

# Annual Report 2018



# Our Mission:

To promote the economic viability of agriculture and forestry, the protection of water quality, and the conservation of working landscapes through strong local leadership and sustainable public-private partnerships.

Thank you to our collaborative partners: Delaware County Soil and Water Conservation District, Cornell Cooperative Extension of Delaware County, Cornell Cooperative Extension of Greene County, United States Department of Agriculture Natural Resources Conservation Service and the United States Department of Agriculture Farm Service Agency.

The 2018 Annual Report is a publication of the Watershed Agricultural Council, a nonprofit 501(c)3 organization. The Council is funded by the New York City Department of Environmental Protection, U.S. Department of Agriculture, U.S. Forest Service and other sources. The Council is an Equal Opportunity Provider and Employer. This issue is printed on environmentally friendly recycled paper.



## 25 Years of Building Trust, Establishing Commitment and Maintaining Relationships

This year marks the 25th Anniversary of the Watershed Agricultural Council (WAC), incorporated in 1993 to become the coordinating entity to implement watershed protection programs on farm and forest land. Regional partners, local businesses, landowners and the City of New York helped to create a unique organization that has been a model of success for watershed management worldwide. Started as the solution to proposed mandated regulations that would have put most area farms out of business, the WAC has grown to include a Forestry Program to help loggers and landowners harvest and care for their woods, a Conservation Easement Program to help farm and forest landowners sell the development rights to their land while retaining ownership, and an Economic Viability Program to help expand marketing opportunities to the region's producers.

In 1993, a seemingly overwhelming responsibility was placed on the shoulders of board members to begin implementing pilot water quality programs. If deemed successful, this responsibility would lead the organization down a path that would require further obligation and landowner commitment. As we look back at what created this success, we can directly point to the three basic tenets that were the basis of the agricultural program from inception. The programs must be voluntary, fully funded, and locally-controlled to create buy-in for watershed participants.

Our innovative science-based approach to agricultural best management practices and source water protection has become an international model. Time and again we are asked, how do we get private landowners to participate in a voluntary



Craig Cashman and Brian LaTourette discussing WAC's programs with Tom Ormesher of England in July. Tom is the National Farmer's Union South East Environment and Land Use Advisor.

program and why do they continue to participate? Our response may be simple, but the vital work of our staff is not. We have spent the last 25 years working with farmers building trusting relationships, advocating for the needs of both the participants and the land, and educating the landowner on how our practices will benefit the landscape and in turn their bottom line.

Our regional partnerships have played a key role in the success of those efforts. An all-inclusive approach to planning and implementation with various water quality and agricultural agencies working together. Delaware County Soil and Water Conservation District, the United States Department of Agriculture Farm Service Agency, National Resource Conservation Service, Cornell Cooperative Extension of Delaware County, and the New York City Department of Environmental Protection all working side-by-side. Each of these organizations provided a combination of funding, professional skills, expertise and a

