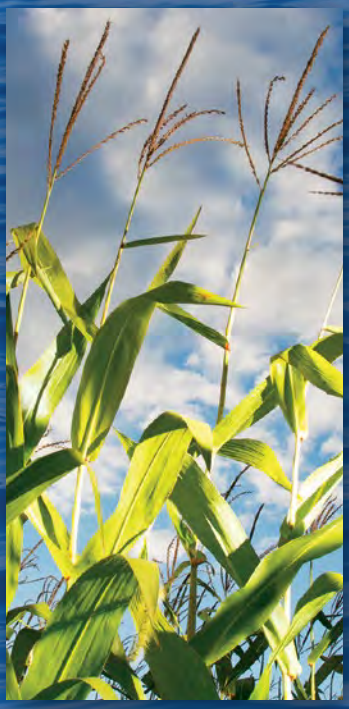
# Farmers' Guide for Protecting Water Quality on Long Island

RESOURCES • PROGRAMS • PRACTICES








American Farmland Trust®

Thirty-five years ago, a group of people committed to farming and conservation from across the United States came together to establish American Farmland Trust (AFT)—the first and only national organization dedicated to saving America's farmland. AFT's mission is to protect farmland, promote sound farming practices, and keep farmers on the land.

AFT has united farmers and environmentalists in developing practical solutions to save farmland and protect the environment. We work from the 'kitchen table to the Congress'—tailoring solutions that are effective for farmers and communities and can be magnified to have greater impact. Since our founding, AFT has helped save over five million acres of farmland and led the way for adoption of conservation practices on millions more.

AFT's national office is in Washington, D.C. with a network of field offices across America where farmland is under threat. AFT established its New York Field Office in 1990 as the state was home to some of the most threatened farming regions in America, including Long Island.

American Farmland Trust greatly appreciates the generous financial support of the following individuals and organizations that made possible the production of the *Farmers' Guide for Protecting Water Quality on Long Island:* Long Island Community Foundation, National Fish and Wildlife Foundation, William E. & Maude S. Pritchard Charitable Trust and the members of American Farmland Trust.

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# Executive Summary

Farms are integral to the identity of Long Island. Not only is agricultural production an important element of the regional economy, Long Island's wineries and farm stands along with the scenic views provided by farmland contribute greatly to Long Island's $4.7 billion tourism industry. Despite being one of New York's smallest concentrations of farmland, Suffolk County, located on the East End of Long Island, ranks first in New York in total annual sales of non-dairy farm products, with $240 million of sales in 2012.

## SNAPSHOT OF LONG ISLAND AGRICULTURE

**38**
farmers markets on Long Island

**$4.7 billion**
tourism industry connected with farm stands and vineyards


**1st in NY**
Suffolk County's rank for sales of non-dairy farm products


**$240 million**
Suffolk County's agricultural sales in 2012

**35,975**
acres of farmland in Suffolk County in 2012

Sources: Agriculture on Long Island Report 10-2013, http://osc.state.ny.us/reports/li_ag_rpt_10_2013.pdf; Suffolk County Agricultural Stewardship Plan, Suffolk County Planning Department; The Economic Benefits and Fiscal Impact of Parks and Open Space in Nassau and Suffolk Counties, New York: A Report by the Trust for Public Land for the Long Island Community Foundation and the Rauch Foundation http://cloud.tpl.org/pubs/ccpe--nassau-county-park-benefits.pdf

Long Island is surrounded by water and sits above a sole source aquifer providing the principle source of drinking water to its residents. For decades, reports have documented the presence of excess nitrogen in Long Island Sound, Peconic Bay and the aquifer. Much of this excess nitrogen comes from sewage treatment plants, septic systems, atmospheric deposition and fertilizers used on lawns and farms.

High nitrogen levels in surface waterbodies lead to increased algal blooms which cause decreased dissolved oxygen levels. As a result, these waterbodies struggle to support aquatic life, recreation, and other important uses. In addition, nitrogen levels in Long Island's groundwater present public health concerns. Studies indicate that nitrogen from synthetic fertilizers is a contributing source of nitrogen in the aquifer. While only a limited source of the region's nitrogen problem, many Long Island farmers are using conservation measures to reduce their impacts to water quality. These measures range from applying fertilizer according to soil test results, planting cover crops and composting to nutrient management techniques, such as the use of controlled release nitrogen fertilizer.

However, farmers often need technical and financial assistance to adopt Best Management Practices (BMPs). The *Farmers' Guide for Protecting Water Quality on Long Island* seeks to help farm advisors, agency personnel, public officials, farmers and others better understand the top BMPs for protecting water quality on Long Island as well as the resources available to aid in implementation.

Importantly, the *Farmers' Guide* describes federal, state and local programs available to provide assistance in using these BMPs as well as local partners that can help farmers participate in these programs. In 2014, these programs had more than $48M available for farmers in New York (including Long Island). The assistance comes in many forms ranging from one-on-one advice and technical assistance and services to grants and low interest loans to help offset expenses related to conservation planning and BMP implementation.

