

## Are We Polluting Our Water?

A few weeks ago I attended an all-day presentation by the Texas Watershed Steward Program. It was presented by a group from the Department of Soil and Crop Services at Texas A & M. I have attended literally dozens of programs having to do with the many aspects of water, its capture, conservation and use, but this program had a slightly different emphasis.

Just so everyone understands the term: A watershed is the area that, if a raindrop were to fall anywhere in that area and run downhill to a creek or river, all of that area would be the watershed area for that creek or river. In some other countries, this is called the watercatchment area because it is the area that catches the rainfall that replenishes the river.

Folks in the Hill Country tend to think most often about the quantity of our water. This program also included water quality as something we should think about. What comes to mind when I mention water quality? Is it clear? Does it have an odor? A bad taste? These are all certainly issues related to the quality of water, but not everything associated with water quality can be described that simply. Perfectly clear, odorless, tasteless water can be severely polluted.

Here in the Hill Country we are spoiled, I guess, by the usually clear, odorless, tasteless water in our creeks and rivers and in our groundwater. We tend to think of pollution as something around big cities, on the coast, near industrial facilities, etc., but it is not necessarily so.

Pollution is characterized as coming from either a point source or non-point source. Point source pollution can be thought of as entering the water body from a pipe as a discharge from a specific facility such as a factory, refinery, sewage treatment facility or feed lot. Non-point source pollution enters the water from many different places.

It is relatively easy for federal and state agencies to find and regulate point-source pollution because where it is coming from can be easily identified. Not so with non-point source pollution.

What are the types of non-point source pollution and where do they come from?

One type of pollution is bacteria, coming from livestock, pet waste, wildlife (feral hogs, ducks and geese) and failing septic systems. Another type of pollution are nutrients (nitrates and phosphates) which can also come from livestock, pet wastes, and septic systems, but in addition can come from fertilizers washed from farms and lawns.

Another type of pollution is sediment (soil) washed off of farms, overgrazed rangeland, construction sites, road maintenance, gravel operations, etc. Finally

toxic and hazardous substances can be washed from landfills, junkyards, parking lots, streets, underground storage tanks, and may include gasoline, oil, pesticides and herbicides.

Bacteria can obviously introduce disease-causing organisms to both surface and ground water and can make for hazardous swimming, drinking, and polluted shellfish beds. Excess nutrients can cause algae blooms which deplete oxygen levels, killing fish and causing turbidity. Sediment can silt in lakes and ponds and cause turbidity reducing plant growth and killing aquatic organisms. Toxic materials can be carcinogenic or mutagenic and can accumulate in the tissues of fish and ultimately humans.

So anyone who has property with livestock or pets or a septic system or uses fertilizers or herbicides or pesticides or drives a car may contribute to polluted surface water and in some cases even groundwater.

What can we as individuals do to reduce non-point source pollution? We can manage our land to capture rainfall and have it soak into the ground, not run off. We can make sure our septic systems are functioning properly. We can keep livestock from concentrating near lakes, creeks or rivers. We can pick up pet waste. We can use as little pesticide, herbicide and fertilizer as possible and as infrequently as possible. We can dispose of all toxic and hazardous materials properly, certainly not pouring them down the storm drain or house drain.

Most importantly, we can educate ourselves about the causes of pollution, how we might be contributing to it, and then change any harmful practices we might have been doing in the past.

Everyone who lives in a watershed, which is every one of us, owes it to ourselves and our neighbors to help keep our precious water clean. Just because we live here in the Hill Country, far from the most serious sources of pollution, doesn't mean we can ignore the problem.

Until next time...

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