

Evolution Of A Successful Monitoring Program In Suisun Marsh, CA

Ken K. Minn P. E. and Kate Le

California Department of Water Resources, 3251 S Street, Sacramento, CA 95816

Biographical Sketches of Authors

Ken Minn is a senior water resources engineer in Division of Environmental Services within California Department of Water Resources. He is the chief of Suisun Marsh Compliance and Monitoring Section that implements Suisun Marsh Monitoring Program. He has worked in numerous water resources projects including water quality and monitoring over last 14 years. His expertise is in water resources and geohydrology including water quality.

Kate Le is a water resources engineer with the Department of Water Resources (DWR), Division of Environmental Services, Suisun Marsh Planning. She has ten years of experience with the department. Her specialty is in computer simulation models. She has been applying the Delta Simulation Models (DSM1 and DSM2) over the years, to plan and analyze impacts of water projects on Suisun Marsh and Delta hydrodynamics and constituents transport. In addition, she also monitors conditions in the Suisun Marsh and Delta to adhere to regulatory standards.

Abstract

Suisun Marsh is the largest contiguous brackish water marsh remaining on the west coast of North America. It is a critical part of the San Francisco Bay-Delta estuary ecosystem. Encompassing 116,000 acres, the Suisun Marsh includes 52,000 acres of managed wetlands, 27,700 acres of upland grasses, 6,300 acres of tidal wetlands, and 30,000 acres of bays & sloughs. In 1987, Department of Water Resources (DWR), the California Department of Fish and Game (DFG), US Bureau of Reclamation (USBR), and Suisun Resource Conservation District (SRCD) signed the Suisun Marsh Preservation Agreement (SMPA). DWR, in collaboration with federal and local partners, has been implementing a compliance monitoring program under the SMPA. The monitoring parameters include electrical conductivity, stage, dissolved oxygen, temperature, pH and soil salinity. The monitoring program and methodologies have been evolving in response to following developments: significant differential settlements, environmental regulations and awareness, and advancement in monitoring and data management technology. To overcome challenges and to capitalize the technological advancement, DWR is implementing a system-wide upgrade for the monitoring network including: tidal datum reestablishment (NAVD88), minimizing structural profile of existing stations, and implementing real-time access for data and development of data warehouse and replication. This upgrade is being implemented through collaborative efforts among State, federal and local organizations, new and emerging methods and technologies to collect and share data.