

New site shares state findings on pesticides

Pollution often difficult to trace

By CASSANDRA PROFITA
Oregon Public Broadcasting

Fruit grower Brian Nakamura remembers when the state started pesticide testing in the streams near his orchards more than 22 years ago.

He can point to exactly what sparked him and fellow growers to launch a voluntary partnership that dramatically reduced pesticide pollution in the Hood River basin.

"This is what triggered it," he said, pulling out a photocopy of a 2001 newspaper clipping from The Oregonian.

"Pesticides pollute the Hood River for second straight year," the headline reads.

To protect dwindling salmon and steelhead populations, Oregon environmental regulators had started testing the Hood River basin for toxic pesticides that can harm fish. And they found concerning levels of azinphos-methyl and chlorpyrifos — two commonly used orchard sprays at the time.

The results made for a startling headline.

"That article kind of got everyone's attention," Nakamura said. "It was a surprise to everybody because the waterways had never been tested before at this level. My reaction at the time was we needed to do something."

The growers' response to the test results — and the implied threat of lawsuits or regulation that came along with them — gave birth to a whole new approach to reducing pesticide pollution in Oregon known as the Pesticide Stewardship Partnership program.

The program has been testing streams across the state and recently shared its results on a website that allows the public to see exactly which pesticides are polluting Oregon streams at testing locations in a dozen different watersheds.

Regulators say the results reveal strengths and weaknesses in the state's voluntary pesticide pollution reduction program, as well as a snapshot of the prevalence of pesticide pollution in state waterways.

"It's kind of everywhere — that's what the data is showing," Oregon Department of Agriculture pesticide stewardship specialist Kathryn Rifenburg said. "We don't just sample agricultural areas. We sample in urban areas. We sample in commercial areas. We try to capture a wide variety of land uses."

Rifenburg said she's hoping the new data viewer website will lead more people and companies to reduce their pesticide use as the data itself has already done over the years.

Some argue the voluntary testing program has been more successful in reducing pesticide pollution than the regulations that would otherwise be needed to protect clean water and limit toxic chemical use.

Pesticide stewardship partnerships across the state have spurred farmers to switch to less toxic chemicals, change the way pesticides are applied and test alternative pest management options. Advocates say in many cases voluntary action has reduced pesticide pollution faster than rules and regulations.

But the program has limited funding and can only afford to test for pesticides in a fraction of the state's watersheds. Critics say it could be more effective if the state returned to the system of pesticide-use reporting that it abandoned years ago, and they argue some of the most toxic pesticides still need better regulations or outright bans.



Cassandra Profita/Oregon Public Broadcasting

Fruit growers in the Hood River Valley organized the first pesticide stewardship partnership to reduce pollution after stream testing revealed harmful pesticides in the creeks surrounding their orchards.

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nesses, around roadways. Pesticide use is not just tied to agriculture."

Gruen said the Department of Environmental Quality and the Oregon Department of Agriculture create partnerships for voluntary pesticide pollution reduction in places where it's likely pesticides are "not staying on target and are being transported into Oregon waters."

The partners often include local agricultural groups, soil and water conservation districts and the Oregon State University Extension Service. They test the water and send the samples to the Department of Environmental Quality for analysis, Gruen said, and the results often spur people into action — just like they did in Hood River.

In Eastern Oregon's Walla Walla watershed, for example, water sampling in 2010 and 2011 showed levels of the weed-killer diuron that were 19 times higher than the benchmark for harming fish and other aquatic life.

Gruen said the local irrigation district and watershed council worked with pea and wheat growers to control weeds with machines and switch to more targeted spraying of a less toxic herbicide. Since then, the diuron detec-

tions have declined significantly and haven't exceeded the aquatic life benchmark in the last decade.

Getting ahead of restrictions

When the first pesticide partnership was created in Hood River, Nakamura said, fruit growers were hoping to avoid lawsuits and more pesticide regulations.