Ultimately, the *Farmers' Guid*e aims to help leverage efforts of farmers and local partners with state and federal resources to address the region's water quality concerns, while sustaining a vibrant farm economy on Long Island.

# MAINTAINING HEALTHY CROPS & CLEAN WATER ON LONG ISLAND THROUGH THE SEASONS

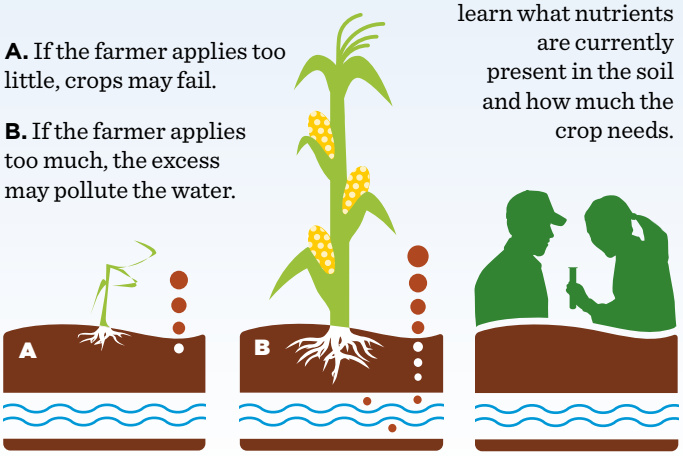
## SPRING

**Crops often need more nutrients than the soil contains.**
To compensate, the farmer can add:


**The farmer applies nutrients carefully.**

**A.** If the farmer applies too little, crops may fail.

**B.** If the farmer applies too much, the excess may pollute the water.

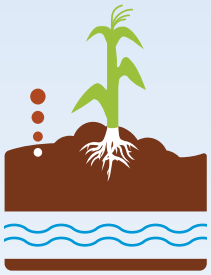



**The farmer works with scientists** to learn what nutrients are currently present in the soil and how much the crop needs.



## SUMMER

During the growing season, **the farmer adds more nutrients as needed.**



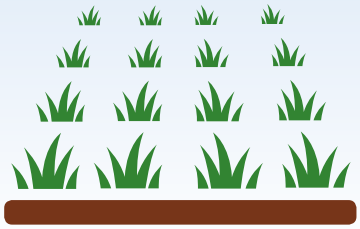
**The crop thrives, consuming the added nutrients.**

**Rainwater soaking into the fields and entering the aquifer remains clean.**

**Local people purchase farm crops, enjoying fresh food and keeping dollars in the community.**

## AFTER THE HARVEST

After harvest, the farmer **plants a cover crop** to protect the soil over the winter.



The farmer **analyzes the previous season's nutrient use and crop yield** to help plan for next growing season.

The farmer **attends classes and learns with other farmers** to improve management of the land.

# Water Quality Concerns on Long Island

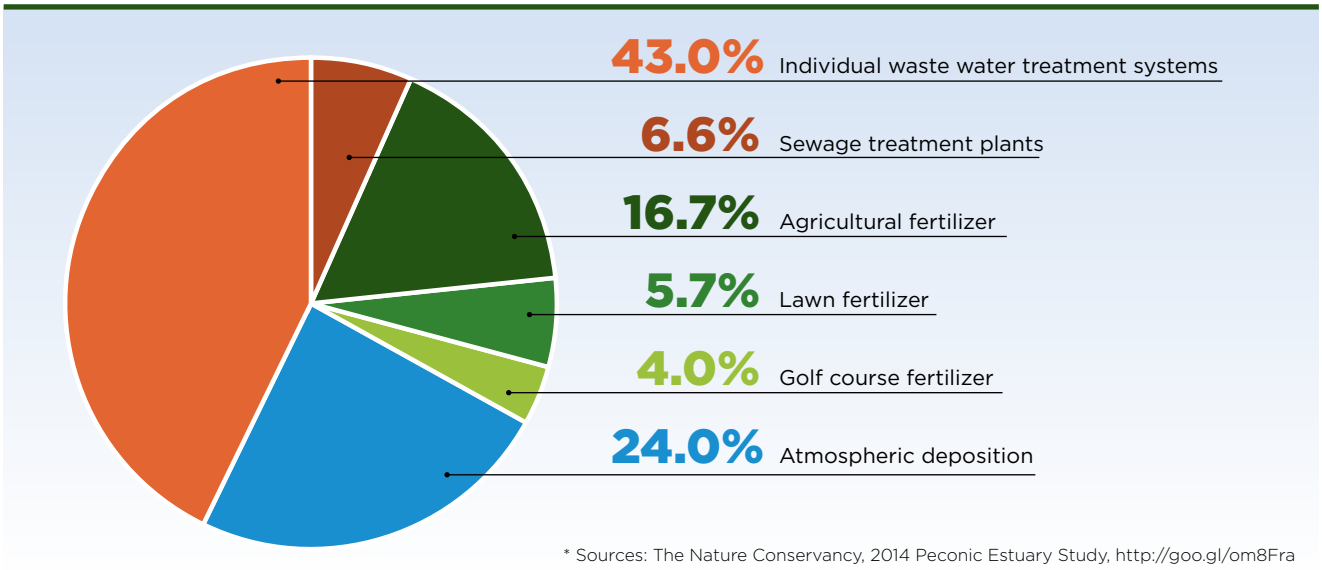
In 1994, the Long Island Sound Study[1] found that roughly 53,700 tons of nitrogen were entering Long Island Sound annually as a result of human activity, leading to hypoxia. While the research indicated that most of the nitrogen entering Long Island Sound came from point sources such as sewage treatment plants, it also noted that excessive nitrogen loads were coming from nonpoint sources such as agriculture, individual sewage treatment systems, and atmospheric deposition.

