


Pesticides and Streams

 **Pesticides have been found in local streams at levels high enough to harm salmon and other aquatic life. Many of the pesticides found are those commonly used by homeowners on lawns and gardens.**


A study in King County in 1999 compared pesticides in streams with retail sales of pesticides. Twelve sites were sampled on 10 streams in urban watersheds during spring rainstorms. Sampling was done during storms because pesticide runoff is greatest during storms, so scientists are more likely to find pesticides at levels of ecological concern.

Scientists found 23 pesticides in the streams. Concentrations of five pesticides exceeded limits to protect aquatic life: the insecticides carbaryl, chlorpyrifos (Dursban), diazinon, malathion and lindane. The first four are organophosphate (OP) insecticides, which affect the nervous system.

At the time of the study, chlorpyrifos and diazinon were two of the most widely used garden insecticides. The US Environmental Protection Agency banned both for home use in 2003 because of concerns about its effects on human health, especially the nervous system.

Lindane is an organochlorine, an older class of pesticides that includes DDT. Organochlorines are long-lived in the environment.

Pesticides used on lawns and gardens have an impact on urban streams. The pesticides found in streams were compared with pesticides sold at 10 large home and garden stores such as Home Depot and Lowe's. The four pesticides with the highest sales were found at all 12 stream sites: diazinon and the herbicides MCPP, 2,4-D and dichlobenil (Casoron). MCPP and 2,4-D are used in many weed-and-feed products. Residents also bought and applied the four OP pesticides that exceeded levels set to protect aquatic life.

Many pesticides found in urban streams had no retail sales. Almost half of the pesticides found were not sold in the home and garden stores. These pesticides are likely being applied to nonresidential areas such as rights-of-way, parks and recreational areas. 

References

Pesticides detected in urban streams during rainstorms and relations to retail sales of pesticides in King County, Washington. <http://wa.water.usgs.gov/pubs/fs/fs.097-99/fs.097-99.pdf>.

