

Viewpoint: "The Solution to Pollution is Dilution"

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A few years ago I was reviewing a high school science book. I was informed that volcanoes pollute, wildlife pollute, livestock pollute, and even flowers pollute by releasing aromatic hydrocarbon into the air. It was quite easy to see that when you model the ecosystem in a pristine context, things get mixed up.

"Pristine" thinking has and is creating many problems in resource management and policy. To some people, if humans, mainly European immigrants, would cease to exist in the United States Western lands the ecosystem would eventually reach equilibrium and everything would be pristine. This "Pristine" thinking is used as the logical conclusion to the concept of "balance of nature"

The "balance of nature" is a myth. H.B. Johnson (1985) states "The popular perception of balance in nature is a damnable heresy that persists in most fields of applied ecology and resource management to the detriment of establishing realistic goals and guides."

When it comes to water quality, pure would be disastrous. Life demands tainted water. If unprotected live cells are placed in distilled water, they will start taking on water, through osmosis, until to the point the cell membrane ruptures and they die (Giese 1968). Nor was water pure before white men arrived on the scene in North America. Early European explorers reported numerous dead buffalo and buffalo parts in the rivers and along the river banks (Lewis 1805)

One of the functions of the rivers is to remove wastes and toxins from the continent just as one of the functions of blood is to remove waste and toxins from the cells of the body. If the concentration of waste and toxin become too great the owner of the blood will die just as if the toxin and waste become too great in the rivers the user of these rivers will die. So it's not chemical that makes the poison, it's the dose.

Actually small doses of a toxin may be beneficial: Dicumerol is a natural toxin occurring in moldy sweet clover. Dicumerol kills livestock and a commercially produced synthetic "Warfrin" is used for rat poison. However, small doses of dicumerol are used as a medicine for heart and stroke patients: Likewise, depending on concentration, strychnine can either be a powerful pest control toxin or a stimulant for the rumen of cattle: salt is either toxic or essential to life; cyanide found in runoff from goldmines is also found in sugar cane, choke cherry, sudan grass, and apricots; and arsenic which is found in high concentration in Yellowstone Park as a result of geothermal activity is either a poison or a medicine for cattle and man. There are a few chemicals that are bioconcentrating such as DDT, but these chemicals are few.

Many people have an unjustifiable fear of these small concentrations. By worrying about a little Tordon (a relatively non-toxic weed killer) in the water they let noxious weed destroy the productivity of the riparian area. As Christ said 2000 years ago "You strain out a gnat but swallow a camel" (Matt. 23:24).

Recently there has been much talk of regulating non-point

pollution from animal wastes so the question arises "Just how toxic is cow manure?" In South America the natives save the gut when they butcher, cut off the last 12 inches of large intestine, tie the ends of the remainder so none of the good stuff gets away, and cook it and eat it. If you think these people are deviates. What about the folks that eat clams, oysters, and sardines? Are they a bunch of perverts too?

As the snow melted this spring one could observe brown water running off lands managed in the Conservation Reserve Program. Some of these lands have not been grazed by livestock for 8 years. The brown color was the result of rotting plant material. Cow pies are also partially decomposed plant material

Nitrates from animal waste are causing concern, although nitrate also occur naturally in rain water. Lightning burns the nitrogen in the air producing nitrogen dioxide which combine with water to give nitric acid or hydrogen nitrate. This "acid rain" is a major food source for plants. Nitroglycerine is one of the nitrates used in medicine to relieve chest pains in heart patients.

The maximum federal standard for nitrates in drinking water is 10 ppm. Montana's major rivers are well below the 10 ppm maximum with the highest reading being around 1 ppm. Children from 1 to 8 can safely drink 110 ppm, 11 times the Federal standard, but there is some problem with nitrates with sick infants and pregnant women. The main problem seems to be these individuals are internally synthesizing nitrates. Outside sources of nitrate adds to the problem causing cyanosis but the exact level at which this occurs seem obscure.

As one can see most of the compounds found in Montana's rivers occur naturally, and at certain levels are beneficial. Current levels certainly do not justify a crisis program for halting all non-point pollution.

Many people think that life arose from primordial soup. Let's face it, if the clean water people had been around at the time of creation there would be no life because they would have cleaned up the soup.

To keep things in perspective, animal waste is plant food and plant waste is animal food. By keeping the animal waste on the land, ranchers and farmers are insured of bountiful future production of plant wastes.

Scripture says "I have seen a limit to all perfection" (Psalm 119:96) and so it is with water quality (GOOD ENOUGH IS EXCELLENT).

Literature Cited

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