The updated Long Island Sound Study report Sound Health 2010[2] states that: "Nonpoint sources of pollution also contribute nutrients to Long Island Sound via land and river runoff. Present inorganic fertilizer application practices and poor distribution of animal wastes on croplands may result in over-fertilization of some fields. The excess fertilizers may run off the land into the surface waters or be transported in the groundwater to nearby streams. Eventually the streams will transport the nutrients to Long Island Sound. Fertilizer added to soil already containing enough nutrients to support the crop to be grown may wash away with runoff or leach into the groundwater."

Concerning high levels of nitrogen in Long Island's groundwater, trends from analysis historical data from monitoring wells and private wells down gradient of agricultural fields indicate a downward trend in nitrogen concentrations since 2006. This is possibly due to changes in agricultural operations away from row crops, as well as the implementation of BMPs and conservation measures on remaining row crop operations.

According to a recent report by The Nature Conservancy,* the primary land-based sources of nitrogen found in the Peconic Estuary include:

## PRIMARY LAND-BASED SOURCES OF NITROGEN IN THE PECONIC ESTUARY



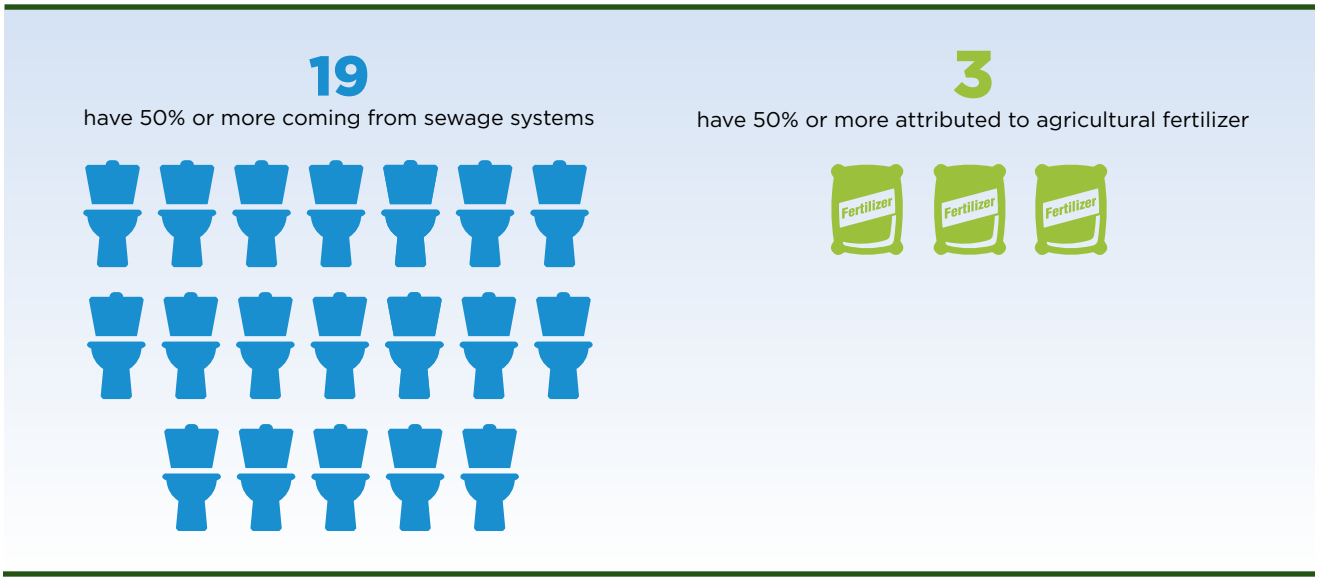

* Sources: The Nature Conservancy, 2014 Peconic Estuary Study, http://goo.gl/om8Fra

1. Long Island Sound Study, 1994, *Comprehensive Conservation and Management Plan,* http://longislandsoundstudy.net/about/our-mission/management-plan/

2. Long Island Sound Study, 2010, Sound Health 2010, http://longislandsoundstudy.net/2010/12/sound-health-2010/

In the Peconic Estuary, 19 sub-watersheds to the estuary had 50% or more of their nitrogen coming from sewage systems, while 3 sub-watersheds had 50% or more attributed to agricultural fertilizer. This demonstrates a significant opportunity for farmers to help protect the 3 sub-watersheds that are most affected by agricultural fertilizer on Long Island.

