

ditches,” says Taylor with a laugh. “But we have a stream-ditch.”

A Throw-Away Creek?

Public perception of the creek as a ditch worries Cindy Thieman, projects and monitoring coordinator for the Long Tom Watershed Council.

“One of the problems with Amazon Creek is that it’s not at this point a very aesthetically pleasing creek for most of its length,” says Thieman. “I think people don’t have the urge to protect it because it’s something that they’ve just kind of thrown away in their minds as a resource.”

Nevertheless, some residents care enough about local waterways to participate in the Watershed Council, a voluntary grassroots group that brings together people with diverse perspectives on watershed-related issues. The organization carries out restoration projects throughout the watershed, including on Amazon Creek. More than 100 active council members include farmers, government officials, representatives from the forest products industry and concerned citizens.

Thieman says that the watershed council has given people a platform for non-confrontational dialogue. “There have been a fair number of acquaintanceships, if not friendships, struck between people who wouldn’t otherwise talk to each other,” she says.

While she praises the city’s approach to creek maintenance, Thieman is troubled by the amount of pollution in the Amazon Creek. Most of it, she emphasizes, comes not from industry, but from non-point source pollution — all of the contaminants running off the streets of Eugene. And the responsibility for it falls on the shoulders of every resident.

Pavement’s Price

In a natural system, rainwater filters through layers of soil before reaching a body of water. But when the ground is paved, water rushes straight to the nearest storm drain, which carries it untreated to local waterways. For west and south Eugene residents, that means Amazon Creek.

“You can think of a watershed as sort of like a sponge,” explains Thieman. “If you shellac all over the sponge, it doesn’t have the holding capacity it did.”

And Eugene has been shellacked. Every paved street, driveway, and parking lot in

town is an impervious, or impenetrable, surface. So when it rains — and Eugene gets an average of 54 inches of rain a year — the water picks up a stew of pollutants. These include fertilizers and pesticides from people’s yards, moss retardant used on roofs, oils from cars, sediments and soaps hosed off driveways, and domestic animal wastes.

“It’s really death by a thousand cuts,” says Taylor. “And each individual homeowner, and each person, has a role to play there.”

What frustrates Thieman and Taylor about impervious surfaces is that without a concerted effort on the part of the citizens, there’s not much that they can do to decrease the flow of pollution to the creek.

Not that the city hasn’t tried. Eugene’s Stormwater Management Program was launched in 1993 after the completion of an ambitious management plan to protect residents from floods, improve water quality, and protect natural resource values. The program is financed by monthly stormwater user fees, which are based on the quantity of impervious surfaces at all households and businesses in Eugene.

Still, Thieman is not convinced that the creek is getting healthier. The amount of paved surfaces is increasing, and residents are still contaminating them.

“If everybody’s adding pollutants from their own property, and it ends up in the creek,” she says, “there’s nothing you can do to the creek itself to be able to clean all that water.”

Industrial Pollution

Both city officials and representatives of the Watershed Council say that residential industrial stormwater discharge is a minimal threat to the health of the creek because, unlike residential runoff, it is regulated by federal law.

Certain industries, such as textile mills, printers, and makers of wood and metal products, have been identified by the EPA as having the potential to contaminate stormwater runoff. If stormwater drains from the property of such an industry into a public waterway via a point source, like a pipe or a catch basin, the industry is required to obtain a 1200-z National Pollutant Discharge Elimination System (NPDES) permit from the state of Oregon’s Department of Environmental Quality (DEQ).

The 1200-z permit requires its holder to create a stormwater pollution control plan

by identifying activities that could impact stormwater runoff and developing a strategy to eliminate or minimize the exposure of pollutants to stormwater.

Twice a year, industries with 1200-z permits are required to sample and analyze stormwater runoff for contaminants listed in their permits as “benchmarks.” If contaminants exceed suggested “benchmark” levels, industries must review their stormwater pollution control plans and identify additional ways to reduce pollutant levels.

“Industries are doing a pretty good job. They can always do better,” says Gary Cloyes, industrial source control technician for the city of Eugene’s Wastewater Division of Public Works. “The regulations are going to get stricter all the time in the city.”

