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EXHIBIT A: EXECUTIVE SUMMARY

Suisun Marsh remains one of the most productive regions of the San Francisco Estuary (SFE), fueling interest in the Marsh as a model for restoring estuarine function to the region in the future. The UC Davis Suisun Marsh Fish Survey has 30 years of data on physical structure, water quality, benthic and pelagic invertebrates and fish. We will use these and other data to explore patterns of fish abundance in relation to zooplankton, slough geomorphology and levee structure, and regional hydrodynamics. Our goal is to understand and predict the kinds of physical variability and structure that create attractive habitat for fish, in order to 1) serve as a template for wetland and subtidal habitat restoration in the Estuary and 2) anticipate the effects of sea level rise, levee failure and salinity increases that are expected to have a large impact on the Marsh in the near future.

A comprehensive literature and data search will pull together known information for synthesis. Cluster analysis will identify slough complexes into types of functional habitat. Predictive maximum likelihood, hierarchical and multivariate autoregressive models will be used to predict how foodwebs and fish respond to environmental factors. Finally, coupled hydrodynamic-life history models for zooplankton will demonstrate how production is regulated by slough morphology. Results will be integrated as a white paper on the history, current functioning, and future of the Marsh.