California regulation of agricultural runoff

Isaac Cheng and Alicia Thesing

Share this:









California's irrigated agriculture

Agriculture in California is a multibillion dollar industry that produces more than half of the nation's fruits, nuts, and vegetables. But this comes at a cost. Agriculture is the primary source of water pollution, with irrigation and rainfall sweeping excess fertilizers and pesticides off the fields into adjoining waters and, over time, leaching into groundwater. As a result, waterbodies—spanning roughly 8,000 miles of rivers and streams and 300,000 acres of lakes, bays, and wetlands—are impaired.



Agricultural runoff

Although agricultural runoff often contains dissolved salts, pathogens, and sediments from soil erosion, the most serious water quality degradation in California is caused by excessive fertilizer and pesticide use.

Over 600,000 tons of nitrogen fertilizer are applied to the fields every year, yet crops use, on average, only a third to half of the nitrogen applied. The rest enters waterbodies, resulting in algae blooms, fish kills, and restriction of recreational uses. Nitrogen also leaches into groundwater. Hundreds of thousands of residents in agricultural areas draw their drinking water from untreated wells with potential nitrate contamination, which has been linked with blue-baby syndrome in infants, birth defects, and various cancers. Often these low-income communities cannot afford alternative water supplies.