

Implementation of Wetland Adaptive Water Quality Management Strategies under Real-Time Salinity TMDLs

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Executive Summary

Restoration and improvement of seasonal wetlands in the Bay-Delta ecosystem is an important objective of the overall Bay-Delta Plan (CBDA 2003). However, the use of seasonal wetland habitat by over-wintering waterfowl and shorebirds degrades the water supply delivered to private duck clubs, State and Federal Refuges from the Delta, returning surface drainage with elevated salts, carbon and nutrients loads. This degradation results from bird use, the life cycle of other biota and invertebrates, decaying aquatic vegetation, wind-blown sediment and the natural processes of evaporation and plant evapotranspiration. The California Regional Water Quality Control Board (CRWQCB) has classified the Lower San Joaquin River as an impaired water body and has developed a Regional Drainage Water Disposal Plan for the Lower San Joaquin River Basin to encourage compliance with water quality objectives through reductions in drainage volumes and pollutant loads through best management practices. The CRWQCB adopted a quantitative control plan to encourage a watershed approach to salt, boron and nutrient management and applied the same requirements to managed wetlands as it has to agricultural drainage. The CRWQCB has offered an innovative alternative to traditional TMDLs, such as real-time water quality management, which is especially relevant to managed wetlands in the San Joaquin Basin. This innovative approach, applicable to salt and boron management, takes advantage of San Joaquin River assimilative capacity and permits greater average annual salt and boron loads while meeting concentration objectives. Even with this concession, implementation of the salinity and boron TMDL has created concern among wetland managers - in particular the potential negative impact on wetland habitat as a result of changes in drawdown scheduling necessary to minimize salt loading to the River. The major concern among wetland managers is that aggressive manipulation of seasonal drawdown patterns could return the Grassland Ecological Area to the sub-optimal state that existed prior to the implementation of the Central Valley Project Improvement Act and subsequent improvements in the quantity and quality of delivered water supply.