

Executive Summary

Results of a recent study indicate that up to 38% of the male Chinook salmon in the Sacramento and San Joaquin Rivers are feminized. It is believed that the feminization of salmon is attributable to one or more chemical contaminants that alter sexual differentiation of larval salmon. Several chemical contaminants that are present in surface waters where larval salmon reside, including steroid hormones from livestock and detergent metabolites associated with pesticide applications, can cause feminization of fish at concentrations comparable to those expected in surface waters. The purpose of this project is to identify the agents responsible for feminization of salmon in the Sacramento and San Joaquin Rivers. To achieve this objective, chemical analyses and bioassays will be used to analyze samples collected between the freshwater delta and the upstream spawning areas. Samples exhibiting biological activity will be subjected to chemical fractionation and exhaustive chemical analyses to identify the causative agents. Results of the research will be used to identify cost-effective approaches for controlling or preventing feminization of salmon and other important fish species. This research project is relevant to CALFED's efforts to protect and restore Chinook salmon and other critical species because it provides much needed information about a family of chemical stressors that have not received much attention from the CALFED program.