

Farm and Ranch Management

Plan conservation online

By LYNN BETTS

DESKTOP planning for conservation practices got off to a good start in some states a little more than a year ago when online computer programs called PondBuilder and BasinBuilder were introduced to conservationists who plan and design conservation practices for farmers and ranchers.

The programs were touted for significant time savings in their ability to locate a proposed practice on the landscape and to generate an accurate cost estimate. The one-of-a-kind PondBuilder, for instance, can place a proposed pond in the landscape, generate an aerial photo with the pond's permanent and temporary pool areas clearly drawn, estimate the cubic yards of earthmoving and size and length of pipe needed, and generate an accurate cost estimate in less than 15 minutes.

That rapid turnaround time compares to several months using current methods. It takes time for conservationists in USDA field offices to schedule and make a field site visit for preliminary surveys, then takes more time back in the office to make the calculations for sizes and costs.

WetlandBuilder, WaterwayBuilder

Now, the company behind the first two programs is introducing online planning programs for two more prac-

Key Points

- Online software offers time savings and accuracy in conservation planning.
- New programs help plan and estimate costs for waterways and wetlands.
- The programs can only be used in counties with LiDAR information available.

tices — waterways and restored wetlands. WetlandBuilder works much like PondBuilder, locating the dike on an aerial map, estimating costs for pipe and building the dike, and drawing a pool area. In addition, it uses shades of blue to show projected water depth in the wetland at levels of 0-1 foot, 1-2 feet, 2-4 feet, and greater than 4 feet over the entire pool area (providing you don't move earth from the wetland to build the dike).

There's no limit on the drainage area size for the online tool, but it only works for dikes up to 10 feet, because side slopes, spillways and other features change when a dam exceeds 10 feet. Dams higher than that use PondBuilder.

"If you have two low spots in an area you are reconstructing as a wetland, you might want to put in two dikes. This program will accommodate multiple dikes, and saves even more time," says Stan Buman of Agren, the company from Carroll, Iowa, that's developing the suite of online planning programs for more than half a dozen conservation practices.



STAN BUMAN



LOCATION: WaterwayBuilder will locate the centerline of the proposed waterway on an aerial map, measure its length, and show multiple reaches.

terraces, they will be even better," says Jim Gillespie of the Iowa Department of Agriculture and Land Stewardship.

The State Conservationist for NRCS in Iowa, Rich Sims is impressed with the accuracy of cost estimates, which saves even more time as contracts for conservation measures don't need to be modified when the practices are built.

That's what Buman hears from people who have used the tools or watched demonstrations of their use. "What we hear they like about the programs that are in use now is that they offer fast and accurate planning, you get multiple planning options quickly, and you get a drawing that shows a landowner how the practice lays on his or her land," explains Buman. The bottom line is better, faster technical conservation service for landowners.

Logistics, the huge amounts of data, and current lack of complete LiDAR coverage are slowing the use of the programs nationwide. There's potential in the future for private planners and conservation contractors to use the programs, Buman believes. It's cost-prohibitive until a state has the tools set up in all its counties, but once that happens, Buman expects much higher use of the tools.

Online planning, he says, could well one day be the standard for quick, efficient planning. For more information, contact Buman at stan@agreninc.com or online at agreninc.com/conservation.php.

Betts writes from Johnston, Iowa.

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VISUALIZING WATER DEPTHS: Screen shots in the WetlandBuilder program are color coded to show varying water depths that will be created. The shots also show contour lines, where the dike will be, and draw a boundary for the drainage area of the wetland.