

Rinella, Frank, and Mary Janet. *Seasonal and Spatial Variability of Nutrients and Pesticides in Streams of the Willamette Basin, Oregon, 1993-5*. U.S. Department of the Interior, U.S. Geological Survey: Oregon, 1998. (Reviewed by Kate Koehler)

The USGS's report, *Seasonal and Spatial Variability of Nutrients and Pesticides in Streams of the Willamette Basin, Oregon, 1993-5*, is a 59-page document summarizing data collected during a 2½ year sampling of water at seven fixed sites and 44 additional sites throughout the basin. The majority of the sites were located on tributary streams of the Willamette.

The study collected data on the concentration of four nutrient species, including total nitrogen, filtered nitrite plus nitrate, total phosphorus, and soluble reactive phosphorus, as well as of 86 different pesticides. This data were collected monthly, as well as during extreme periods, such as “spring run-off following application of pesticides and fertilizers, and fall/winter runoff following the heaviest seasonal rains” (51).

This study found that seasonally, “peak nutrient and pesticide concentrations at the seven primary sites were observed during winter and spring rains” (1). It also found a higher relative concentration of both nutrients and pesticides in the northern part of the basin. In addition, “the largest number of different pesticides detected were at agricultural sites, at concentrations generally larger than at most other land-use sites” (1). Forested areas reported the smallest amount of nutrient and pesticide content. For the most part, an increase in nutrients and pesticides was found after major storms.

Critique

This report contains a lot of good information and is very thorough. It is scientific in nature, but includes a glossary of terms. It is very factual, and therefore does not always explain some of the information. For example, it does not explain the effects of nutrients or pesticides on a stream's health. However, it includes a number of charts and tables.

The information present appears to be from a very reliable source. Quality-control samples were collected, and the report includes detailed information about *how* the studies were done. It is an excellent source for hard data, as opposed a good source for recommendations or risks associated with pesticide and nutrient concentrations. The report ends with a list of references.

[return to info sources page](#)

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