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REDUCING SOIL AND NUTRIENT RUNOFF WITH CONSERVATION BUFFERS

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Soil erosion poses a double problem for aquatic communities and natural resource managers. Resulting sedimentation clogs waterways, alters habitats and necessitates expensive dredging for transportation. Soil particles also transport phosphorus from terrestrial to aquatic habitats, leading to eutrophication and related phenomena including harmful algal blooms, anoxia and alterations of native communities.

Several helpful soil conserving agricultural practices, such as conservation tillage, emerged in the Lake Erie basin in the 1980s, but Ohio joined a new conservation effort in 1998 by implementing the Lake Erie Buffer Initiative, led by the Ohio Lake Erie Commission and U.S. Dept. of Agriculture (USDA) in cooperation with 20 other agencies and programs.

This initiative proposed to inhibit soil loss by installing grass, shrub and forest filter strips on streams and ditches and developing windbreaks and restored wetlands throughout six of northwest Ohio's watersheds that drain into Lake Erie. Landowner cooperation in the program was facilitated through annual payments generated by 10-year contracts, in first the USDA's Conservation Reserve Program (CRP) and later the Conservation Reserve Enhancement Program (CREP). The installation of conservation buffers allows farmers to straighten irregular field edges along streams, improving cultivation efficiency, and receive revenue typically above that which would be generated by cultivating these often marginally productive lands. As runoff water passes through filter strips while moving from cultivated fields to streams, sediment is retained in the conservation plantings.

Sedimentation and nutrient transport has been reduced in the Lake Erie basin as a result of 44,701 acres of new conservation buffers installed since 1997. Of these, 74% are grass filter strips, which cover 1,800 miles of stream and ditch banks. Another 16% are field windbreaks and riparian forests, and 9% are restored or new wetlands. An added benefit of these conservation buffers is an increase in habitat for both upland and wetland wildlife. Legislative support for conservation buffers has increased, with funding now coming from both federal and state appropriations.

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