

From: Susan Fregien
To: Melissa Turner; Mike Johnson; pklassen@unwiredbb.com
CC: Alan Cregan; Dania Huggins
Date: 4/28/2011 11:19 AM
Subject: Cottonwood Creek Copper Exceedances

Hi Melissa, Mike and Parry,

This is a follow-up to a phone conversation between Melissa and I this past Monday. I have gathered some information from staff in our Fresno office regarding potential and likely sources of Copper in the Cottonwood Creek watershed. Below is the information as I understand it, provided by Alan Cregan in our Fresno office. Alan - please feel free to correct or add any information as you think appropriate.

Dairies

Dairies commonly use a footbath for cattle that contains copper. There are 3 dairies in the watershed, they are:
The closest is Azevedo Dairy at 22355 Ave. 8, Madera, Ca 93637 (approximately 3/4 mile to the southeast of Cottonwood Creek).
The other two dairies are a mile to a mile and a half from Cottonwood Creek. Cabral Dairy (south of creek) at 8612 Road 24, Madera, CA. and Eugenio Azevedo Dairy #2 (north of creek) at 24699 Ave. 11, Madera, CA.

Alan recently visited the Cottonwood Creek watershed to look for potential sources of discharge from the dairies. He observed that no roadside ditches are present from the dairies' fields and he did not see any pipes discharging into the creek in the vicinities of the dairies. If I understand correctly, the dairies are not required to report the use of the footbath products that contain copper.

Vineyards

Grape vineyards are the dominant crop in Cottonwood Creek watershed. Vineyards are found immediately adjacent to the creek throughout a large portion of its course. Grape growers have to use a fungicide to control powdery mildew in summer. Up until a few years ago, the typical control was a dry sulfur that was applied to grapevines. However, the Air Board required a product switch a few years ago and growers now use a wettable sulfur that contains copper. The Cu-Sulfate is applied with a boom system attached to a tractor and this method results in 'clouds' of Cu-Sulfate in the vicinity of the applications. Given that many vineyards are adjacent to the creek, aerial deposition is a likely scenario. It is interesting to note that during periods of warm summer weather the vineyards must be sprayed **every 7-10 days**. Significant quantities of Cu-Sulfate are used on large acreage in the watershed.

Cottonwood Creek

Although significant portions of Cottonwood Creek have levees between the creek and surrounding fields, there are also segments that have no levees. Drainage ditches and irrigation canals can be observed that would carry runoff from fields to the creek. Fields do not typically have berms to prevent runoff. There are also pipes that can be observed leading from fields to drainage canals and eventually to the creek. We have photos of many of these features and can provide them to the Coalition.

Irrigation Districts

Madera Irrigation District (and probably some other IDs) use Cottonwood Creek as both a water supply and drainage system. Water from the Fresno River is diverted into Cottonwood Creek for irrigation. Irrigation districts commonly use algaecides containing copper in their canal systems. Water from numerous canals is discharged to Cottonwood Creek. Until recently, the IDs did not have permits for use of the algaecides. However, within a couple months they will be required to have permits and report on their use of pesticides.

I hope this information will be helpful in the Coalition's efforts to identify sources of copper in Cottonwood Creek. Alan is available to answer additional questions you may have. Please feel free to contact myself and Alan if you have questions.

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