

Committee Searching For Nutrient Reduction Strategies

COLUMBIA, MO.

Nutrient loads can cause problems with water quality. That's why the Missouri Nutrient Reduction Strategy Committee is working to decrease the amount of nutrients that end up in the Mississippi River.

The committee, which is made up of 31 organizations and individuals, formed in 2011 when the Environmental Protection Agency made grants to states in the Mississippi River Basin to develop and implement nutrient reduction strategies.

Before taking steps to reduce the nutrient load, it's important to understand where the nutrients are coming from, said Bob Broz, a University of Missouri Extension assistant professor and member of the committee.

"We're looking at non-point source pollution such as fertilizer use, and we're looking at point source pollution that is produced under different permitting processes," Broz said.

Non-point source pollution comes from sources that generally can't be determined precisely, such as runoff from farms, parks and lawns. Broz says non-point source accounts for about 90 percent of the nutrient load.

The Mississippi River Basin is the third-largest drainage area in the world. Water from parts of 37 states drains into the Mississippi River and ends up in the Gulf of Mexico. If the water has too many nutrients in it, it creates a hypoxia zone, with oxygen levels too low to support most life. Because of this, the hypoxia zone in the gulf has been nicknamed the "dead zone."

Nutrients going into the ocean promote excessive algae growth. When that algae starts dying off, decomposition of all that plant matter removes oxygen from the water, Broz said. "So there is an area where the oxygen is at less than 2 milligrams per liter, which will not support life in most cases."

Last year the hypoxia zone measured 8,500

square miles, about the size of Massachusetts.

Broz says the committee is looking at Missouri's contribution to the nutrient load and trying to figure out ways to reduce that load.

"From the agriculturalist point of view, if we have that kind of nitrogen and phosphorus going down the river, it means we've wasted money and we're not making effective use of our fertilizer," Broz said. "If we can reduce the loads, in the long run it will save producers money to produce their crop and increase their profitability."

The committee has been tasked with finding where the most intense loads are coming from, what kind of strategies would help reduce that load, and look for ways to pay for putting those strategies into practice.

"Several things are going to have to work hand-in-hand in order for this to be successful," Broz said. "One of them is getting word out to the people and asking them what strategies they are willing to do. Second is finding potential funding sources to implement practices that would reduce the load. Variable-rate application of nutrients could be one of them. Cover crops may be another one that can actually reduce the commercial fertilizer load."

EPA is asking each group that received one of these grants to come up with a 45-percent reduction. Broz questions whether that is realistic or even attainable, but he says that steps need to be taken to reduce nutrient loading from both the environmental and economic side, and striking a balance between the two is important.

"If it is not cost-effective, it is going to be very hard to sell this to the average producer," Broz said. "If it is cost-effective, then the chances of them implementing something and continuing it for long-term water quality is considerably better, especially if we can do it without hurting profitability or production numbers." Δ