

**COMMENTS ON
THE DELTA STEWARDSHIP COUNCIL'S
DELTA LEVEE INVESTMENT STRATEGY - DRAFT POLICY PAPER
By Bill Edgar and Clyde Macdonald**

BILL EDGAR:

Chair Fiorini, members of the Delta Stewardship Council, good afternoon. For the record, my name is Bill Edgar. I'm the President of the Central Valley Flood Protection Board. And, with me this afternoon is Clyde Macdonald who is also a member of the Flood Protection Board. We are here this afternoon to comment your draft policy paper for the Delta Levee Investment Strategy.

I should emphasize that we are only speaking for ourselves this afternoon and not the Board or the staff of the Flood Board organization, because this item will not be formally heard by the Flood Board until your formal outreach process begins later this summer.

Suffice to say that Clyde and I agree with your concept of "policy before planning and implementation," and with most of what is in your policy paper such as:

- The Delta is inherently flood prone.
- Managing flooding in the Delta will become more difficult in the future because of subsidence, changing climate patterns, the possibility of earthquakes, and rising sea levels.
- Investment priorities should be skewed toward urban areas in the future because of the large numbers of people and value of property at risk.
- The amount of funds remaining for the rural areas and the small communities will be limited because there is simply not enough money to go around. This might mean that non-structural solutions and improved emergency response programs are more cost effective for rural areas and small communities.
- In any event; as you point out, a rather tight filter should be required for guiding state investments in the Delta.

With regard to the principles we agree that:

- Flood prone lands should not continue to be urbanized.
- Beneficiaries should pay.
- The first priority should be to protect existing urban development.

- Water conveyance, water quality, and ecosystem restoration are high priority areas for funding.
- Basin wide system needs and multi-benefit project proposals are also a priority for funding.

Today, I would like to make a rather simple point and support my point with 3 examples.

The point I would like to make today is that we have a number of state agencies that are involved in some aspect of levee operations, design, construction, and/or maintenance. To a significant extent these state agencies tend to operate within their own silos. I think, however, that we need our state agencies to get out of their silos in order to better coordinate with other federal, state, and local agencies. To do this, we must change the way we work.

At the beginning of these processes, we need to have interdisciplinary teams from the various silos focused on specific issues. At the end, we need to have coordinated and aligned policies and plans.

Example number 1: In 2003, in the Paterno court case, the court determined that the state was liable for \$500 million because of the levee failure that flooded the Town of Linda in 1986. Since then, many state agencies have been looking for ways to reduce state liability by ramping up their own programs individually and separately.

A better approach would be for this Council, our Board, and DWR to jointly engage with the Attorney General regarding how to minimize the so-called “Paterno” liability for both inverse and tort especially for new developments in the levee-protected flood plains. Our individual projects, programs, and funding decisions would then be informed by the recommendations from this group.

Example number 2: Financing is another area where multiple agencies are conducting separate stand-alone studies that are not coordinated across the silos.

Last week the Senate Budget Subcommittee approved our budget for the Flood Board with supplemental language requiring the Board to report early next year with a long-term funding plan for the Board that does not include one-time or bond funding. The Delta Protection Commission, working with this Council, just approved a contract for a feasibility study to identify and explore development of an assessment district for flood control in the Delta. The Department of Water Resources is currently drafting the scope of work for a consultant contract to create a long term financing and management plan for their flood control responsibilities in conjunction with the 2017 Central Valley Flood Protection Plan update. DWR’s financing plan will also consider operations, maintenance, and construction for statewide flood risk reduction proposals. And, the Water Commission is now poised to consider a plan to fund two storage facilities from Proposition 1 funding.

I believe that the Council, the Delta Protection Commission, DWR, the Flood Board, and the Water Commission might want to consider conducting a joint financing study with a goal of having a unified strategy for financing priority projects in our respective areas of responsibility.

Example number 3: Finally, given the complexity of flood protection provided by levees throughout the Central Valley, there should be a common understanding of the objectives and design criteria for the levees in each part of the system. In simple terms, the 2012 Central Valley Flood Protection Plan proposes a 200-year level of protection with a rigorous urban levee design criteria and a perpetual operations and maintenance commitment for large urban areas. For urban areas the criteria, requirements, and standards are clear, and the path forward for acceptable rehabilitation and permitting seems to be well understood..

The Flood Plan also proposes a lesser level of flood protection for small communities such as Clarksburg with a goal of 100-year protection. And, for the rural and agricultural areas a “to be determined” approach is recommended. The Rural LMA Work Group sponsored by the California Central Valley Flood Control Association spent over a year trying to identify and describe problems that are unique to rural areas, and to propose solutions for inclusion in the Regional Flood Management Plans that were recently completed. I believe that further study among the affected parties needs to occur in order that we can all have a clear understanding of what constitutes appropriate flood protection for small communities and rural/agricultural areas. A joint work group consisting of representatives from the Delta Council, DWR, the Board, the Flood Control Association, and perhaps others might be able to sort through these various differences and arrive at a common understanding and agreement of what needs to be done in the rural/agricultural areas and for our small communities.