### NITROGEN SOURCES IN PECONIC ESTUARY SUB-WATERSHEDS




## Farming Practices to Protect Water Quality

Well-managed farmland is a preferred land use for protecting water quality and maintaining scenic, working landscapes. As residential land use is already the leading supplier of nitrogen in our waterways, converting farmland to increased residential densities and other development would only increase nutrient loads in Long Island surface and groundwater.

Conservation measures, practices and BMPs provide varying levels of water quality protection, and each may be sufficiently effective depending on the specific circumstances involved. They all reflect farmers' efforts to be good environmental stewards.

# Organic Farming and Conservation

All farmers, including organic farmers, depend on nitrogen to produce healthy crops. Organic farmers may use more alternative sources of nutrients, such as cover crops and compost, than conventional farmers applying synthetic fertilizer, but they still must pay close attention to conservation practices to ensure that nitrogen does not enter ground and surface water.

Many of the conservation practices described in the *Farmers' Guide,* including soil conservation, nutrient management, composting systems and prescribed rotational grazing systems, are appropriate and in many cases integral to organic farming systems. Organic farmers on Long Island can utilize outlined practices and programs in the *Farmers' Guide* like their conventional neighbors to ensure that every farmer is doing their part to protect water quality.

## APPLYING CONSERVATION TERMS
### AN EXAMPLE WITH COVER CROPS

The activity of planting a cover crop provides an example of the differences between **CONSERVATION MEASURES**, **PRACTICES**, and **BEST MANAGEMENT PRACTICES (BMPS)**. A farmer plants cereal rye after a sweet corn harvest as a cover crop to protect the field from erosion and improve soil health. To be a "conservation practice" and potentially qualify for federal financial assistance from NRCS, the rye seed must be certified with a specific germination rate, and be planted by a specific date to comply with the NRCS conservation practice standard for cover crops.

If any of the standards, such as the germination rate of the seed or the planting date deadline are missed, the activity does not meet NRCS standards and is considered a "conservation measure" and not an approved conservation practice and therefore not eligible for NRCS funding. However, the activity is still worthwhile as it will contribute to erosion control and improve soil health by providing living roots in the soil through the winter and organic matter to the soil when tilled in the spring.

To be a "BMP," the seeding of the cover crop would meet all conservation practice requirements, and the impacts provided by the practice would address at least one specific water quality related resource concern, such as controlling erosion. The farmer can further enhance the effectiveness of the BMP system in protecting water quality by combining the cover crop with other conservation practices such as conservation cropping system and/or reduced tillage.

Collectively, for the purposes of the Farmers' Guide, we will refer to conservation measures and practices as BMPs, since this publication focuses on activities aimed at protecting water quality. Visit http://efotg.sc.egov.usda.gov/treemenuFS.aspx to access the NRCS Field Office Technical Guide for more information on conservation practice Standards and Specifications.

- **CONSERVATION MEASURES** are actions taken by farmers to address natural resource concerns such as impaired water quality.
- **CONSERVATION PRACTICES** are specific treatments recognized by the USDA—Natural Resources Conservation Service (NRCS) to address natural resource concerns, such as water quality, soil health or wildlife habitat. Each conservation practice has an approved standard guiding its use, and specifications for their implementation.
- **BEST MANAGEMENT PRACTICES (BMPS)** are conservation practices or systems of conservation practices that have been approved by State governments and farmers voluntarily use to protect water quality from nonpoint sources of pollution while maintaining or enhancing farm income.

# Challenges And Opportunities for Farmers Adopting BMPs

The decision to use BMPs is not always an easy one for farmers. Using BMPs may increase production costs and threaten a farmer's ability to make a living from their land. Or, their use may require a higher level of management, new types of equipment, or an increased risk (or perceived level of risk) of losses in crop yield and quality.

On December 19, 2013, Cornell Cooperative Extension of Suffolk County, with support from American Farmland Trust and other partners, organized a *Nitrogen Stewardship Summit* with farmers. Participating farmers identified barriers to adoption of BMPs aimed at addressing nitrogen concerns, including:

- Need for more information and research
- Practices are not practical or feasible
- Practices are too expensive to implement

The advice and credibility of local agricultural professionals is essential to facilitating farmers' adoption of BMPs. Conservation planning is a process that farmers can undertake with the help of a resource professional to identify and prioritize resource concerns including water quality. As part of this process, various BMPs are analyzed for their effectiveness in addressing identified water quality concerns, as well as fitting into the farmer's management goals and economic capabilities. The farmer then selects BMPs to implement as their resources allow.

Decisions regarding nutrient management, such as the use of nitrogen fertilizer, can be particularly challenging. Plants need nutrients, such as nitrogen, to grow and produce healthy crops. Yet, nutrients must be properly placed in the amount needed by the plant, at the right time for crop uptake, and in a form that reduces the risk of loss of the nutrients into the environment.

Nutrient management involves the detailed analysis of a farm's soil conditions and crop history. Farmers and their advisors must take into account all sources of nutrients, such as fertilizer, compost or cover crops, and then provide nutrients needed to obtain a realistic crop yield.

