

LACKAWANNA COUNTY OVERVIEW

Lackawanna County consists of 465 square miles. It was created in August 1878 from a portion of Luzerne County. It was named for the Lackawanna River, an Algonquin Indian word meaning where the streams meet. This is the heart of the northern anthracite coal field. Lackawanna County is a third class county with population of 215,000.

Anthracite coal and manufacturing dominated the economy from 1880 through 1930. The depression and alternative fuels forced most of these companies out of business. Subsurface coal mining ended in 1959. Today tourism, recreation, and service industries have replaced mining as basis of the economy.

During these periods agriculture played a vital role in the economy. In northern and central Lackawanna County, land use was almost completely devoted to agriculture. The City of Scranton was home of several large wholesale markets for vegetables grown in the Susquehanna River Watershed as well as several dairy processing plants that received milk from hundreds of dairy farms throughout the County.

Today vegetable and dairy are still a big part of agriculture production as well as a big shift to beef and horse facilities. Dairy is shifting to larger more modern facilities; smaller 40-50 cow herds are giving way to 100-300 cow dairies. Large vegetable farms and more recently Christmas tree farms are also finding success in the region.

Beef production is on the increase due to education in grazing, advancement in fencing as well as management and marketing techniques. Agricultural recreation has grown the fastest due to our proximity to New York City, and horse boarding and training are filling the pastures where dairy cows once grazed.

Lackawanna County has more new farmers or agriculture enterprises in the last 10 years than in the previous 30 years. To date, we have no identified CAO's and have an Ag Security Area of 21,364 acres in eight townships. There are 2,000 + acres under Ag Easement.

WATER RESOURCES AND QUALITY

Three main watersheds in Lackawanna County contribute to the Chesapeake Bay: Tunkhannock Creek Watershed, Lackawanna River Watershed, and Gardner's Creek Watershed. PA Code Title 25 Chapter 93 Water Quality Standards classifies the Tunkhannock Creek and its tributaries as CWF (cold water fisheries) or TSF (stocked trout). Gardner's Creek is included on the PA Fish and Boat Commission Wild Trout List. The Lackawanna River and its tributaries have classifications that range from EV – CW (Exceptional Value – cold water fisheries) to WWF (warm water fisheries) due to the diverse land use ranging from past mining activities, urban centers to large areas of forested land.

Various streams within the Lackawanna River Watershed are identified on the states 303(d) list of impaired streams requiring TMDL's. The Lackawanna River and its tributaries impacts have been listed as impaired due to abandoned mine drainage/siltation thermal modifications, road runoff, and urban runoff/storm sewers/siltation. The Tunkhannock Creek and its tributaries have impairments listed as municipal point source, organic enrichment, suspended solids, and mercury.

The Lackawanna County Conservation District completed a biological assessment of the Lackawanna River in 2011. In 2012, section 7 of the Lackawanna River was upgraded from High Quality to Exceptional Value by PA DEP and from Approved Trout Stream to Class A Wild Trout Stream by Pa Fish and Boat Commission.

These efforts to monitor, maintain and improve water quality continue with additionally planned stream assessments and improvement projects, working toward the goal of continually improving water quality in the Chesapeake Bay Watershed.

CURRENT PROGRAMS

NUTRIENT MANAGEMENT PROGRAM

CHESAPEAKE BAY PROGRAM

Since the beginning of the program in Lackawanna County many things have changed including number of farms, type of farms, engineering support on the area level (NRCS), funding from Chesapeake Bay for BMP's, as well as emphasis on different management practices.

Lackawanna County Conservation District has always focused on treating all water quality problems on Chesapeake Bay contract farms. Most of the time more than one program was combined with the bay program to complete the project. As funding has disappeared in the bay program we have utilized BMP money from many other programs in the bay watershed and have focused on soil quality education, no-till, composting, grazing, soil testing, and cover crops. Funding has been provided by farmer contribution, bay administrative money, 319 grant money, and District and University in kind contribution. We have spent an average of \$45,000 per year (bay funds) on BMP's for the last 15 years along with other program money to total over 1 million dollars spent on bay projects in Lackawanna County. Since 1990, administrative money from our program has been spent on education, research, and demonstration in an effort to improve soil quality, improve crop yields, and better utilizes nutrients which have lead to cleaner water leaving our farms.

As part of the Chesapeake Bay Program, the Bay Technician will perform Education Outreach visits to inform the farming community of any and all requirements for Chapter 91 Manure Management, Chapter 102 Erosion and Sediment Control, Act 38 Nutrient Management Law, etc. to ensure compliance. The goal of the District is to visit at least 250 farms, which is close to the total number of farms in the county, by June 30, 2014. The District is committed to helping Lackawanna County farmers maintain compliance with regulations applicable to their operation, and help them meet the goals set forth by the Chesapeake Bay Program.

