Calif. flood plan calls for up to $17B in repairs

Gosia Wozniacka, Associated Press, 12-30-11

FRESNO -- California water officials recommended a historic investment in the state's aging flood control system Friday, saying more than half of the state's levees do not meet standards and the system needs up to $17 billion in repairs and investment.

The Department of Water Resources' release of the first statewide flood plan follows a call by Gov. Jerry Brown to refocus state efforts on preparing for the effects of a warming climate as floods from a faster-melting snowpack already place increased strain on the state's aging levees.

Officials and experts say the state's flood control system - a piece-meal collection of 14,000 levees and other infrastructure built along the Sacramento and San Joaquin rivers by farmers and local governments over the last 150 years - is no longer adequate.

Once a mostly agricultural region that was lightly populated, the Central Valley where the rivers meet has experienced rapid development and population growth.

"The system is based on antiquated technologies, so you have to upgrade it and keep in mind changing societal demands," said Jeffrey Mount, professor and founding director of Center for Watershed Sciences at UC Davis.

Central Valley's flood risk ranks among the nation's highest. About 1 million Californians now live in floodplains and levees protect an estimated $69 billion in assets, including the state's water supply, major freeways, agricultural land and the valley's remaining wetland and riparian habitat, said Mike Mierzwa, senior engineer in the Central Valley Flood Protection Office.

The Sacramento-San Joaquin River Delta is a freshwater source for two-thirds of California's population and irrigates millions of acres of farmland throughout the state.

While officials have long known the flood control system was in disrepair, it's the first time they have studied it as a whole, come up with long-term solutions and a priority for investments.

More than half of 300 miles of aged urban levees do not meet modern design criteria, according to newly released analysis. And about 60 percent of 1,230 miles of non-urban levees have a high potential for failure from under-seepage, through-seepage, structural instability, and/or erosion.

In addition, about half of the 1,016 miles of channels are believed to be inadequate to handle projected flooding. And two bridges are in need of repairs.

In 2006, in the wake of Hurricane Katrina, former Governor Arnold Schwarzenegger declared a state of emergency for California's levee system and ordered levee repairs to the 33 most critical spots. That same year, state voters approved nearly $5 billion in bond funds for flood protection projects statewide.

Legislators also mandated that the state develop a plan to reduce flood risks.

The plan calls for $14 billion to $17 billion in repairs and other investments - including the $5 billion in bond funds already approved. Investments would be spread over the next 20 to 25 years.

Officials said the money would come from a mixture of federal, state and local sources. Voters will need to approve another bond, Mierzwa said.

Most of the money - up to $6 billion - would be spent in urban areas, where thousands of homeowners and their property could be affected by a flood. Another $6 billion would go toward system-wide improvements.

The plan doesn't call for specific projects, but offers recommendations. Those include extensive bypass expansion and the construction of a new bypass; major improvements to intake, weir and gate structures; sediment removal projects; urban and rural levee repairs; fish passage improvements and ecosystem restoration.

The plan doesn't recommend building new reservoir storage, which is very expensive.

Focusing on other projects beyond levee repairs is a good step forward, Mount said.

"There's always the pressure to simply fix the problem, meaning just make the levies taller and stronger. That's the path of least resistance," he said.

By constructing and strengthening levees, Mount said, the state may actually induce development and growth behind the levees and hence increase flood risk. Thus the need, he said, to prioritize flood control investments to areas where risk reduction is greatest - and to choose wisely which areas to develop.

"Climate change has expanded our uncertainties," Mount said. "If trends associated with warming continue, we'll have to constantly upgrade the levees to match these conditions. So we have to consider this constant economic investment."

Environmental groups said the plan was a step in the right direction. Still, John Cain, Director of Conservation for California Flood Management at the nonprofit American Rivers, noted that one concern is the plan doesn't sufficiently tackle the effects of climate change, like sea level rise, and it isn't based on updated projections of what extreme floods could look like.

Another concern, he said, is that the state should not spend all the bond money on levees while leaving improvements such as bypass construction for a later date when funds may not be available.

But Mierzwa said the plan calls for working on levees and other improvements simultaneously. The state is already putting together a team to start feasibility work for two bypass expansions, he said.

Thus far, state officials say they have spent about half of the $5 billion in bond funds on more than 200 projects. Those include flood emergency exercises, 120 critical levee erosion site repairs, the removal of three million cubic yards of sediment from the bypasses and substantial levee improvement projects, among others.

The Central Valley Flood Protection Board must adapt the plan by July 2012.