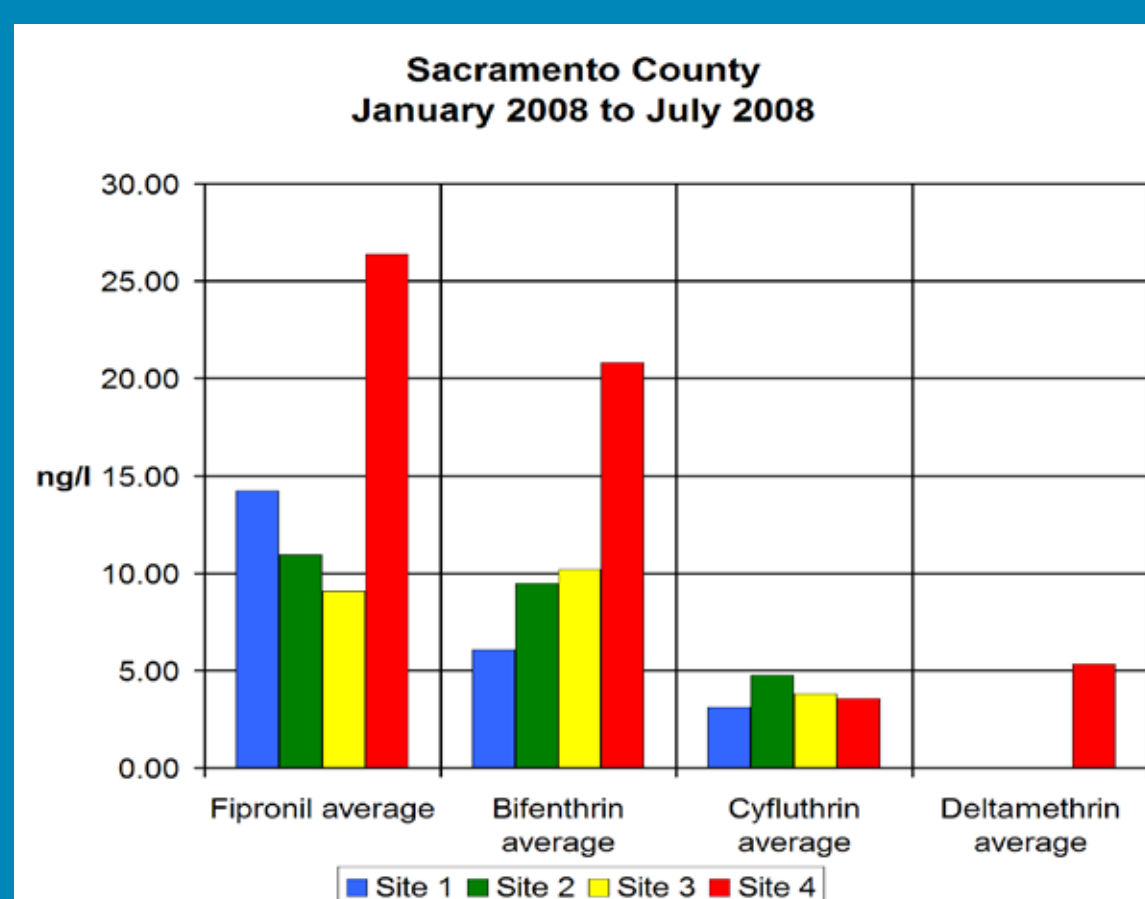


Front Yard Run-Off

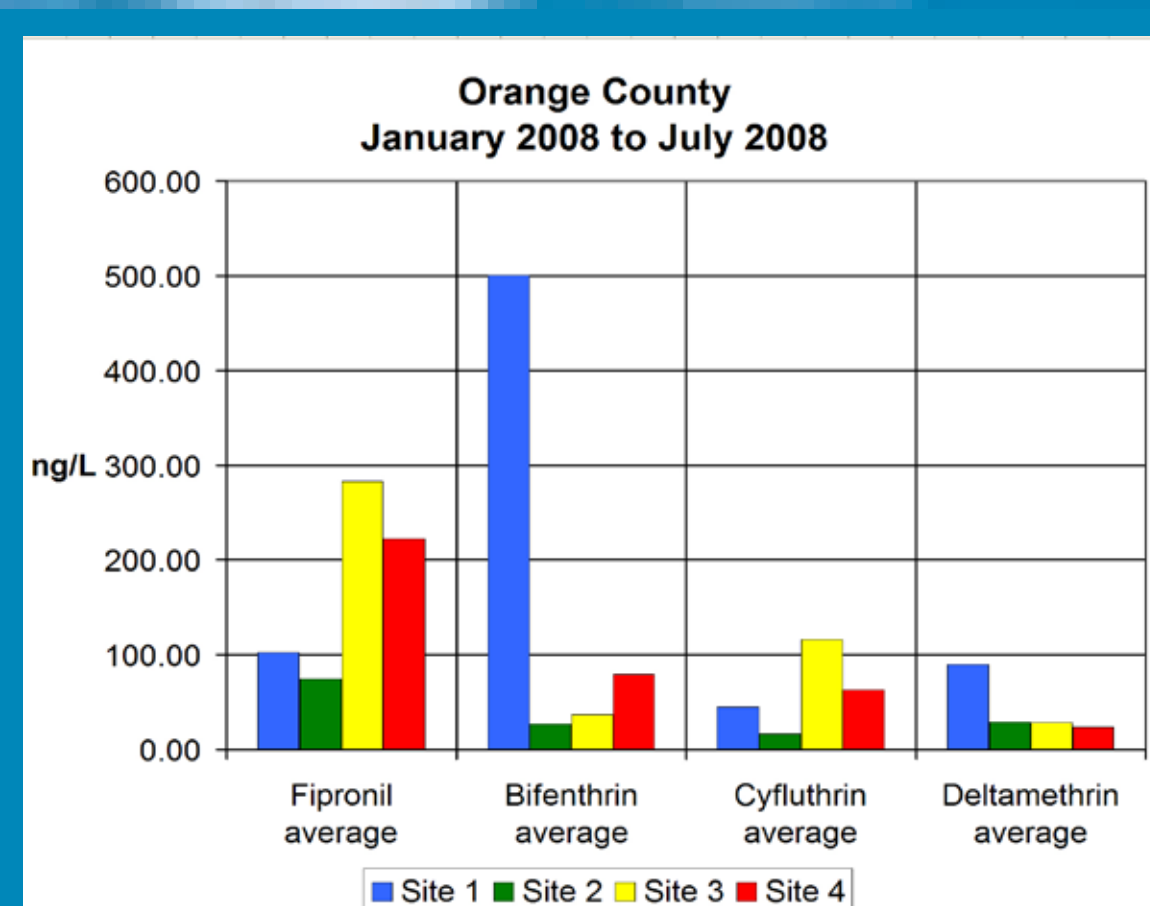
What's in the water?

SAMPLING RESULTS



PESTICIDES

Surveys show that more than 60% of the pesticides that consumers purchase are used to control ants around their homes. These charts show average levels for four of the eleven pesticides found in the non-storm water samples virtually year round at all 8 sites in Sacramento and Orange Counties.



FERTILIZERS

Nitrogen in various forms is the main component of lawn fertilizers, and along with phosphorous and potassium makes up the common trio of most all-purpose fertilizers. All of these nutrients, particularly nitrogen, were found in water samples collected at all sites throughout the year.

WHAT DOES IT MEAN?

WILDLIFE TOXICITY

Bifenthrin, a commonly used pyrethroid insecticide, has been found in the runoff from samples collected at all 8 sites, varying from less than 0.5 ng/l (the limits of detection) to more than 6,000 ng/l. Concentrations vary by site and over time. The median concentration of the chemical varied between the sites from 1.9 ng/l to 36.5 ng/l (ng/l stands for nanograms per liter and is equivalent to parts per trillion). Bifenthrin is found in many home pest control products especially those for ants and lawn insects. It is also used by structural and landscape pest control professionals. Depending on its concentration, it can be toxic to aquatic organisms including fish. Bifenthrin breaks down more slowly than many other insecticides, with a half life in soils of about 120-180 days.

To understand the potential for environmental toxicity it is necessary to look at the maximum concentrations from each site, not just the average. The highest concentrations from the Sacramento sites varied from 77 ng/l to a high of 670 ng/l. Prior toxicity tests have established that water flea (*Ceriodaphnia dubia*) will have about 50% of its population die off when exposed to a 100 ng/L concentration for 96 hours. The population of this species is considered an indicator of the overall health of an aquatic system. A 150 ng/L concentration will kill about 50% of the exposed rainbow trout population. Bifenthrin is also broadly toxic to insects, including bees and other beneficial insects, and can remain effective on foliage for up to 7 days.

NUTRIENT POLLUTION

Whenever an unnatural chemical is present in a natural water system, it can upset the balance of all the inter-dependent living organisms that are part of or contribute to that system. Fertilizers can cause some water plants to proliferate and use up the oxygen needed by fish and other water organisms to survive. When this balance breaks down, it degrades the health and beauty of the rivers, lakes and oceans affected by the pollutant-loaded run-off.

FOR MORE INFORMATION

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