GRAZING PROGRAM

The soils, climate, and topography of Northeast Pennsylvania favor grass production and grazing. Since the 1990's grazing programs have been incorporated into many of the Chesapeake Bay landowner contracts of Lackawanna County. However, today more than ever as agriculture in the region shifts towards operations such as beef cattle production, horse farms, and "hobby farms", we must be willing to dedicate our focus towards improving management on these types of operations. With systems such as portable watering systems, rotational grazing, stream fencing, and conversion of unfavorable lands from sparse crop production to beneficial grazing land, we can continue our efforts to reduce Lackawanna County's effect on the Chesapeake Bay Watershed's water quality.

NO-TILL/SOIL HEALTH PROGRAM

The Lackawanna County No-Till Program provides an opportunity for farmers to experience no-till and its environmental benefit on their own farming operation. The program has always been a high priority; administered by the bay technician. No-till forage, cover crop, summer annuals, fall/winter grains and lately a surge of wildlife food plots keep the no-till seeder busy for the better part of 6 months a year in Lackawanna County as well as three neighboring counties.

In recent years, thanks to grants and tax benefits along with the great success of the no-till program, farmers have been encouraged to purchase their own no-till seeders and planters. Due to a reduced demand for rental equipment from the District, a no-till corn planter and seeder were sold to local producers for their continued use in production. Despite this, the district is dedicated to providing continued education and technical advice on no-till, soil health, and cover crop use. The District still has one no-till seeder for hay and cover crop seeding for our farming community to utilize.

We have found that the no-till program is one of the best ways introduce Nutrient Management or to help farmers understand, review, and follow their Nutrient Plan. It is an opportunity to check on starter fertilizer rates, soil tests and real yield potential on given soils. As a result of this program there has been many tons of fertilizer saved from possible runoff into local waterways.

In addition, the District remains committed to our soil health program. As water quality is directly related to soil health, education on the topic is essential to the continued effort to reduce sedimentation and nutrient runoff into the Chesapeake Bay. Upon request, landowners can receive a soil health analysis at minimal cost to determine what management needs may be necessary to improve soil health and decrease runoff into the bay. Along with this, educational workshops and meetings will continue our efforts to increase awareness and help improve soil health in Lackawanna County.

In order to continue paving the way in the soil health field, the District will be rolling out a new program to stimulate additional use of no-till and cover crops. By providing incentives such as free seeder use, cover crop seed, and/or discounted seeder rental rates, the District is committed to providing farmers with a cost effective way to impact change on their operation. In addition to these incentives, the District will also host several workshops at no cost to the farmer to learn about the benefits of cover crops and no-till planting. This program will be administered by the Bay Technician and will serve as just one prong in the overall plan to help improve water quality both in Lackawanna County and the Chesapeake Bay Watershed.

DIRT & GRAVEL ROADS PROGRAM

The Lackawanna Conservation District has been involved with the Dirt & Gravel Roads Program since 1998. During our involvement with the program twenty-six projects have been completed at sites in eight municipalities throughout the county. Currently, the Conservation District receives \$29,000 a year from the State Conservation Commission to administer the program. The program's primary goal is to reduce the potential of sediment pollution generated on dirt & gravel roads from adversely effecting nearby water courses and ultimately the Chesapeake Bay. Among the major milestones Lackawanna County's program has accomplished is the stabilization of nearly 300,000 square feet of previously eroded roadway and ditches in our Chesapeake Bay Watershed.

Since the State Conservation Commission has pledged the program will be non-lapsing, we expect to continue our involvement with it in the future and there are two project sites in the county currently under contract. One limiting factor in regards to the amount of work that can be accomplished is the District's allotment from the State Conservation Commission. Provided with additional funding, the District could see more projects through to fruition.

EROSION AND SEDIMENTATION CONTROL PROGRAM – CHAPTER 102 – NPDES

Construction land development, and earthmoving projects continue to impact the Chesapeake Bay Watershed in Lackawanna County. In the past four (4) years Conservation District activities focused on reviewing an average of 180 E&S plans per year for Best Management Practices intended to minimize erosion and sediment pollution to the Chesapeake Bay. Annually 60 inspections of earth disturbance sites are performed by District personnel to insure BMP's are installed to protect the Chesapeake Bay. Approximately 550 acres of new earth disturbance is planned yearly. Technical assistance and training on E&S issues were provided to 1,130 individuals annually. Since 2007 under the NPDES Phase II Program 142 post construction stormwater management water quality plans have been developed which will provide added water quality benefits to the Chesapeake Bay.

