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DEPARTMENTS

On the Cover
William Crawford, OK banker and investment consultant. Photo by Fred W. Marvel for the Oklahoma Dept. of Wildlife Conservation

RESEARCH

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YOUR FORUM TO REACT TO PUBLISHED ARTICLES, EXCHANGE IDEAS, AND DESCRIBE INNOVATIVE APPROACHES TO CONSERVATION INCLUDING LEGISLATION

"The NRCS guidance on riparian buffers never mentions the effect of protecting near channel runoff producing zones."

-Dr. David Garen

Now the work begins

Some months back, the Society evaluated the farm bill conservation title proposals in the House and Senate against its own. Neither got straight A's on the "report card," but each clearly had its strengths. Now, how does the report card look on the final bill?

Perhaps we can't claim straight A's, but I'd say we made the honor roll. We have an innovative new incentives program to compensate producers for the environmental benefits they provide to the American public. We have more funding for private lands conservation than ever and policymakers now recognize the importance of technical assistance in getting conservation on the landscape.

The new farm law will allow us to strengthen and enhance the local, state, federal, and private partnership that is dedicated to protecting America's natural resources. Delivering the technical assistance needed to implement the conservation provisions will require more people in both the public and private sectors and much greater involvement by states and conservation districts.

The new farm law presents many new opportunities, as well as many new challenges. We asked for a lot and we got a lot. Now the work begins to prove that we can make that vision a reality on the ground, and conservation districts remain committed to that objective.

—J. Read Smith, president, National Association of Conservation Districts, Saint John, Washington

Water conservation vs. water use efficiency

What you are about to read may surprise you—increasing the price of water may not lead to water conservation. And for most economists, that's not a problem. The reason is simple. As conventionally defined, water conservation implies a reduction in the consumption or application of water. By freeing up water for other uses, water conservation can be a valuable and important social goal. But it's not what economists seek to achieve through manipulating the price of water. What economists seek to achieve is a different goal—water use efficiency. Water use efficiency is defined as sending water to its highest and best use. If increasing water price promotes movement of water from lower value crops to higher value crops without reducing water use, economists consider the policy a success.

What this means is that economists evaluate water price changes much more broadly than most other sciences. Economists look not only at changes in water application rates—a measure of conservation—but also at whether or not a change in price prompted an irrigator to adopt a less water-intensive irrigation system or to learn how to grow a more profitable crop. Neither one of these responses requires a reduction in water use. However, they do show that the irrigator is recognizing that the value of water, as indicated by price, has increased. For economists, recognizing a higher value for water, not using less of it, is what matters most.

—Eric Schuck, assistant professor, Colorado State University, Fort Collins, CO

USDA-NRCS needs computer software

Mr. Mills' comments in the *Journal of Soil and Water Conservation* (57(1):7A) reflects the viewpoint of a frustrated technology user who may or may not have had sufficient training in the use of the technology. The technology first called the USLE and now RUSLE is intended to assist conservationists, environmentalists, and land users with a sequential approach to erosion assessment and control. Budget and personnel cutbacks in the Natuarl Resources Conservation Service (NRCS) despite expansion of their work load to include nutrient management, soil quality, and other work elements has spread their personnel very thin. To work efficiently

with land owners, NRCS needs tools in the form of computer software.

The developers of the RUSLE technology captured in a computer program, the knowledge of an experienced conservationist, despite staff down-sizing, attempts to unify the results (across varying climates, soils, topography, farmer practices, and land use or crops), and incorporate the varying judgement of different professionals. Such computer software (RUSLE) has features that are often not used at their ultimate level of specificity to include such factors as soil spatial variability, surface topography simplifications (i.e. using a plane to emulate complex features), average climate conditions to explain specific storm sequences, and average cropping conditions to emulate micro and macro cover variability, all contribute to difficulties in describing correlations with observed soil loss.

I hope that professionals like Mr. Mills will recognize the enormity of the erosion assessment and control problem with the heterogeneity of environmental protection on the planet earth. USLE/RUSLE is intended to formalize this process and provide a logical way to make adjustments.
—Kenneth G. Renard, SWCS member and USDA-ARS, Tucson, AZ

Pay more attention to hydrology

In the March/April 2002 issue of the *Journal of Soil and Water Conservation*, I was struck by the connection between Craig Cox's and R. Neil Sampson's editorials with the article on conservation buffers. Cox mentions two articles in an earlier issue of the *Journal*, both discussing the idea of protecting near channel or hydrologically sensitive areas as being an effective way to make large reductions in phosphorus input to streams. This refers to the hydrologic processes of partial contributing areas and surface runoff from expanding and contracting saturated zones, which occur typically at the bottom of hillslopes and near stream channels. These are important, often dominant, streamflow generating processes, yet they are rarely considered in hydrologic models commonly used in USDA or in conservation guidance. The article on conservation buffers reflects this. The NRCS guidance on riparian buffers never mentions the effect of protecting near channel runoff producing zones. The only runoff process mentioned or implied is the traditional process of surface runoff over entire fields due to heavy rainfall exceeding the infiltration capacity of the soil.

Here is where Sampson's article about embracing new science is relevant. Conservation practice design needs to pay more attention to the developments in hydrologic science. One of the research needs for conservation buffers is to evaluate the extent of near channel runoff producing zones and its implications for riparian buffer width and effectiveness. Hydrology has been making leaps of progress in the last two decades in terms of process understanding and modeling ability, yet it appears to me that we are way behind in recognizing these in the design and evaluation of conservation measures. If progress is to be made in water quality, we must pay more attention to the hydrologic processes driving the system. A focus on hydrologically sensitive areas and runoff producing zones is a start.
—Dr. David Garen, Hydrologist, USDA-NRCS, Portland, OR

Readers are invited to express their views on land and water management.

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— Deb Happe, Editor