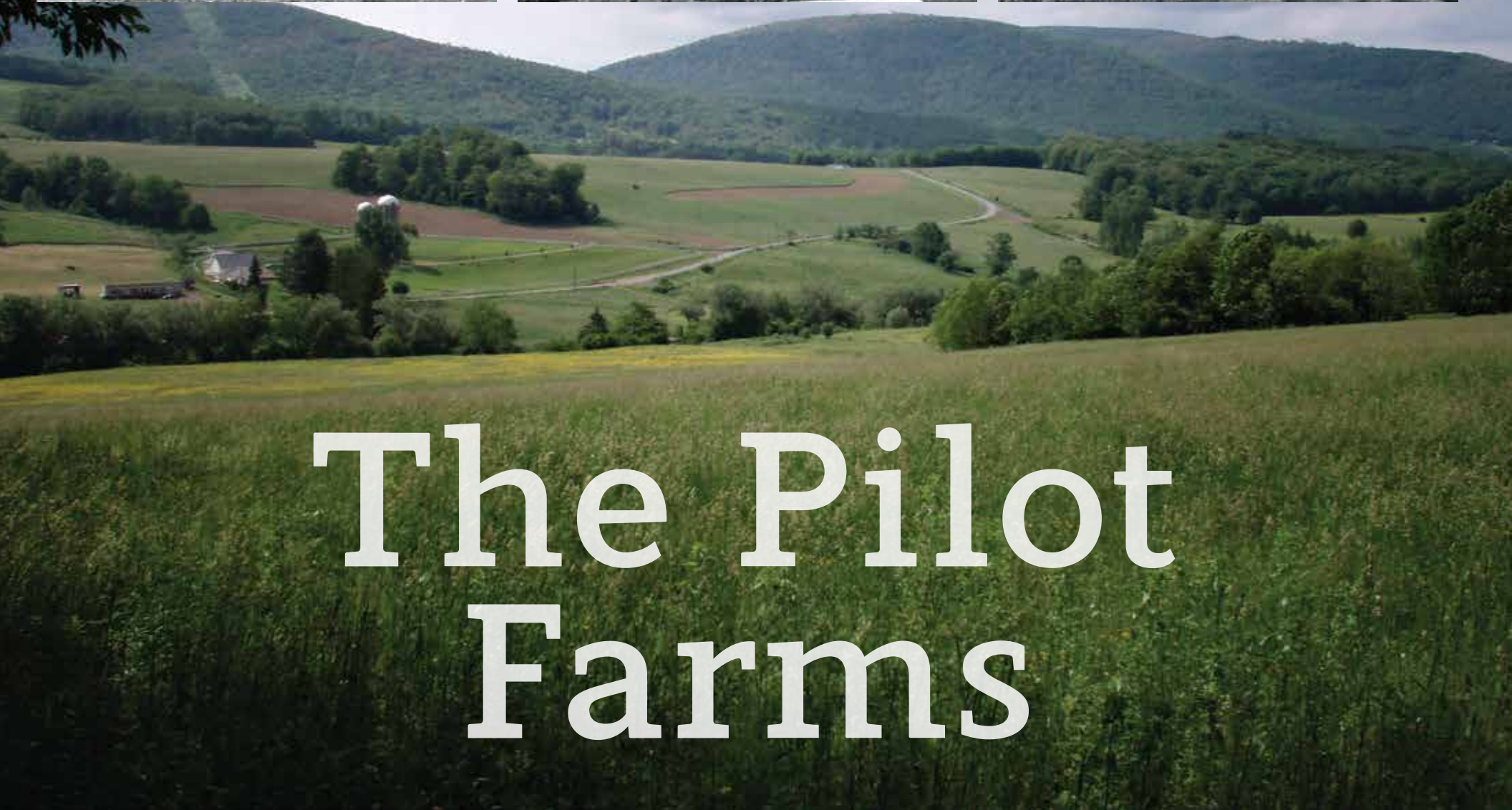
pledge to protect the economic needs of the region with the implementation of water quality programs.

We wish to thank all of our program participants and each of our partners for their determination, trust and commitment over the last 25 years. We look forward to the future and continuing our joint efforts of working together balancing economic viability and water quality for many years to come.

—Craig Cashman,  
Executive Director







# The Pilot Farms



## Where it All Began



Developing a successful partnership requires a common understanding. In the case of the Watershed Agricultural Program, this understanding began in September of 1990 when New York City issued a discussion draft of proposed revised watershed regulations. Concerned that the proposed regulations would force the region's farming industry out of busi-

ness, dairy and livestock farmers solicited help from various local, state and federal agencies. This led to the formation of an Ad Hoc Task Force on Agriculture and New York City Watershed Regulations.

The Ad Hoc Task Force met for a year to explore non-regulatory alternatives for protecting New York City's water supply while sustaining the economic viability of farming, which is the preferred land use. In December 1991, watershed farmers and NYC agreed to develop a city-funded program that would be based on voluntary participation, local leadership and the best scientific understanding of pollution prevention.

Phase I tested and demonstrated Whole Farm Planning on 10 pilot farms, using specialized best management practices (BMPs) based on scientific research. NYC invested \$4 million through its Department of Environmental Protection (DEP) to sup-

port Phase I from September 1992 through September 1994. This Whole Farm Planning process, developed jointly based on Cornell University research and local field experience, was tested on these 10 pilot farms based geographically throughout the entire West of the Hudson watershed on a diverse selected set of agricultural enterprises.

Phase II began in October 1994, when NYC committed an additional \$35.2 million to expand Whole Farm Planning beyond the 10 pilot farms to include at least 85% of the 440 large farms in the watershed at that time.

