



“From the Director”

Chris Reardon, Chief Deputy Director
Department of Pesticide Regulation

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Stormy Weather is No Deterrent to DPR Scientists Monitoring Urban Areas for Pesticide Runoff

Rain was gently falling at 1:30 a.m. in a quiet Folsom neighborhood where a team from the Department of Pesticide Regulation (DPR) had assembled to monitor runoff from the first storm of the season.

The forecast was 100 percent chance of rain after midnight, and nature had delivered on a fall morning in early October. Headlamps and the golden glow from street lights illuminated the team preparing for the work ahead in storm drains and outfalls.

Shielded against the intensifying rain and wind with heavy raincoats and rubber boots, team members arranged monitoring devices, glass bottles and other equipment to collect samples and measure water flow and quality. The trickle in the storm drains surged as rainwater flowed from roofs, driveways, streets, lawns and other landscaped areas.

Another team was collecting samples in Roseville. A third was preparing to do the same in Orange County later in the day when the storm was forecast to arrive.

Since 2008, DPR scientists have been collecting water and sediment samples in storm drains and other urban waterways in neighborhoods throughout the state. They want to know if pesticides applied to control ants and other pests in homes and landscapes end up in creeks and rivers, and if so, how much. Samples have been collected in the Sacramento, San Francisco Bay, Orange County and San Diego areas.

Until a few years ago, DPR's surface water monitoring program focused solely on agricultural runoff. That changed when data collected in urban waterways for the state's regional water quality control boards and university research projects showed pesticide levels toxic to some small aquatic organisms.

As a regulatory agency, DPR has two primary objectives for monitoring urban surface water. The first is finding out if there is a problem. In this case, monitoring clearly shows pyrethroid contamination. The second will be determining if proposed regulations designed to reduce pesticide runoff and scheduled to take effect in 2012 can achieve their intended purpose: improving water quality.

The proposed regulations, which we released for public comment on Oct. 28, would require businesses that provide structural pest control to follow new restrictions that limit where pesticides are applied around structures to protect water quality. Dec. 12 is the deadline for public comments.

The rules would specifically restrict the use of 17 pyrethroid insecticides by businesses that apply them to homes, other structures and landscaped areas. They would not apply to pesticide use by individual consumers.

The regulations would also prohibit pest control applicators and maintenance gardeners from making applications when it rains, when puddles are present and over drains and natural drainage areas.

While collecting samples on that wet, blistery morning in Folsom, environmental scientist Mike Ensminger emphasized the significance of monitoring the season's first rainfall. "It's really important to get that first flush, that accumulation of pesticides applied during the summer," he explained. "The concentration of pesticide runoff is higher during the first storm. We want to know what it is so we can determine the scope of the problem."

DPR also collects samples in early to mid-winter, the last storm of the season and in the summer. Runoff during the summer is typically from overwatering of landscapes and car washing.

Data will also help determine if constructed wetlands in newer residential neighborhoods reduce or prevent pesticide runoff into main water bodies. These wetlands are often incorporated into neighborhood walk- and bikeways, miniparks or open space.

"In old neighborhoods, the streams were diverted underground and paved over," Ensminger said. "The flood control strategy at the time was to move the water into main water bodies as quickly as possible. The strategy by stormwater agencies is changing to develop small wetland areas in urban areas to trap or absorb pesticides and other contaminants before they end up in creeks and rivers."

Our regulations are designed to reduce pesticide contamination entering waterways.

Samples to date have determined that runoff from rainfall and landscape irrigation is responsible for most pesticides in urban surface waters. Urban water bodies contain numerous pesticides at any given time. Fifty percent of sampled waters had four or more pesticides and 25 percent had seven or more.

"We thought we would find more pesticides in storm drains than in creeks and rivers," he said. "That's not necessarily true. Lots of neighborhoods drain into a creek. We have found almost the same number of pesticides in creeks as in storm drains and outfalls."

More information about the proposed regulations and how to submit comments are posted on DPR's website at <http://www.cdpr.ca.gov/docs/legbills/rulepkgs.htm>. Comments can be submitted by e-mail to dpr11004@cdpr.ca.gov, by fax at 916-324-1452 or by mail to Linda Irokawa-Otani, Regulations Coordinator, Office of Legislation and Policy, Department of Pesticide Regulation, 1001 I St., P.O. Box 4015, Sacramento, CA 95812-4015.

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DPR environmental scientist Mike Ensminger checks the outflow in Folsom during the first storm of the season.



Jared Sisneroz of UC Davis, left, and Mike Ensminger, transfer a water sample into a bottle.



Mike Ensminger (red jacket) collects a sample while Jared Sisneroz records the data.