In the next five (5) years the Conservation District Strategy is to continue implementing a Chapter 102-NPDES Program in the Chesapeake Bay Watershed. We anticipate E&S plan reviews to remain constant at 180 plans with projects shifting to infrastructure improvements and small business improvement. Barring any new staff increases, compliance inspections should also remain at 60 annually. 180 new PCSWM plans and associated BMP's are anticipated in the next five years.

WATERSHED SPECIALIST PROGRAM

One of the top priorities of the District's Watershed Specialist has been to educate the public on the importance of preventing Non-point Source (NPS) Pollution. Runoff that occurs during rain events and snow melt carry with them such things as excess fertilizers, herbicides, and insecticides from agricultural lands and residential areas, oil, grease, and toxic chemicals from urban runoff and energy production, sediment from improperly managed construction sites, crop and forest lands, and eroding streambanks, just to name a few. Educating the public on ways they can actively reduce their impact will help in reducing water pollution in the Chesapeake Bay. In the past few years the district has used the Enviroscope® and documentary films to educate both children and adults on this important subject. In addition, a biological survey has been conducted on the Lackawanna River in order to understand how and where the river has been negatively impacted so that we can work toward minimizing NPS pollution.

The District has been working and will continue to work with local watershed and conservation groups to support their programs. Our local chapter of Trout Unlimited offers a Teen Explorers Program and the District has been actively involved with their activities such as macro-invertebrate surveys and environmental education. We have worked with the South Branch Tunkhannock Creek Watershed Coalition on water testing and invasive species eradication. The Lackawanna River Corridor Association holds a river fest every year and the District has continually supported this event.

The District offers extern positions, throughout the year, for students currently studying environmental science, biology or other related fields. Externs will be able to hone their skills in water sampling/testing, environmental education/outreach, grant writing, program development and other related interests.

The District also offers volunteer opportunities for anyone interested in helping to protect or natural resources.

The District will continue to support these activities along with some new ones such as Fish Printing for children and Wildlife Education for both children and adults. We are currently making an effort to obtain funding for a stream bank restoration project. We will continue to make NPS Pollution a priority and will work toward educating the public on these and other important environmental issues.

REMAINING AND FUTURE NEEDS

Lackawanna County needs to maintain every program that is in our toolbox including E&S, Dirt & Gravel Roads, Act 38, Watershed Specialist, etc. Most of all, we need to be flexible to the changes of these programs due to funding, priorities, etc.

Act 38 and NRCS Programs along with Growing Greener all provide BMP Project money to the Bay Watershed in Lackawanna County. We need to provide quality assurance, education and assistance to landowners on how to best utilize their nutrient plans, conservation plans, and those BMP's that have been installed.

The Chesapeake Bay Technician needs to be continually updated on all aspects of Ag Production in order to be able to communicate and maintain a productive relationship with the farming community. Historically, NRCS has had to give bay projects a low priority for engineering I&E and quality assurance time. This situation in what led to the engineering assistance positions in the Bay Program. As long as Bay Technicians are in the field there is going to be need for Nutrient and Ag Waste Management Plans which will include BMP's requiring engineering.

Fortunately, for Lackawanna County we have a Bay Engineering Assistant on our staff. His door has been open to any and all programs in the bay watershed (i.e. Ducks Unlimited, Growing Greener Projects, local conservancy projects, special watershed projects, etc.). He has served as educator, surveyor, designer, and quality assurance monitor. This position is essential if we expect to meet our goals.

We will not be able to address our waste management systems without engineering staff. NRCS has added many programs as well as assumed technical responsibility for many other programs; Ag related or not. Therefore, they have very limited capacity to meet our engineering needs.

In this county the Chesapeake Bay technician and engineering assistance have played a key role in inventory & evaluation, survey & design, quality assurance, and follow up on all Ag projects in the bay watershed and will need to continue in the future.

Moving forward, the District will emphasize no-till and cover crop use, streambank protection, nutrient management, stormwater control, and pasture management as crucial BMP's for Lackawanna County. These practices are not only cost effective, but have a high environmental impact as they focus directly on water quality in the region whether it is keeping cattle out of ponds and streams or decreasing runoff from barnyards or crop fields.

In addition to the 5 crucial BMP's we plan to emphasize, the District will also look towards practices such as wildlife habitat and forage development, manure storage, barnyard improvement and stabilization, and rotational grazing systems and work towards the introduction of new, cutting edge systems and technologies in the County.

TRIBUTARY STRATEGY OF LACKAWANNA COUNTY

The Chesapeake Bay Strategy will evolve from programs and strategies of the past as follows:

Tech Education: The Chesapeake Bay Technician will maintain the highest level of training possible in all aspects of production agriculture including seed varieties, weed control, plant and animal health issues, latest cultural practices, etc. Knowledge of the agricultural business is essential to gaining trust and respect in the farming community.