There had already been Endangered Species Act lawsuits filed to restrict or eliminate pesticide use in Washington state because of their impacts on threatened and endangered salmon and steelhead. Hundreds of fruit growers in the Hood River Valley recognized that the Department of Environmental Quality results showing pesticide pollution in their watershed could mean more litigation.

More pesticide detections above aquatic health benchmarks would trigger Clean Water Act regulations, too, which would restrict the chemicals growers can use to control pests.

"In the food industry, it became apparent that there was going to be more restrictions on use of those chemicals because they affected salmon species all over the West Coast," Nakamura said. "Obviously, the worst case would be to eliminate the use of it completely."

As part of a fruit growers association with hundreds of members, Nakamura helped build a handbook about how to avoid spilling pesticides into streams and how to spray so chemicals don't drift into public spaces or run off into waterways.

"Fortunately for the whole organization, everyone got on board," he said. "Part of the impetus to get the whole program going so that we can show that, you know, we're doing a better job."

The Hood River Soil and Water Conservation District got involved in educating growers about pesticide use and started planting stream buffers to keep chemicals out of fish-bearing waterways.

Nakamura said they were "the guinea pigs" testing out a new, voluntary system of reducing pesticide pollution in Oregon.

And it worked.

Within a couple of years, the levels of the most toxic pesticides in Hood River basin streams were steadily decreasing.

"Overall, they just kept going down," he said. "It's a success story. I was pretty proud that it was able to be expanded."

'IT'S IMPORTANT TO REMEMBER THAT PESTICIDES CAN HAVE A NEGATIVE IMPACT ON AQUATIC COMMUNITIES AND HUMAN HEALTH AT CERTAIN CONCENTRATIONS.'

David Gruen | program manager for the Oregon Department of Environmental Quality

Lisa Arkin, the executive director of the environmental group Beyond Toxics, said the options for controlling pesticide pollution are flawed and limited, and that's why data from the voluntary stewardship program is so valuable.

"We have to start with good data," she said. "Knowledge is power. The more the public knows, the better they will be in terms of assessing the harm or safety of pesticides in our waters."

Reveals chemicals

The Pesticide Stewardship Partnership data viewer reveals about 90 chemicals polluting streams in a dozen watersheds across the state over the last two decades — with levels ranging from very low to potentially harmful.

Some pollutants are more familiar than others — the bug spray ingredient DEET, for example, shows up at low levels and may be linked to bug-sprayed people swimming in the river.

One of the most commonly found pesticides is glyphosate, a widely used weed-killer in agriculture, forestry and road maintenance as well as in home and garden products like Roundup.

The second most prevalent pollutant is diuron, a toxic herbicide the U.S. Environmental Protection Agency recently proposed restricting because it carries cancer risks for people in addition to harming fish and wildlife.

In all, the pesticide stewardship program tests waterways for about 130 different chemicals. The data viewer site details how often those chemicals have been found, where they were detected and at what levels. Bar charts indicate which pesticides have been found at levels harmful to fish and other aquatic life.

David Gruen, program manager for the Oregon Department of Environmental Quality, said the data could be helpful to people choosing where they want to go swimming or fishing.

"It's important to remember that pesticides can have a negative impact on aquatic communities and human health at certain concentrations," Gruen said.

The EPA sets benchmarks for pesticide levels that can be harmful to fish and wildlife, but many pesticides don't have benchmarks. So, the danger posed by many pesticides in the database is unclear.

The site notes how much surrounding land is used for agriculture, forestry or urban development, which can offer some clues as to where certain chemicals are coming from.

But pesticides are notoriously difficult to trace because they can come from so many different places, and that can make it difficult to enforce standards set by the Clean Water Act. They can come from agricultural or residential weed and pest sprays, disinfectants that are designed to kill bacteria and even pet medications that kill fleas.

"It's not coming from a single pipe," Gruen said. "We use pesticides in many different sectors of the economy. Many people think of agriculture. But pesticides are also used in a number of other areas — in our home, in and around busi-

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