Since the initial work was done on the pilot farms, the program has grown tremendously. Today, nine of the farms are still involved in an agricultural business of some kind. Some have expanded their operations to producing value added-dairy, some have

transitioned to beef, others largely focus on hay and crop production, and some are still traditional dairies 27 years later. The commitment to conservation that these farms, and countless others, have demonstrated over the years is truly impressive.

We want to thank our pilot farms as we celebrate 25 years, without them we wouldn't be where we are today!

### THE PILOT FARMS INCLUDE:

Crystal Falls Farms (George & Barbara Dean), JJ Farber Farm (John & Jack Verhoeven), Byebrook Farm (Paul & Gwen Deysenroth), Deerfields Farm (Jim & Barb Robertson), Green Heart Dairy (George & Gail Hillriegel), Proud Meadow Farm (William Proudman), Suz-Way Farms (Wayland & Suzanne Gladstone), River Haven Farm (Tom Hutson), The Menke Farm (Paul & Candice Menke), Sydetta Farm (Scott & Bruce Rasmussen)



**\$3.8<sub>M</sub>**  
BMP Budget

**19**  
Educational  
Events

**266**  
Active Farms

**152,000**  
Acres



# Agriculture



# A Science-Based Approach to Watershed Management



Management Practices (BMPs) including Nutrient Management, Agronomic BMPs and Precision Feed Management Programs. Realizing a multi-faceted approach to management was key to soil health and farm waste management.

In 2018, increased participation in the Nutrient Management Credit Program helped 132 farms earn monetary credit for following their prescribed plans for handling manure. 15 farms used this credit for liming fields, which will yield a higher return in crops in the following season. In all, 2,030 tons of lime were spread on 462 acres. 48 farms are currently enrolled in Precision Feed Management, helping manage the nutrients and forages the cows are eating to increase production while reducing phosphorus output.

This year, cover crops were a key

focus in Whole Farm Plans, with revisions done to add cover crop BMPs to 39 farms. Establishing a growing cover on fields year round protects water quality by reducing soil erosion, retaining nutrients and improving soil health. In an effort to get more acres of cover crops planted in a short time, a pilot project was done utilizing a helicopter to seed rye into standing corn fields. In two days, 78,000 lbs. of rye seed were broadcasted over 713 acres on 11 farms. As a turnkey operation, JBI Helicopter Services provided the seed, equipment (including a helicopter, two tractors and three trucks with trailers) as well as the personnel needed to complete the project. The seed was applied into standing corn at a rate of 110 lbs./acre using a hopper that hung below the helicopter and was controlled by GPS navigation. The

rye seed germinated quickly with the abundant moisture this fall, and as the corn was harvested, ideally within 2-3 weeks, the growing cover crop was already established and growing. The success of this pilot project is being monitored through the fall and into the spring to evaluate how well it works and if it can be utilized on more watershed farms next year.

The Ag Program is continually adapting and looking for more effective ways to serve our farm participants and our watershed. We look forward to the next 25 years of agriculture in the region, and are prepared to serve our farming community as we continue to avoid filtration by utilizing this voluntary system of programs developed over the years by the dedication of board and staff alike.

The Watershed Agricultural Council has worked since the first pilot farms participated in 1991, to be a leader in an agricultural science-based approach to watershed management. The program started with a “bricks and mortar” approach to BMPs on farms and has grown to an intensive management based Best





15,400

Acres Enrolled in  
480a Forest Tax Law

130

Miles of Logging  
Roads Stabilized

33

Forest Stewardship  
Projects Completed

210

Acres of  
Watershed Forests

# Forestry

A yellow logging skidder is shown in a forest, moving large logs. The skidder is positioned in the center-left of the frame, with its front end facing the viewer. It is pulling several large logs, which are visible in the foreground and middle ground. The forest is dense with tall, thin trees and a thick canopy of green leaves. The ground is covered in dirt and fallen branches. The overall scene depicts a logging operation in a forest.