But industries whose stormwater runoff violates water quality standards have plenty of chances to reform. If an industry violates a condition of its permit for the first time, the city sends a “request for corrective action” letter. If a second violation occurs, the city sends the industry another letter and refers the violation to the DEQ, which then issues a notice of noncompliance. The first notice is a warning, says Cloyes, and “more could result in penalties.”

Eugene’s most notorious case of stormwater contamination involves the J. H. Baxter wood treatment plant on North Baxter Road. In February 1999, the company’s monitoring report showed that

stormwater discharge concentrations of four pollutants exceeded the permitted limits. Arsenic and suspended sediments were sampled at twice the permitted concentrations, zinc was sampled at 14 times the permitted concentration, and copper was sampled at 49 times the permitted concentration.

“It is unacceptable to have 1.2 pounds per day of copper and 3.3 pounds per day of zinc released into the environment from a facility that is under an NPDES permit which is supposed to be limiting and controlling these parameters,” wrote Peter Ruffier, the wastewater director of the city of Eugene, in an internal memo.

Under pressure from the city and its residents, the company installed more monitoring wells around the plant and improved its stormwater collection and treatment system. The monitoring report for October 2003 showed the contaminants in Baxter’s stormwater to be within the permitted limits.

On the DEQ’s List

Meanwhile, the concentration of arsenic in Amazon Creek has caught the DEQ’s attention.

Oregon’s DEQ maintains a list of the state’s stream segments that fail to meet water quality standards. Called the 303(d) List because it is required by section 303(d) of the federal Clean Water Act, the list is updated every two years.

Amazon Creek is on the 2002 303(d) List



Andy Gilmore

KERA ABRAHAM

A TOXIC CHANNEL

A stream adjacent to Amazon Creek runs through the industrial flats of west Eugene from Seneca Avenue to Meadowlark Prairie, draining the lots of 166 businesses. It’s called the A-3 Channel, and it’s one of the most toxic waterways in the state of Oregon.

In 1997, the DEQ launched a project to improve water quality in the channel by encouraging local businesses to keep pollutants from reaching the stream. Although 80 percent of the companies complied, a biological survey showed that the A-3 Channel was still highly degraded and had almost no habitat value.

The A-3 is listed on Oregon’s 303(d) list of water quality limited streams for six parameters: dichloroethylenes, tetrachloroethylene, arsenic, lead, mercury, and *E. coli*. “That’s from a legacy of industry along the A-3 Channel,” says Cindy Thieman of the Long Tom Watershed Council, “before there were the types of regulations that there are today.”

This is not good news. Dichloroethylenes affect the growth, tissue structure, and mortality of fish. Tetrachloroethylene, a known carcinogen, affects the behavior and mortality of fish, kills insects and worms, impacts the biochemistry of phytoplankton, and impairs the reproduction of zooplankton. Arsenic, a known carcinogen and developmental toxin for humans, can kill amphibians, fish and zooplankton. Lead, also a known carcinogen and a developmental toxin, has negative effects on worms,

amphibians, fish, mollusks, insects, aquatic and terrestrial plants, phytoplankton and zooplankton. Mercury, a developmental toxin, is highly toxic to amphibians, crustaceans, fish, nematodes and zooplankton. And *E. coli*, a bacteria commonly found in the intestines of humans and animals, is identified as an emerging cause of food borne and waterborne illnesses.

One way to reduce the movement of pollutants is to encourage sedimentation. A weir structure controls the flow of water from the A-3 Channel, allowing for the deposition of sediments in the flooded Meadowlark Prairie. The A-3 flows into the original Amazon Creek channel several hundred yards south of this structure.

But the city does little else to deal with the pollution in the A-3 Channel. “The toxic issues along A-3 we’re not currently addressing,” says Trevor Taylor of the Parks and Open Space Division. “Most of the toxins are heavy metals, and a lot of the heavy metals bind with sediment. For us to remediate them, we’d have to dig them out and send them to a special toxic materials landfill.” The city chooses not to do this, says Taylor, because disturbing the sediments would kick up the heavy metals and cause them to start flowing down the creek. “Our hope is to really not disturb them,” he says. — Kera Abraham

For more information about the A-3 channel and other waterways on Oregon’s 303(d) list, visit the DEQ’s website: www.deq.state.or.us. To learn more about the hazards of specific chemicals, check out the Pesticide Action Network’s chemical information database: www.pesticideinfo.org.