



# Washington State Department of Agriculture

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## Levels of several pesticides declining in salmon-bearing streams

**OLYMPIA**—Pesticide concentrations have declined over the past decade in several salmon-bearing streams in Washington, according to results of water quality monitoring conducted by the Washington state departments of [Agriculture](#) (WSDA) and [Ecology](#). In addition, when detected, scientists found that most pesticides showed up at concentrations below levels of concern for aquatic species.

“This is certainly the direction we would have wanted to see,” WSDA Director Dan Newhouse said. “This monitoring program is unique in that it provides growers with real-world data on the potential impact pesticide use could have on local streams and creeks, which in turn allows farmers to apply pesticides wisely and continue these efforts to protect salmon and the environment.”

[The Surface Water Monitoring program](#) is one of the most intensive pesticide monitoring efforts in the country for streams and other surface waters. The program started in 2003 as a means of measuring how much of the pesticides used in agricultural and urban areas finds its way into surface waters. State and federal agencies use the data to evaluate the effectiveness of existing regulations. Pesticide applicators and farmers use the information as they plan their pest control programs.

Initially, two watershed areas were monitored—one agriculture watershed and one urban. Later, four watershed areas were added to the program. Agricultural areas monitored for the 2009-2011 report include the Lower Skagit-Samish, Lower Yakima, Wenatchee and Entiat watershed areas. Urban areas include the Cedar-Sammamish and the Green-Duwamish watersheds.

From March through September, researchers collect weekly samples and test them for more than 170 different pesticides and related compounds, issuing brief annual reports and a longer, more comprehensive report every three years. This most recent report, [“Surface Water Monitoring Program for Pesticides in Salmon-Bearing Streams, 2009-2011 Triennial Report. A Cooperative Study by the Washington State Departments of Ecology and Agriculture,”](#) is the first which has allowed researchers to see trends in the data for several of the study areas.

In 10 years of monitoring, researchers have analyzed more than 2,600 samples. During the last three years 74 different types of pesticides and their break-down products were detected. Of those pesticides detected, most are present at concentrations that met state or federal water quality standards. Still, 10 pesticides were associated

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with increasing concentrations over a 5-9 year period, a finding that means WSDA will focus attention on the use of these pesticides to ensure that farmers and pesticide applicators are aware of the trend, and that the pesticides are being applied in a manner that will not negatively impact the environment.

Also a first—researchers used the data from this report to estimate the potential effects of pesticide mixtures—where even though the levels are low, several pesticides in combination could pose a problem. By using toxicity information and the concentrations found in the samples, researchers were able to calculate ‘toxic units’ for each pesticide found in a given sample. By adding these toxic units, researchers could estimate the cumulative effect of these mixtures on aquatic life. The researchers found that when mixtures of pesticide were of concern to aquatic life, it was generally due to a high concentration of a single pesticide in the mixture.

The full report is available at [www.ecy.wa.gov/programs/eap/toxics/pesticides.htm](http://www.ecy.wa.gov/programs/eap/toxics/pesticides.htm), or visit [www.Agr.wa.gov/PestFert/NatResources](http://www.Agr.wa.gov/PestFert/NatResources) for links to the report and a summary fact sheet.

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