## The Future of Logging in the NYC Watershed



Every year the WAC Forestry Program uses technical assistance and cost-sharing to help Watershed loggers install water quality protection measures called Best Management Practices (BMPs) on timber harvests in the Watershed. Until recently, however, we had no way to gauge

our impact with loggers. Unlike farms that generally don't change location, loggers move vastly throughout the landscape. And unlike some other states, New York has no system of timber harvest notification that requires landowners or loggers to alert the state before they log. Lacking such a system, we had no way of knowing how much logging was happening in the New York City Watershed, the extent of its threat to water quality, or how effective our programs were at reducing water pollution from logging.

That changed in 2017, when we learned about a computer program called Feature Analyst that can use aerial photographs to find the small gaps in the forest canopy created by logging. We set out to use Feature Analyst to get an idea of how much

logging occurred in the Watershed over the previous years.

This project revealed, for the first time ever, the scope of logging in the New York City Watershed. We learned that the Watershed has 183 timber harvests on private lands annually, covering an area of 7,092 acres. This area represents 1.25% of the Watershed's private forest cover, a level of harvesting that should allow for a sustained yield of timber over time. Our logging BMP cost-share program works on 45 of these harvests annually, or 25%. However, the program works primarily on larger harvests, so 40% of the harvested acres occurred on logging jobs where we funded BMPs.

We also learned that the cutting of trees specifically is not a water quality threat to New York's water supply. Nearly all acres

logged were light harvests (93%), meaning loggers removed less than 50% of the canopy. Almost no logging (5% of harvested acres) occurred within 100 feet of a stream, and 96% of that logging was light. This is good news for water quality, because previous research in the Watershed has found that when canopy removal is less than 50%, increases in common water pollutants like nitrates are minimal and short term. Only when intensity increases beyond 50% do those increases become significant and long lasting. That said, the systems of roads and trails loggers use to remove timber from the woods can still cause water quality problems even on light harvests, so we plan to expand our efforts to help loggers install more BMPs on those trails in the future.





1986



### FEDERAL SAFE DRINKING WATER ACT

Filtration required for surface drinking water supplies.

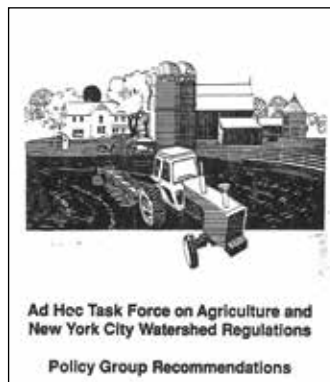
1990

### NYC DEP PROPOSES WATERSHED REGULATIONS

- Livelihood of Farmers at risk
- Agencies conduct Outreach Meetings
- Ad Hoc Policy Task Force Formed



1991

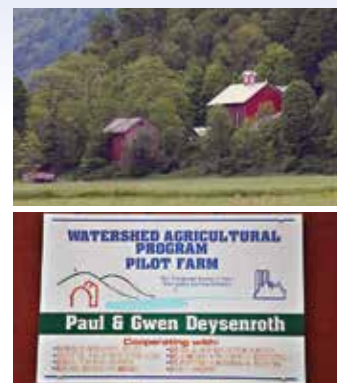


### COLLABORATION

#### "Brown Book" Establishes Program Guidelines

- NYC DEP agrees to pay 100% BMP cost to avoid filtration
- Protects farmers from expensive and unnecessary regulation

1992



### 10 PILOT FARMS STARTED

#### Phase I Begins

- Develop, Test, Evaluate, Demonstrate, and Promote Whole Farm Planning process
- Environmental Review Problem diagnosis developed, uses multiple barrier approach

1994



### IMPLEMENTATION

#### Phase II Begins –

- Program Goal – 85% farms participating
- Planning Goal of one Whole Farm Plan/month per team
- Cost Guideline developed
- Adoption of USDA standards

1993



### INCORPORATION OF WAC

#### EPA Grants NYC a Waiver of Filtration

- Requires implementation of "Brown Book" Guiding Principles
- Required Funding of Watershed Agricultural Program
- Regulations developed for non-agricultural sources

1996



### FORESTERS LOG ON

- The Green Book/Forestry Program established
- BMPs used to train foresters and loggers in preventing non point pollution

### ECONOMIC VIABILITY AND OUTREACH PROGRAMS STARTED

1997



### NYC MEMORANDUM OF AGREEMENT

#### Filtration Avoidance Determination Goals Restructured

New Goals for:

