

## Riparian Enhancement and Stewardship Forest

Munnell Run Farm is an active participant in the Forest Stewardship Program. The program is a voluntary one that helps forestland owners manage their land to meet their goals while sustaining the ecological integrity of the land. The program has been in service in all 50 states since 1990 and is funded by the USDA Forest Service. In Pennsylvania, the Department of Conservation and Natural Resources Bureau of Forestry administers the program and provides technical assistance to participating landowners.

Munnell Run Farm has been participating in the Forest Stewardship Program since 1996. In 1996, Conservation District staff began developing a Forest Stewardship Plan by conducting an inventory of the forest resources available at the Munnell Run Farm property. The overall goal at the onset of the planning was to develop a management strategy to protect and enhance water quality, provide wildlife with food and cover, and utilize the features of the landscape to provide both a source of future income and avenues to educate land owners about forest sustainability. As a result of the inventory, the farm was broken into eight distinct management units based on cover, species diversity, soils, and relationship to surface water.

Over the years, the plan served as a guidance document to implement key soil and water conservation initiatives. To date, six of the eight management units described have been fully addressed through hands-on management. Highlighting those areas are the existing 10-acre woodlot, 10.3 acres of forested riparian wetland complete with livestock exclusion fence and cattle crossings, and approximately 18 acres of planted hardwood tree plantation. Approximately 12,000 board feet of lumber were harvested in 1997 from the 10-acre woodlot as prescribed in the plan. The logging was done by horses to minimize adverse impacts on the soil and the root systems of the remaining trees within the woodlot. The logging was done to accomplish two goals: showcase sustainability through biodiversity and economics, and establish a shrub layer within the woodlot to obtain regeneration while a seed source was still present. This was done by harvesting a portion of the mature trees, leaving others to provide seeds for future tree development. Through this management the woodlot will be able to be harvested again approximately 15 years after the last logging, providing a source of operating revenue. Also, the plan prescribed the planting of a hardwood tree plantation. Eighteen acres of hardwoods such as red oak, black cherry, ash, tulip poplar and maple have been planted on 10 ft X 10 ft spacing with “straightening trees” in between. As a silvicultural product, these trees are destined for the timber market upon maturity. Finally, according to the plan, 10.3 acres of forested riparian buffer have been established focused on excluding livestock from the stream known as Munnell Run, which bisects the property. Cattle crossings are integrated into the livestock exclusion fence and facilitate the movement of cattle from pastures and feedlots on the east to those on the west. The northern portion of the riparian zone was completed in 1992 and the southern portion followed in 2000. Research at the farm indicates that phosphorus and fecal coliform were reduced 40% and 60% respectively within 14 months of establishment of the northern riparian zone. In addition to these chemical water quality improvements, stream banks have stabilized and the trees and vegetation help maintain a more consistent temperature in the stream

ecosystem through shade and evaporative cooling. The Forest Stewardship Plan developed for Munnell Run Farm has directed our conservation management and met our educational, economic, and environmental goals. For more information on the Forest Stewardship Program contact the USDA Forest Service. Interested Pennsylvanian's may discover more about this program at the following link: <http://vip.cas.psu.edu>

INCLUDE THESE PICTURES: FILES ARE ATTACHED



DCNR Bureau of Forestry Service Forester Mark Bodamer shows onlookers the history stump in the 10-acre woodlot



Earth Day program participants help increase biodiversity at MRF by planting trees in the forested riparian buffer