great flood of 1937 (Hardly mentioned anymore) the Corp. of Engineers in their great wisdom built the Friant Kern Dam and diverted the entire flow to the South, between Fresno and Bakersfield. This had the effect of complete stoppage of the San Joaquin River and turned it into a sewer, as well as drying up the central valleys great aquifers. The Hetch Hetchy Dam for San Francisco's drinking water also had a profound effect on delta flow and bay area aquifers. While talking about diversions and its effects it should be mentioned about these diversion canals and aqueducts.

I believe the first of the major aqueducts was built by a young engineer named Mullholand and diverted water from Owens valley to the Los Angeles area. It wasn't many years before the Owens Valley reverted to being a desert and Mono Lake level was lowered over 40'. The consequences are still being felt. The next major canal was the Delta Mendota. It didn't appear to have a major impact on the delta but it did open a lot of farm area. It also was observed by the Southern California groups and along came the California aqueduct. The selling point on this aqueduct was the state would build more dams in the mountains and only excess water (so called) would be diverted. It didn't quite happen that way and from time to time the entire flow from the delta was reversed and the salinity was raised all the way to the Stockton area.

Another happening is the silt settlement in many areas of the delta channels. Where tugs used to haul barges of sand, and sugar beets were barged to the Tracy area you can walk across the river and not get your knees wet. Navigation of the delta has been altered to the extreme. This settling of the silt has had an effect all the way out and beyond the San Francisco Golden Gate. There is no more scouring action as in the past years that helped form the potato patch outside the Golden Gate and kept the channels in the bay to a depth that allowed large ocean going vessels to navigate without continual dredging. Some excellent articles have been written about the delta and its apparent demise by the Stockton Record, National Geographic and Geo magazine.

Much will be written about the floods of '97 and the causes and who's to blame. I don't think we can place blame on any one group, because each was doing what they thought was right at the time. However, if we don't

look at what nature let us borrow for a while and start a recovery system she will surely take back the area with an intrusion of salt water and will cause everyone untold years of loss. We should over the next 5 or 10 years restart the natural flows of streams to 1/3 +- that they were before diversion. Than over the next 40 or 50 years bring them back to 2/3rds of the natural flow and never divert more than I/3 of the average flow figured over 100 to 150 years. Allow farming only (no dwellings) in any area subject to flooding and below high tide levels.

As in Mississippi in '93, much flooded area had to be returned to its natural state and not reclaimed. We may be able to manipulate nature for a time, but she will always win in the long run. Perhaps this can be started with out causing a complete upheaval or economic loss to those involved.

With the advances of desaltinization perhaps some of our major cities could look into this method of supply for their water and release the rest for agricultural usage. I'm sure many will argue that what I have written is not entirely correct and there are many other opinions. I do not guarantee the exact events and times as written, however most are as accurate as I could come up with, without going through the many articles saved over the years. I sincerely hope this article will help in your deliberations over what is best for everyone in the future for many generations to come.

An interested California delta
watcher for over 50 years,

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