

## PROTOCOLS FOR BIOASSESSMENT SAMPLING

The Aquatic Macro-invertebrate Sampling Program in Santa Rosa utilizes the California Stream Bioassessment Procedure (CSBP). The protocol brief can be found at: [www.dfg.ca.gov/cabw/protocols.html](http://www.dfg.ca.gov/cabw/protocols.html). This protocol is a standardized protocol for assessing biological and physical/habitat conditions of wadeable streams in California. The CSBP is a regional adaptation of the national Rapid Bioassessment Protocols outlined by the U.S. Environmental Protection Agency in "Rapid Bioassessment Protocols for use in Streams and Rivers" (EPA 841-D-97-002). The CSBP is a cost-effective tool which utilizes measures of the stream's benthic macro-invertebrate (BMI) community and its physical/habitat characteristics to determine the stream's biological and physical integrity.

BMI's can have a diverse community structure with individual species residing within the stream for a period of months to several years. They are also sensitive, in varying degrees, to temperature, dissolved oxygen, sedimentation, scouring, nutrient enrichment and chemical and organic pollution. Biological and physical assessment measures integrate the effects of water quality over time, are sensitive to multiple aspects of water and habitat quality and can provide the public with a familiar expression of ecological health

The biological component of this procedure contains instructions for field collection and laboratory sorting of macro-invertebrate specimens. The physical component provides a scoring sheet for ten physical habitat parameters that include estimates of canopy closure, stream substrate, channel alteration, stream width, etc. Each of these protocol components are complete unto themselves and can stand alone but are coupled together in the California Stream Bioassessment Procedure (CSBP) to create a more comprehensive biological/physical data set.