In the Delta, appropriate levels of flood protection are very complex, with urban level requirements to protect Stockton, Sacramento, and West Sacramento, lesser requirements to protect small communities such as Clarksburg, and finally rural requirements to protect farming on the islands.

My point is simply that we all need to begin working across our silos earlier and more often if progress is to be made in the long run.

At this point, I'd like to turn the microphone over to Clyde so that he can review “how we got here” and to provide some specific comments on your draft policy paper.

CLYDE MACDONALD:

Members of the Council, I'm Clyde Macdonald, a member of the Central Valley Flood Protection Board. These are my thoughts and comments and not those of the board, which hasn't discussed your policy paper yet.

I was asked to describe how we got here and to describe the key historical events of our flood control system. I'll do this by asking five questions and then giving answers to those questions. At the end I'll have some comments on your policy paper.

(1) WHY DID SO SOME VALLEY TOWNS DEVELOP IN THE FLOOD PLAIN?

During the gold rush the farthest inland ships could go was to Maryville, Sacramento, and Stockton. So these towns developed as “ports,” even though they were in the flood plain.

River traffic usually couldn't get up the shallow San Joaquin River very far, so most San Joaquin towns developed along the main wagon route, what is now Highway 99 – and out of the flood plain.

(2) HOW DID THE CENTRAL VALLEY MARSHES GET CONVERTED TO AGRICULTURE?

The Federal Swamp Land Act 1850 allowed people to buy federal marshlands for \$1 an acre if they reclaimed them. As a result, people bought up the marshlands, built levees, and replaced 95% of the marshlands with farmland.

(3) DO THE FLOODS KEEP GETTING BIGGER?

In the 1870s, most people thought Sacramento River levees could contain the big floods, implying a total Sacramento River flow of about 50,000 cubic feet per second. In 1906, a state commission estimated the flow at 250,000 cubic feet per second. After the 1907 flood, the Corps of Engineers estimated the flow at 600,000 cubic feet per second. After the 1997 flood, the Director of Water Resources estimated the flood at one million cubic feet per second.

As we look to a future with climate change, flows are expected to be still larger because more of the precipitation will come down as rain rather than as slowly melting snow.

(4) WHAT HAS BEEN DONE FOR FLOOD PROTECTION?

Landowners built the first levees, but these had a horrific failure rate. In 1910, the Corps of Engineers proposed a state-federal levee project for the Sacramento Valley. Later, San Joaquin levees were included.

These are the “project levees.” The Flood Board, working with DWR, is the state partner and the Corps of Engineers is the federal partner. Both partners have to agree to changes.

The project levees were constructed inexpensively and were not well engineered. The project substantially reduced levee failures during the moderate weather in

the first half of the twentieth century.

Starting in the middle of the twentieth century, the big flood control reservoirs were constructed – such as Shasta, Folsom, New Melones. Coincidentally, the state’s weather became more erratic, with bigger storms and more serious droughts. If these reservoirs had not been built, there would have been many more levee failures in large floods.

As a condition of its participation in the flood project, the federal government required the state to hold the federal government harmless in the event of litigation.

In 1986 a project levee on the Yuba River failed, flooding the town of Linda. In 2003, in a case called Paterno, the court found the state liable, at a cost of about \$500 million.

In response to Paterno, the Legislature increased funding for levees and directed DWR to prepare a new flood plan for the Central Valley, with the plan to be approved by the Flood Board.

In 2012, the first iteration of the plan was approved. In simple terms, this plan proposes 200-year levees for large urban areas, lesser protection for smaller urban areas, a “fix of hot spots” on rural levees, and expanded bypasses. The plan is to be updated every five years.

Special emphasis is being put on the Yolo Bypass. The concept is to put more water into the wider Yolo Bypass in order to reduce the amount of water flowing down the much narrower Sacramento River.

(5) WHAT IS THE FEDERAL GOVERNMENT DOING?

After Katrina, the Corps began extensive inspections of levees. Levees that are found to not be properly maintained are ineligible for flood-damage repair by the Corps. About 70% of Central Valley levees have been found ineligible so far.

Now, I’d like to make a few comments on your policy paper.

FIRST, the investment strategy should consider time as a factor - how the delta might change over time – 10, 20, 30 years from now. The delta is facing a huge array of subsidence, flood, seismic forces, and sea rise that will continue to reshape the delta. The investment plan should consider the likelihood of those changes and then how that should impact the state’s investment strategy.

SECOND, Sherman Island is essential to maintaining water quality in the delta. Sherman should be given special consideration.

THIRD, I haven't seen this proposed, but it may have been. Consider using tunnel dirt to reinforce levees,

FOURTH and lastly, I spent my career working for the State Legislature. I recognize that this policy paper is a beginning -- and not the end product. When you do get to an end, I suggest that where the Council recommends statutory changes, the recommendations include specific bill language so that bill drafting is not done by the Legislative staff.

Thank you.