Resources

- Ag Education Society Programs
- PA Forage & Grassland Program
- PA Corn & Soybean Grower Program
- PSU Extension Programs
- National No-Till Program
- PA Agronomy Guide
- Ag Progress Days
- PA Farm Show

Expected Result: A better acceptance of ourselves and our programs. We should be better equipped to understand and address the client's issues which should lead to more cooperation in addressing water quality issues with the landowner.

Cooperator Education: The Lackawanna County Conservation District will continue to provide educational field days, meetings, and programs, as well as meetings for contractors who provide work on bay and other projects related to water quality. These meetings have been and will continue to be on a multi-county basis in cooperation with and not exclusive to the District, NRCS and PA State Extension Service.

Resources Needed: Funding for these programs have become self sustaining. Registration fees have been covering most of the costs. Bay administrative funds have been used at times to cover educational materials. Motivational speakers with cutting edge knowledge on the topics are key to farmer participation and willingness to attend.

Expected Results: We expect our following on these topics to continue to grow as it has over the years and improve water quality through education.

NO-TILL/SOIL HEALTH PROGRAM

The No-till/Soil Health Program in Lackawanna County is another self sustaining program which is coordinated and managed by the Bay Technician. Profits from this program are small, but the benefits to water quality are huge. We will continue on with our no-till, cover crop and wildlife seeding. This program will continue to link the farmer to an annual review of his nutrient plan, conservation plan, soil tests, and soil health report card, while improving water quality, soil quality, and the farmer's overall bottom line.

With the introduction of the new No-till/Cover Crop Incentive Program, additional tech support will be required as more farmers will look to the District for advice on cover crop use. Both one-on-one advice and workshops will help accomplish this task. Also, financial support will be required, to cover the costs of seed provision, equipment maintenance, transport costs and loss of rental fees for the District planter.

Resources Needed: In the past, the program has been self-sustaining with seeder rental rates covering the costs of maintenance, transport, storage, etc. However, with the new program, funding will be required to purchase seed, cover lost rental rates, and provide funding for any repairs, transport costs, etc. that increase due to higher seeder demand.

Expected Results: We expect this program to grow as farmers realize the benefit of no-till and soil health improvement through the use of cover crops. Through both the use of technologies and workshops aimed at informing the farming community, the District hopes to continue pioneering change for the region.

GRAZING PROGRAM

There has been an established Grazing Program in Lackawanna County for over 10 years. Our emphasis in the future will be more on beef and horse owners, breeders, and trainers. They are a new and fast growing industry hungry for knowledge on forage production, grazing and grass species. They seem to lack an understanding of soil erosion, stocking rates, and nutrient management. We are going to introduce them to our grazing program through education and meetings in the hope they will follow along with grazing, soil health, and water quality recommendations.

Resources Needed: An understanding of the horse business from the ground up so we can incorporate our program in a way that is acceptable to the day to day operation.

Expected Results: We expect to expand our grazing acres on beef and dairy operations, improve grazing practices on all farms, and initiate a special program for horse operations over the next two years.

OTHER PROGRAM STRATEGIES

The CBP Technician will continue to provide quality assurance on a future projects thru the Environmental Quality Incentives Program, Agricultural Management Assistance, Conservation Reserve Enhancement Program, ACT 38 Nutrient Management, or special watershed grant money, in the Bay Watershed. The CBP Technician will provide Nutrient Management Plan updates, soil tests, compliance checks, and education to all of the bay program cooperators in Lackawanna County with a special emphasis on installation of stream bank fencing, buffers, no-till and cover crops regardless of the program origin.

Resources Needed: Of course, for the traditional BMP's that come with waste management plans comes the need for engineering assistance. The Chesapeake Bay Engineering Staff have always provided Lackawanna County with professional timely service. However, with NRCS providing our engineering assistance, our concern will be for engineering time due to growing programs and shrinking staff.

Expected Results: The District realizes that our goals will be difficult to achieve. Funding cutbacks are a real impediment. Regardless, the District is committed to carrying out such projects and programs through the use of alternative funding. Funding such as Growing Greener Grants and through organizations such as U.S. Fish and Wildlife, Ducks Unlimited, Trout Unlimited, private conservation organizations and foundations and many others could provide funding for projects within the County.

Fortunately the programs previously discussed in this strategy, which are already in place and managed by the Bay Technician staff require very little outside resources. These programs are very sustainable on their own and compatible with all other programs in our tool box. Because of these personal contact involved with landowners we expect they will understand our goals and provide the cooperation needed to meet them.