- Commenced Implementation
- Substantially Implemented
- Annual Status Reviews

### EAST OF HUDSON PROGRAM STARTED IN THE CROTON WATERSHED

1998



### AGRICULTURAL CONSERVATION PROGRAM

- To enhance addressing
- 85% farms achieved

2000

# 25 Years of Supporting



## GREEN CONNECTIONS

NYC/Watershed Classroom partnership established

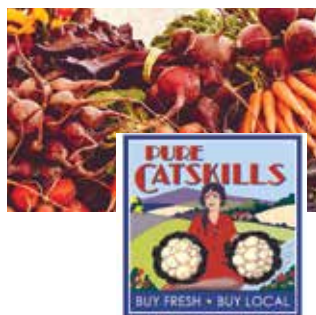


## AGRICULTURAL CONSERVATION EASEMENT PROGRAM STARTED

### Program adopted

to enhance the program by  
installing stream edge barriers  
with a participation goal

2004



## PURE CATSKILLS BEGINS

- Pure Catskills Buy-Local campaign begins showcasing watershed producers
- The first *Pure Catskills Guide to Products* is published

2011



## REVITALIZED MISSION

The Watershed Agricultural Council strives to promote the economic viability of agriculture and forestry, the protection of water quality, and the conservation of working landscapes through strong local leadership and sustainable public-private partnerships.

2016



## \$43 MILLION CONSERVATION EASEMENT STEWARDSHIP ENDOWMENT

The endowment, which was funded by New York City, will be used by WAC to steward easement lands that are held by the council now and in the future.

## PRECISION FEED MANAGEMENT PROGRAM LAUNCHED

2018

## WAC'S 25TH ANNIVERSARY

- West of Hudson Agricultural Program has 266 farms covering 152,000 acres
- Easement Program has 28,800+ acres of farm and forest land protected
- 120,000 acres of managed forest land, 500+ miles of logging trails stabilized
- 300 Pure Catskills members
- 67 farms covering 10,500 acres in Croton Watershed
- \$255+ million spent in the NYC Watershed on farm and forest projects to date



2007



## PROGRAMS THAT WORK

New York City drinking water continues to meet national standards. The Environmental Protection Agency extends the Filtration Avoidance Determination another ten years, a testament to the successes of this international watershed model with urban/rural benefits.

2015



## FORESTRY EASEMENT PILOT PROGRAM LAUNCHED

Conservation Easement program to protect forest lands implemented.

## MyWoodlot website launches



2017

## NYC FILTRATION AVOIDANCE DETERMINATION RENEWED THROUGH 2027



# Supporting Working Landscapes



Business Plan  
Program Launched

**55,000**

2018-2019 Guide  
to Pure Catskills  
Products  
Distributed

Micro Grants  
Program Launched

**\$34,940**

Awarded to  
**11** Farms

**300+**

Pure Catskills  
Members

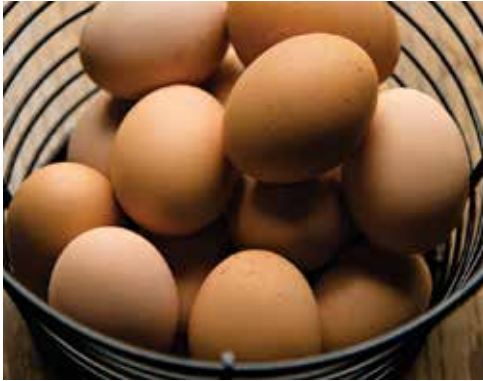
**15+**

Events  
Sponsored/Attended

# Economic Viability



## Enhancing the Profitability of Working Landscapes



One of the benefits of the Economic Viability Program is its ability to explore innovative methods for enhancing the profitability of the working landscapes of

agriculture and forestry throughout the region. This program has the ability to move quickly to meet the needs of our farmers, adapt to evolving trends in the agricultural community, and act as a source of support for our growing participant base. Because of this, 2018 has seen one of our largest strategic directional shifts to date.

We not only support the Pure Catskills buy local campaign, but for the first time this year, we developed and implemented a competitive micro-grants reimbursement pilot program for any farmer, logger, forester, forest landowner or Pure Catskills member with property inside the New York City Watershed. We also partnered with

the Center for Agricultural Development & Entrepreneurship (CADE) to financially support the development of professional business plans for watershed farm or forestry businesses in order to better position these business for improved economic profitability and sustainability.