Typical nutrient management related BMPs used on Long Island include: nutrient management planning; cover cropping; conservation tillage; crop rotation; and irrigation water management all working together to protect water quality and maintain or enhance yields.

Using BMPs such as cover crops, conservation tillage, and crop rotation as part of a nutrient management BMP system also works to enhance the overall health of the soil by helping to hold nutrients in the root zone and improving nutrient uptake efficiency. The vegetative cover provided acts as a mulch protecting the soil from erosion, helping to conserve moisture making the soil more resilient to extreme weather events, and in-turn reducing nutrient loss. A BMP addressing irrigation water management can also be key to reducing the risk of pollution from nutrients by reducing runoff and leaching of nutrients through the soil on irrigated cropland.

In addition, a pest management BMP can help protect overall water quality and maintain healthy plants that are more efficient at absorbing nutrients, such as nitrogen. Programs that preserve farmland from conversion to other land uses,

such as new residential development, can also help protect water quality as well as maintain scenic working landscapes.

Below is a partial list of BMPs that have been approved by the New York State Soil and Water Conservation Committee and are appropriate for many crops produced on Long Island.[3]

## TOP BMPS FOR LONG ISLAND FARMERS

### Agri-Chemical Handling and Storage System

A permanent structure, with associated operation and maintenance procedures, that includes an impervious surface to provide an environmentally safe on-farm area for agri-chemical storage, handling, mixing, loading, recovery, and rinsing.

### Integrated Pest Management

An ecologically-based, site-specific integrated pest control strategy utilizing a combination of pest prevention, pest avoidance, pest monitoring, and pest suppression strategies coupled with precision application techniques when pesticide application is warranted.

### Irrigation Water Management

A planned system that determines and controls the rate, amount, placement, and timing of irrigation water to reduce the potential for erosion, nutrient leaching, air pollution, and energy use while meeting the water needs of the crop.

### Nutrient Management System


Managing the amount (rate), source, placement (method of application), and timing of plant nutrient and soil amendment applications for efficient use by crops and reduced losses to the environment. If applicable, this can include addressing the issues from farmstead areas as it relates to non-point sources of pollutants.

### Process Wastewater Management System

A system designed for the collection, storage, treatment and disposal of effluents from processes on farms including horse washing, as well as vegetable and fruit washing.

### Soil Conservation-Cultural System

Cultural soil conservation systems employ management-based measures such as crop rotation, tillage, mulching, cover cropping, and/or other practices according to a soil conservation plan to control soil erosion, reduce run-off and enhance soil health.

Additional state approved BMPs that may be suitable for Long Island equine, livestock and poultry farms include:

- Composting System—Animal
- Livestock Heavy Use Area Protection
- Manure and Agricultural Waste Treatment System
- Prescribed Rotational Grazing System
- Erosion Control System—Structural
- Waste Storage and Transfer System

For a full list of agricultural BMPs approved by the New York State Soil and Water Conservation Committee and detailed descriptions of each practice, visit: www.dec.ny.gov/docs/water_pdf/agriculturebmp.pdf

3. New York State Soil and Water Conservation Committee, 2013 Agricultural Best Management Practice Systems Catalogue, http://www.dec.ny.gov/docs/water_pdf/agriculturebmp.pdf.

## CASE STUDY: HALSEY FARM, TOWN OF SOUTHAMPTON

### UTILIZING AGRICULTURAL CONSERVATION SERVICES TO HELP PROTECT WATER QUALITY AND PROFITABILITY

The Halsey family has lived and farmed on the South Fork since the 1640's. Their agricultural products may have changed over time, from potatoes and dairy to pumpkins, orchards, and nursery plants, but their commitment to sound farming practices and protection of water quality has remained constant. Working closely with the Natural Resources Conservation Service (NRCS) and the Suffolk County Soil and Water Conservation District (SWCD) the Halseys developed a comprehensive conservation plan for their farm. The plan identifies natural resource concerns such as potential water quality risks and helps the farmers evaluate and choose Best Management Practices (BMPs) that fit the farming operation and protect water quality.

"Everyone knows that the water table here is our drinking water. And, it is very close," explains John Halsey. Their conservation plan opens the door for the Halseys to effectively utilize technical assistance and various programs available through public and private agricultural service organizations that help farmers protect water quality while maintaining economic viability.

The Halsey Farm has been proactive in implementing BMPs such as nutrient management and integrated pest management that are not only good for water quality, but can also cut costs while maintaining yields. Working with Cornell Cooperative Extension, the Halseys utilized American Farmland Trust's BMP Challenge Program to experiment with the use of Controlled Release Nitrogen Fertilizer (CRNF). CRNF times the release of the nitrogen for when the crop most needs it, increasing nitrogen use efficiency and allowing an average 20% reduction in nitrogen application rates without impacting yields. This leaves less nitrogen available to leach to waterbodies.

