

Duck River Watershed Project

Project Description: The Duck River Watershed, in north central Alabama, drains to Mulberry Fork and ultimately to the Black Warrior River. This watershed comprises over one-third of the 118,400 acre Duck Creek-Mulberry Fork Conservation Priority Area (CPA) in east Cullman and West Blount Counties. Mulberry Fork downstream from the confluence of the Duck River is a popular recreational area for fishing and canoeing, particularly in the spring.



The economy of the area is dependent upon poultry and livestock production (2.7% of Alabama land area, 15% of state agricultural cash receipts). Poultry and beef animal wastes enter surface and ground waters; 6.4 miles of Duck River in Cullman County has been identified as not supporting water quality standards. Water quality impairments are related to low pH, nutrients and organic enrichment/dissolved oxygen. Primary pollution sources are generally agricultural - specifically relating to animal feeding operations and pasture grazing. The primary land uses for the Duck River Watershed are shown the in following table:

Duck River Watershed Land Use in Acres	
Pasture	18,161
Forestland	14,720
Cropland	4,560
Urban	1,000
Wetland	406
Other	1,720



This on going project was designed to address significant impacts to water quality in the watershed from agriculture including sediment, nutrients from fertilizers, animal waste, and pesticide runoff. Most of the nutrients and bacteria affecting the watershed are likely due to poorly managed animal waste systems, improper land application of animal waste and dead animal burial pits. The project seeks to: 1) develop grazing management for pastures to abate runoff of nutrients to receiving waters; 2) assist poultry producers with developing and implementing nutrient management plans; and 3) provide land treatment methods to address

pesticide/nutrient rich runoff water. Land owners and land users receive education, planning, technical and financial assistance to implement best management practices (BMPs) such as handling, storing, and utilizing animal waste - primarily from poultry and beef cattle production.

Eighty-eight poultry operations with 2.25 million broilers and 90,000 layers are in the Duck River Watershed. Most poultry operators are also cattle operators because of the availability of chicken litter as fertilizer for their forage grasses. As environmental regulations are increased, the phosphorus content of the chicken litter becomes a limiting factor in its use as fertilizer. This represents a major challenge for the farmers in the watershed, - to find alternative methods for waste disposal. More than 62% of the poultry farmers in the

watershed have received technical or financial assistance to address waste management concerns. Cost share programs have resulted in nine dry stacks and 37 dead bird composters being constructed.

In order to help reduce the excess amount of accumulated litter, a project will be developed to facilitate the marketing and eventual removal of a substantial quantity of the product in the Duck River Watershed. This will be accomplished through the development of a composting project that adds value to the product. Currently, raw litter is worth as much as regular composted litter when used as fertilizer on pastures and row crops. If a stable formulation can be produced with a carbon source, this will add market value and make it more attractive for purchase by gardeners, landscapers, golf courses, and sod farms.

Approximately 160 cattle operators have 8,485 beef cattle and 700 dairy cattle. The project assists landowners to limit the livestock's access to water sources. In the past farmers cut the vegetation from stream banks to "clean up" the stream side and allow unobstructed access for cattle. Removal of the protective vegetation results in stream bank erosion. In addition, cattle access to cleared or un-cleared stream banks resulted in physical damage to the banks, the further loss of protective vegetation and the deposition of manure in the streams.

The Cullman County Soil and Water Conservation District has a very active and ongoing Conservation Education program in the public and private schools in the County. Among the programs presented, several have involved children who live within the Duck River Watershed. The program has presented a demonstration of the watershed model, Enviroscape, to a class of twenty-four fourth grade students within the watershed. Several more programs have been scheduled throughout the school year.



The project will continue to promote BMPs in the watershed through personal contacts with the land-users. Through education, farmers, municipal officials, homeowners, foresters and students may play an essential role in protecting the Duck River Watershed today, and for future generations.

Lead Agency: Cullman County Soil and Water Conservation District,
Natural Resources and Conservation Service

Funding: EPA 319: \$471,230 **Matching:** \$313,820

Project Location: AL, Cullman and Blount Counties

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