Land owner survey to help guide research on nitrogen movement and management in the Judith River Basin

Contact:

Adam Sigler – MSU Extension

406-994-7381

asigler@montana.edu

Clain Jones – MSU Extension

406-994-6078

clainj@montana.edu

Stanford, MT –

In February a survey will go to randomly selected farm operators in Judith Basin and Fergus Counties as one of the first steps in a project focused on understanding sources of nitrogen in groundwater in the area and whether practical farming practices are available to increase nitrogen use efficiency. The project is funded by the US Department of Agriculture and is being led by Extension specialists and researchers from Montana State University and Utah State University in partnership with local farmers, local Extension, local conservation districts and the Natural Resources Conservation Service.

Groundwater in the Judith River Basin often exceeds drinking water standards for nitrate, a form of nitrogen, and data from a recent MT Department of Agriculture study shows concentrations in a well near Moccasin have been increasing for at least 15 years. The contributions from natural versus human sources are relatively unknown, as are the effects of management practices on nitrate movement to groundwater. “Some people are concerned about the nitrate levels in their household or stock wells and want to know more about why the levels are so high,” says Adam Sigler with MSU Extension Water Quality.

The survey will help to inventory what farming practices are currently being used and what practices farmers think make sense for their operations. By targeting farming practices for the project which are appropriate for this area, the study should help improve economic viability of farms while protecting groundwater at the same time.

Dr. Clain Jones, MSU extension specialist and a leader of the survey effort, notes that “To ensure our efforts are worthwhile to local farmers and residents, we are gathering information about their practices, experiences, and concerns.”

Farm operators and landowners will be randomly selected to participate in the survey. Because only a fraction of farms will be selected, the researchers emphasize that it is critical for people to return surveys so they can accurately describe the practices, attitudes, and concerns of local farmers.

Dr. Stephanie Ewing, an MSU soil scientist and the lead project investigator, indicated that the Judith Basin area was selected because of elevated nitrate levels found in some groundwater wells. “It is important to get better information about the sources of the nitrate, how much might be coming from natural sources and what land management practices have real impacts on nitrate leaching, before we can give good advice about how local residents can best respond.”

Over the next three years, the project team will be working with local farmers to analyze historic data and collect new information about the ways nitrogen moves through the local groundwater system.

The project team has already established a local Advisory Council (AC) made up of 15 members representing local farmers, agencies/boards, Extension and NRCS who provide oversight and guidance to the researchers. The project has also created a Producer Research Advisory Group (PRAG), made up of 6 local farmers that will help design the project’s research experiments and interpret findings.

The AC and PRAG are designed to ensure that research incorporates the experiences and perspectives of local farmers and residents, and that any future recommendations are sensitive to the unique constraints faced by local producers. The research team believes that farmer and landowner input is the key to understanding local water quality issues.

A list of researchers, their contact information, project information, and project updates can be found on the website listed below. The members of the AC are also available on the website.

Bing VonBergen who is serving on both the AC and PRAG notes that, “there is growing interest at the national level in addressing nitrogen getting into water. This research is important; no one wants to throw money away on nitrogen that doesn’t make it to the scales. I agreed to work on this project because I appreciate the fact that the researchers are looking at both natural and human sources of nitrogen and are working with farmers to identify and study practical farming practices that make sense in our area for reducing nitrogen losses.”

For more information visit the project website at: <http://waterquality.montana.edu/docs/judith.shtml>