A workshop on pesticide sprayer modification inspired the Halseys to modify their equipment, resulting in a 30% reduction in the farm's pesticide use. Working with technical experts to reduce tillage and seed cover crops in their vine crops has drastically improved drainage, provided a natural source of nitrogen, reduced fuel consumption, and continues to improve the overall health of the soil. The Halseys have also taken advantage of available programs such as NRCS's Conservation Stewardship Program that rewards good stewards by providing cost sharing to help implement water quality BMPs that do not always translate to improved yields or cost savings, but are still valuable practices to protect water quality and improve soil health.

The Halsey Farm serves as a model for other Suffolk County farmers looking to protect water quality and utilize the agricultural conservation services and programs offered on Long Island. When farmers take the lead in environmental stewardship by utilizing assistance available through public and private sources, they reap economic benefits while protecting Long Island's soil and water resources.

# Supporting Organizations

Public and private organizations working to provide technical and/or financial assistance to farmers in protecting water quality while maintaining economic viability include:

**AMERICAN FARMLAND TRUST (AFT)**—A national organization committed to saving America's farmland by protecting farmland from development, promoting sound farming practices, and keeping farmers on the land. AFT has used its *BMP Challenge Program* to reduce financial risk for Long Island farmers experimenting with nutrient management and soil health practices. 518-581-0078, www.farmland.org/newyork

**CORNELL COOPERATIVE EXTENSION OF SUFFOLK COUNTY**—A county level extension of Cornell University that assists and educates residents, businesses, and professionals in a broad spectrum of topics, providing research-based information while working one-on-one with farmers to strengthen the industry, advance economic development, environmental stewardship and sustainability within the agricultural industry. The Suffolk County extension office also conducts Long Island-specific research and on-farm demonstrations assisting farmers in growing crops in a maritime environment. 631-727-7850, www.ccesuffolk.org

**CORNELL COOPERATIVE EXTENSION OF NASSAU COUNTY**—A county level extension of Cornell University that assists and educates residents, businesses, and professionals in a broad spectrum of topics by providing research based information. The Nassau County extension office also provides information and assistance in the production of turf, trees, and plant materials for landscaping. 516-433-7970, www.ccenassau.org

**FARM CREDIT EAST**—Part of the national Farm Credit Service, Farm Credit East is a specialized lender and financial services cooperative serving the Northeast agricultural, commercial fishing, and forest products industries. Services include: lending; credit services; financial record keeping; tax services; business consulting; estate planning; appraisals; crop insurance; and grant writing. 631-727-2188, www.farmcrediteast.com

**LONG ISLAND FARM BUREAU**—A private, non-partisan, not-for-profit agricultural membership and advocacy organization serving commercial agriculture on Long Island. 631-727-3777, www.lifb.com

**NASSAU COUNTY SOIL AND WATER CONSERVATION DISTRICT**—A special purpose district created through state law by resolution of the Nassau County Legislature. The District provides technical and financial assistance to residents, farmers, and local governments in the conservation and wise use of soil, water, and related natural resources. 516-364-5860, www.nassauswcd.org

**NYS DEPARTMENT OF AGRICULTURE & MARKETS**—An agency of New York State with a mission to foster a competitive food and agriculture industry that benefits farmers and consumers. The Department promotes agricultural environmental stewardship through special programs providing technical and financial assistance. 518-457-3738, www.agriculture.ny.gov

**NYS DEPARTMENT OF ENVIRONMENTAL CONSERVATION**—The Division of Water within the DEC is charged with protecting and conserving the waters of New York State. This is achieved through programs, activities, and authorities that include assessments of waterbodies, compliance with the Environmental Conservation Law and water quality standards, water quality permitting, and educational and outreach programs. Region 1 Division of Water, 631-444-0405, http://www.dec.ny.gov/about/661.html

**NYS SOIL AND WATER CONSERVATION COMMITTEE**—An agency of New York State, housed and supported by the Department of Agriculture and Markets. The Committee consists of five members appointed by the Governor to develop, oversee, and implement a statewide soil and water conservation program through County Soil and Water Conservation Districts and partner agencies at the state and federal levels. They are the lead agent in the state to address agricultural nonpoint source water pollution. 518-457-3738, www.nys-soilandwater.org

**PECONIC LAND TRUST**—A not for profit charitable organization conserving Long Island's working farms, natural lands, and heritage now and into the future. Conservation is accomplished by working with landowners and municipalities utilizing a variety of methods including conservation easements. 631-283-0235, www.peconiclandtrust.org

**SUFFOLK COUNTY SOIL & WATER CONSERVATION DISTRICT**—A special purpose district created through state law by resolution of the Suffolk County Legislature. The District provides technical and financial assistance to residents, farmers, and local governments in the conservation and wise use of soil, water, and related natural resources. 631-852-3285, www.suffolkcountyny.gov/Departments/SoilWaterConservationDistrict.aspx

**SUFFOLK COUNTY DEPARTMENT OF ECONOMIC DEVELOPMENT AND PLANNING**—The Department works to improve the wellbeing of people and their communities by creating more convenient, equitable, healthful, efficient and attractive places for present and future generations. The Department prepares the county comprehensive plan; assists localities with demographic, economic, and environmental studies; and assists local governments with development and preservation projects. The Department also facilitates the Suffolk County Agricultural and Farmland Protection Board. 631-853-5190, www.suffolkcountyny.gov/Department/EconomicDevelopmentAndPlanning