The purpose of our shift this year is simple. We want to continue to strengthen and foster economic vitality in the Catskills Region by encouraging the implementation of activities that can enhance the economic viability of individual farm and forest businesses. The first round of grants were open from September 1–September 30, 2018. We are pleased to report that we

had 14 applications and approved \$34,940 for reimbursement activities that include training (continuing education) and marketing (branding, advertising, communications related to the marketing services). This is just the start of what our role is, not only internally at the Watershed Agricultural Council (WAC), but externally in what will be crucial for diversification, expansion, advancement in technology and much more for our participants into the near future.

This year marks 25 years of the WAC. Continued growth and success of the Economic Viability Program will continue to push us, this region and our participants into the next 25 years.





28,800  
Acres Closed

30+  
Reserved Rights

3,150  
Acres in Contract

# Conservation Easements



# Forestry Easements: A Critical Role in Conservation



to other land trusts in the region, as landowners retain ownership of their property and may continue to use it for agriculture and other activities. To date, 28,800 acres have been conserved through this program, allowing the landscape to remain in farm and forest production, helping the region sustain its economic viability.

Realizing that forest lands cover 78% of the NYC Watershed, and the critical role healthy forests play in the protection of water quality, the pilot program for Forest Conservation Easements (FCE) was launched in 2015. After years of developing the program, the first solicitation was sent out to 119 landowners covering 28,000 acres who currently had a WAC Forest

Management plan and were enrolled in NYS 480a Forest Tax Law. The parcels also had to be at least 100 acres in size.

In September of 2018, WAC closed on its first FCE of 210 acres. Another 2,300 acres are currently in contract, with an additional 500 acres in negotiation. In a short time, this program has been a great success in the protection of working forest lands from parcelization and development. Logging, bluestone mining and farming are among the 15 Reserved Rights all WAC Easement landowners retain.

The Conservation Easement Program has evolved over the years to meet the needs of the region's producers. Working with farm and forest families to keep their

land intact and in production is key to the region's success for the next 25 years and beyond.





67

Active Farms

10,574

acres

30

BMPs on

13

farms totaling

\$400,000

## — Adapting to Change —

The Croton Watershed is a diverse and dynamic environment. Changes in land use, development pressure and rising land values present significant challenges to East of Hudson farms. The Watershed Agricultural Council works with our farm partners to provide technical assistance, implement best management practices and promote the economic viability of farm operations.

Akindale Farm, located on 800 acres of pristine land in Pawling, NY, joined the Watershed Agricultural Council in 1997 as one of three “pilot farms” for the East of Hudson Program. Akindale’s reputation as one of the top thoroughbred breeding operation and training facilities in New York State and the farm’s commitment to environmental conservation helped establish WAC’s presence in the Croton watershed. In 2006, the Akindale Thoroughbred Rescue was established at the farm to provide a home for the horses that are no longer able to race. Today, the focus of farm’s operation has shifted from breeding and training to providing a nationally recognized safe haven for thoroughbreds.

The East of Hudson Program has implemented 26 BMPs at Akindale Farm, including a riparian cover, a manure compost facility, a stream crossing, as well as a nutrient management plan and prescribed grazing plans. The East of Hudson team implemented an innovative solar watering system to provide water to remote fields, enabling the farm to exclude the horses from a water course. This fall, Akindale Farm participated in the Watershed Agricultural Council’s new Economic Viability Micro Grant Program and has been awarded funding to develop the farm’s marketing and outreach efforts.

The East of Hudson Agricultural Program has adapted to challenges within the Croton Watershed to meet the needs of our farm partners, preserve agricultural landscapes and protect drinking water quality, and will continue to do so for years to come.



