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Phosphorus ban disliked, working
Treatment-plant data show substantial pounds-per-day decline
By Kim Crompton

A ban on high-phosphorus automatic-dishwasher detergents imposed last July 1 in Spokane County triggered a consumer backlash that lingers today, but appears in early data to be having the desired effect of reducing the amount of the nettlesome nutrient likely being released into the Spokane River.

The average number of pounds per day of phosphorus entering the city of Spokane's wastewater-treatment plant on Aubrey L. White Parkway has been lower over each of the last eight months than in those months in 2008 and 2007.

Last month, an average of 1,522 pounds of phosphorus entered the plant each day, which was down 14 percent from the average of 1,769 pounds per day over the three prior years, the collected data show. That compares with a 7 percent phosphorus decline in September.

"It does appear to be a slowly increasing reduction in phosphorus, somewhere around 193 pounds a day less than what we had before," says Michael F. Coster, the plant's operations and maintenance superintendent.

That equates to a reduction of more than 35 tons of phosphorus a year. A portion of the Washington state Department of Ecology's Web site devoted to the phosphorus ban estimates that one pound of phosphorus—essentially a fertilizer when in water—can grow 700 pounds of algae, which in turn reduces oxygen in rivers and lakes and damages fish populations.

Critics of the ban contend that it has increased water and energy use because phosphorus-free dishwashing detergents are so ineffective that dishes have to be washed two or three times. Such beliefs appear to have created a retail buying shift—and a quasi-black market environment—as some residents here seek to skirt the law by picking up sizable quantities of high-phosphorus dishwasher detergents, including for family members and friends, during trips to Idaho, which has no such ban.

Coster says he suspects the phosphorus numbers are falling partly because some people are exhausting their built-up stashes of high-phosphorus detergents or are deciding that phosphorus-free products work adequately.

Nevertheless, he adds, "We're always going to be having some (banned detergents) 'imported.' I have no doubt of that."

Phosphorus in dishwashing detergents ties up water-hardness minerals such as calcium and magnesium so they won't interfere with cleaning. It also helps keep food particles in suspension after they're removed from the soiled surfaces.

The Spokane County ban, described when it was adopted as being the strictest in the nation, made it illegal to sell dishwashing detergents containing more than one-half of 1 percent of phosphorus. Standard detergents, by comparison, are allowed to have up to about 9 percent phosphorus. A statewide ban that imposes the same 0.5 percent phosphorus limit is scheduled to begin in July 2010. A similar ban for laundry detergents was enacted many years ago.

Civic and political leaders here joined environmental groups statewide in pushing for the restrictions on dishwasher detergents several years ago as a way to slow the amount of phosphorus entering the Spokane River and other waterways, to comply with increasingly stringent regulatory standards, and to avoid possible building moratoriums.

A compromise approved by the Washington Legislature in 2006 delayed implementation of the statewide ban until 2010, but required Spokane, Clark, and Whatcom counties to comply with the standards starting in July of last year.

County on its own

Spokane County was left to go it alone, though, when Gov. Chris Gregoire earlier last year signed a bill that removed Clark County from having to meet the early deadline and allowed Whatcom County stores to continue selling detergent tablets with phosphates. Critics of those changes, including Spokane County commissioners, complained that they diluted consumer buying power and removed some of the incentives for major detergent manufacturers to develop good phosphorus-free products.

Commissioner Mark Richard says he continues to feel that way today.

"I hear about it" from county residents, Richard says. "I hear people frustrated that the products out there are not doing what they're supposed to be doing. I understand that frustration. I hear it from my wife."

Richard says he would favor rescinding the ban here until it becomes effective for the entire state. He adds that he doesn't believe doing so would damage the ability of the county's planned new treatment plant to meet tougher state limits on pollutants when it opens.

David Moore, a Spokane-based Ecology water-quality specialist who oversees Spokane River water-quality matters, says, "Once the law was out, there was really no enforcement or follow-up mechanism to see how it's going. Some of the criticism about this thing is there is really no enforcement, so there is really no onus on Ecology to make sure grocery stores are following the rule. I think it's working, but it's not being enforced, I can tell you that, at least by Ecology."

Moore says, "One thing we're kind of relying on is citizen enforcement," but he adds that he also believes some county residents are willing to drive to the Costco store in Coeur d'Alene to "load up" with high-phosphate detergents rather than comply with the ban.