**USDA NATURAL RESOURCES CONSERVATION SERVICE (NRCS)**—An agency of the U.S. Department of Agriculture responsible for providing leadership in a partnership effort to help people conserve, maintain, and improve natural resources. NRCS also offers technical and financial assistance on the implementation of conservation practices on farms. 631-727-2315 ext. 3, www.ny.nrcs.usda.gov

**USDA FARM SERVICE AGENCY**—An agency of the US Department of Agriculture responsible for implementing agricultural policy; administering credit and loan programs; and managing conservation, commodity, disaster, and farm marketing programs through a national network of offices. 631-727-5666, www.fsa.usda.gov

# Conservation Programs for Long Island Farmers

Both the State of New York and the federal government, in collaboration with local partners, offer technical as well as financial assistance to help farmers implement BMPs. This assistance may include grants or low interest loans to help pay the costs of conservation planning, practice design and implementation, materials, equipment, and construction. There are also land conservation programs that provide financial incentives for farmers to permanently protect their land for farming as well as offset some of the costs of conservation planning and implementation.

Listed below are financial assistance and technical assistance programs available to all Long Island farmers that can aid in conservation planning and practice adoption, or to preserve farmland. Many of these programs are competitive, but provide considerable benefits and incentives to farmers who are selected.

**AGRICULTURAL NONPOINT SOURCE ABATEMENT & CONTROL PROGRAM (ANSACP)**—A competitive program that funds agricultural water quality projects that develop conservation plans or implement BMPs on farms. County Soil & Water Conservation Districts must apply on behalf of the farmer. The State can provide up to 90% of project costs. Eligible costs include engineering services; development of plans and specifications, including personal services; consultant and legal services; and other direct expenses related to conservation planning and BMP implementation.

**CONTACT:** NYS Department of Agriculture and Markets, 518-457-3738, www.agriculture.ny.gov/soilwater/aem/nonpoint.html

**CONTACT:** Suffolk County Soil and Water Conservation District, 631-852-3285, www.suffolkcountyny.gov/Departments/SoilWaterConservationDistrict.aspx

**CONTACT:** Nassau County Soil and Water Conservation District, 516-364-5860, www.nassauswcd.org

**FARMLAND PROTECTION IMPLEMENTATION GRANT (FPIG)**—Through this competitive program, financial assistance is provided for the implementation of farmland protection activities, including purchase of development rights or conveying of a permanent agricultural conservation easement on a farm. Eligible applicants include County Agricultural & Farmland Protection Boards, any municipality with an Agricultural & Farmland Protection Plan, nonprofit land trust or Soil & Water Conservation District.

**CONTACT:** NYS Department of Agriculture and Markets, 518-485-7729, www.agriculture.ny.gov/ap/agservices/farmprotect.html#purchase

**ENVIRONMENTAL QUALITY INCENTIVES PROGRAM (EQIP)**—A competitive program, EQIP provides financial and technical assistance to farmers in order to address natural resource concerns to improve water quality. Typically, a flat rate is reimbursed to the farmer which covers a significant portion of the cost of plan development and conservation practice implementation. Payments are made after practices have been implemented and contracts may be for up to five years in duration.

**CONTACT:** USDA NRCS, 631-727-2315 ext. 3, www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/financial/eqip/

**CONSERVATION STEWARDSHIP PROGRAM (CSP)**—CSP helps growers maintain and improve their existing conservation systems and adopt additional conservation practices to address priority water quality concerns. Participants earn payments for conservation performance; the higher the performance the higher the payment. Two types of payments are provided through five year contracts: annual payments for implementing new conservation practices and maintaining existing practices; and supplemental payments for adopting a resource conserving crop rotation.
**CONTACT:** USDA NRCS, 631-727-2315 ext. 3,
www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/financial/csp/

**AGRICULTURAL MANAGEMENT ASSISTANCE (AMA) PROGRAM**—AMA helps farmers use conservation practices to manage risk and address natural resource conservation issues. Farmers receive technical and financial assistance to implement conservation practices such as irrigation systems or pest management systems to improve water quality and reduce risk on the farm. This program has been offered regionally within the state and may not always be available for Long Island.
**CONTACT:** USDA NRCS, 631-727-2315 ext. 3,
http://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/financial/ama/

**AGRICULTURAL CONSERVATION EASEMENT PROGRAM (ACEP)**—A competitive program, ACEP provides financial and technical assistance to help conserve agricultural lands and wetlands and their related benefits. Under the Agricultural Land Easements component, NRCS, state, and local governments and non-governmental organizations protect working agricultural lands through purchase of development rights or conveyance of an agricultural conservation easement. Through the Wetlands Reserve Easements component, NRCS also helps to restore, protect and enhance enrolled wetlands.
**CONTACT:** USDA NRCS, 631-727-2315 ext. 3,
www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/easements/acep/