# East of Hudson



## REVENUE JULY 1, 2017 - JUNE 30, 2018

Federal	\$292,673.00	1.96%
Donated Services	\$401,814.00	2.70%
Foundations & Other Grants	\$24,374.00	0.16%
*Interest and Gains/Loss of Asset Sale	\$4,614.00	0.03%
NYC DEP	\$14,180,127.00	95.15%
<b>TOTAL</b>	<b>\$14,903,602.00</b>	<b>100.00%</b>

## EXPENDITURES JULY 1, 2017 - JUNE 30, 2018

Forestry Program	\$1,378,261.00	9.61%
Easement Program	\$2,793,342.00	19.48%
Agricultural Program	\$7,557,013.00	52.71%
Economic Viability and Outreach	\$461,914.00	3.22%
Administration & DEP	\$1,745,636.00	12.17%
Donated Services	\$401,814.00	2.80%
<b>TOTAL</b>	<b>\$14,337,980.00</b>	<b>100.00%</b>

## RUNNING HISTORY

Fiscal Year	Total Expense
2018	\$14,337,980.00
2017	\$13,325,404.00
2016	\$15,655,090.00
2015	\$13,843,859.00
2014	\$10,906,787.00
2013	\$11,647,652.00
2012	\$12,869,355.00
2011	\$15,659,051.00
2010	\$12,160,629.00
2009	\$12,269,278.00
2008	\$10,799,923.00
2007	\$13,938,798.00
2006	\$11,927,985.00
2005	\$15,457,391.81
2004	\$10,641,429.27
2003	\$10,015,142.00
2002	\$9,794,663.00
2001	\$6,574,732.00
2000	\$6,012,996.00
1999	\$6,833,454.00
1998	\$6,653,919.00
1997	\$5,286,390.00
1996	\$5,086,422.00
1995	\$2,629,129.00
<b>Total</b>	<b>\$254,327,459.08</b>

Art Director/Editor: Heather Magnan

Assistant Editors: Lorinda Backus,  
Shylabeth Taylor

Graphic Design: Cynthia Dunne

### Photo Credits:

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## An International Model

In March, representatives from the NYC Watershed Protection Program including Diane Galusha of Catskill Watershed Corporation (CWC), Adam Bosch of the Department of Environmental Protection (DEP), and myself of the Watershed Agricultural Council (WAC) spent a week in Wales discussing our science-based watershed management program. Our trip was at the invitation and expense of Welsh Water, a private (not municipal) water supplier for the million or so residents of Wales capital city Cardiff. While we have been frequently reminded by visitors from around the world that NYC's partnerships to protect its water supply are recognized internationally, we had never before been invited on an expense paid trip to talk about our various roles and expertise in the protection of water quality.

We spent the week presenting our science-based model to numerous groups of regulators, agencies, environmental organizations, government officials and farmers, including an all-day conference celebrating World Water Day. I was often asked why our



Sally discussing WAC's water quality programs in Wales in March of 2018.

farmers and forest landowners continue to participate with the WAC after all of this time. My answer was simple, we have spent 25 years growing, adapting, collecting, supporting and offering new initiatives and programs to protect water quality.

Over the years, the WAC's Agricultural Program has evolved to maximize interaction between farmers and planners. The Nutrient Management Credit Program is an example of this and was of great interest to my Welsh hosts, because the plans are peer reviewed by fellow farmers. I also discussed our work with forest owners, to encourage forest land use and the positive impact forests have on water quality. We keep our participants engaged because they want to be – they continue to see the benefit.

I believe our history of working with farmers has created an atmosphere of trust. Our staff and partners work every day to strengthen that relationship, especially by listening to the community and participant base. We can't do everything that farmers and forest landowners want, but we always try to listen, understand, and offer support.

After 25 years, WAC's programs are still voluntary, farmer-lead, fully-funded and science-based. At every meeting in Wales I emphasized those tenets—they, too, will need to work with farmers, understand their role in water protection, and not dictate to them. Will Welsh Water follow our lead to create voluntary, incentivized programs? They have many more farmers and a much smaller population to serve, but I hope they can employ what we have learned to be one of the most important elements of WAC—listening to its participants.

—Sally Fairbairn,  
Council Chair





# Help Us Save Farms and Protect Water Quality

Farmland, clean water and a way of life. All three are dependent on a thriving agricultural community that is threatened by rising land prices and development. Safeguard these irreplaceable resources—our rural landscape and its family farms—by protecting regional farmlands and working landscapes through this fund.

- Advocate: \$35
- Friend of the Watershed: \$250
- Steward: \$2,500
- Supporter: \$50
- Sponsor: \$500
- Conserver: \$5,000
- Investor: \$100
- Benefactor: \$1,000
- Guardian: \$10,000

[nycwatershed.org/donate](https://nycwatershed.org/donate)



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