Jon Roman, manager of grocery procurement for URM Stores Inc., the big Spokane-based grocery distribution cooperative, says the company doesn't break out dishwasher detergent sales by county, so he couldn't say whether its sales in Spokane County have declined since the ban took effect.

The company offers about 35 automatic dishwasher detergents overall, counting the high-phosphate brands still sold elsewhere, but just seven in Spokane County, all phosphate-free products sold under the Seventh Generation and Palmolive brands, he says.

"I personally use it and think it works OK," he says, but he adds that he thinks the products will improve as consumer demand grows and larger companies begin making and marketing them.

Jeff Philipps, president and CEO of Rosauers Supermarkets Inc., says that Spokane-based chain heard some complaints from customers immediately after the ban took effect, but the discontent seems to have died down.

"People have just gotten accustomed to the fact that it's not going to be as good in terms of cleaning power, but you have to make some sacrifices" to protect the area's natural resources, Philipps says.

Troy Varness, general manager of Fred's Appliance Inc., of Spokane, says the company supports efforts to reduce environmental pollution, but the phosphate-free dishwasher detergents currently on the market are lousy.

Of the ban, he says, "I understand why they're doing it, and I agree with it, but, gosh, they need to come up with something that works. It just doesn't dissolve correctly. It gets into traps and pipes and it looks like a bar of soap melted in there. We end up making a lot of service calls because of it."

He adds, "A lot of it is education of the public. They automatically think their dishwasher is broken, but that's just not the case. They just have to do things differently. The No. 1 complaint we're getting is they're having to rewash their dishes."

Skirting the ban by driving out of county to buy detergents isn't necessarily a good option either, Varness says, because people typically buy the detergents in large quantities there, so they don't have to make frequent return trips, but such detergents have a shelf life because they have enzymes in them that die eventually.

"Then pretty soon they're no good either," he says.

A 2008 Consumer Reports study on dishwasher detergents found that some phosphate-free products, such as Ecover tablets and powder and Seventh Generation Free & Clear powder, do a good to excellent job of cleaning. All of the phosphate-free products, though, ranked below the seven standard detergents—six Cascade brands and a Wal-Mart brand detergent—that topped the list.

Another irritant for consumers has been the higher price of the phosphate-free detergents. The Consumer Reports study found that the top standard dishwasher detergents cost 6 cents to 19 cents a load, whereas the top phosphate-free detergents ranged from 12 cents to 34 cents a load.

What remains unclear is exactly how big an impact the ban on high-phosphorus dishwasher detergents can have long term on Spokane River and groundwater water quality, given that phosphorus also enters the waterways from numerous other sources.

The Ecology Web site says industry and wastewater-treatment plants account for only about half of the phosphorus contributed to Washington waters. The other half, it says, comes from a variety of "nonpoint" sources, such as storm-water runoff, septic systems, and agriculture, which have no obvious point of discharge and are hard to trace.

Dishwashing detergent accounts for an estimated 10 percent to 12 percent of the phosphorus entering municipal wastewater-treatment plants, and treatment plants can treat and remove only a portion of the phosphorus in wastewater, the Web site says.

Nevertheless, Coster, the city plant superintendent, says he was surprised by how quickly the ban began to show an effect on the wastewater entering the plant and he suspects the same type of decline is occurring in septic system drain fields, which affect water quality in the aquifer that ties into the Spokane River.

Dennis Griesing, vice president of government affairs for the Soap and Detergent Association, a Washington, D.C.-based trade organization, says he's not surprised by the consumer grumbling occurring here. During extensive lobbying in Olympia, Wash., he says he recommended against adoption of a phosphate ban for dishwasher detergents at least until 2010 to give the industry more time to develop some better products.

"Phosphate was just a tremendous ingredient. It did so many things," Griesing says. "Unfortunately, it was also a fertilizer. That was its only sin."

Looking ahead, like it or not, there's no turning back the clock now, he says. The phosphorus-free dishwasher detergent standard forged in Olympia rapidly is being accepted by other states for adoption in 2010, he says, adding, "The goal is a national conversion for household products. That is our commitment."

Griesing doesn't offer any assurances about whether expanded research-and-development activity spurred by growing consumer demand will lead to phosphorus-free products that are as effective as the high-phosphorus products they're replacing, but says, "I would hope so."