

**Passive Sampling of Surface Waters in the Sierra Region of Northern California for Pesticides used In *Cannabis* and Timber Cultivation.** M.M. McWayne, USGS California Water Science Center, Sacramento, CA; M.L. Hladik, USGS California Water Science Center, Sacramento, CA

The Sierra region of Northern California, while not an area of intense agricultural activity, has its own unique pesticide applications. Unregulated *Cannabis* cultivators apply unknown types and quantities of pesticides including substances banned in the United States. In addition, pesticides are used in commercial timber production and for maintenance of rights-of-way. These chemicals may be entering streams at concentrations harmful to aquatic animals and plants. This pilot study utilized passive sampling techniques to sample surface waters downstream from *Cannabis* and timber production sites. Passive sampling can catch pollutant pulses that may be missed by traditional grab sampling. Trace levels of pesticides can be concentrated in passive sampler media to detectable levels without requiring large volumes of water to be collected, which is especially useful when sampling more remote locations. These attributes make passive sampling an attractive technique for areas that receive seasonal or episodic pesticide loads. Samplers were deployed in the fall of 2016 and spring 2017. Initial data include laboratory extraction testing and initial field deployment results. Preliminary analytical results, along with laboratory extraction testing, and future directions will be presented.