**USDA FARM SERVICE AGENCY (FSA) LOANS**—Direct and guaranteed loans that can help pay for soil and water conservation plan development and implementation of conservation practices. Equipment and supplies related to conservation activities are also eligible. Conservation loans have expanded eligibility requirements to also assist financially strong operations, and micro loans are direct operation loans capped at $50,000 with an expedited application process.
**CONTACT:** Farm Service Agency USDA Service Center, 631-727-5666,
www.fsa.usda.gov

**LOCAL FARMLAND PROTECTION PROGRAMS**—There are several farmland protection programs available on Long Island. Some of the most active include:

- Suffolk County: www.suffolkcountyny.gov/Departments/Planning/Divisions/OpenSpaceandFarmland/FarmlandPreservation.aspx
- Town of East Hampton: www.ehamptonny.gov/HtmlPages/LandAcquisition/LandAcqMmgtProcess.htm
- Town of Southampton: www.southamptontownny.gov/195/Options-for-Landowners
- Town of Southold: www.southoldtownny.gov/index.aspx?nid=116

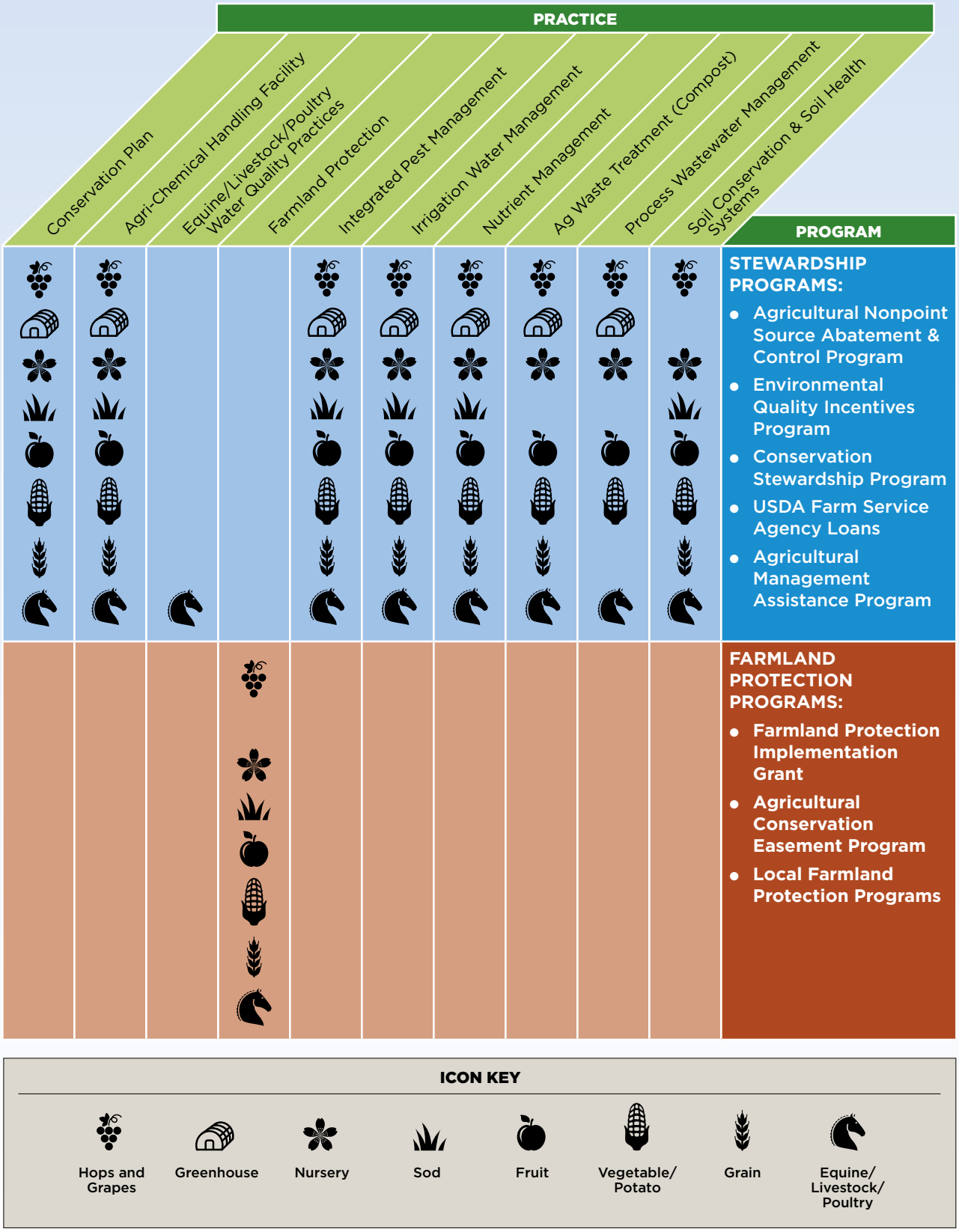
# Finding Commodity-Specific Resources, Programs and Practices

The F*armers' Guide* is organized to help Long Island farmers and their advisors identify conservation practices and supporting programs for crops frequently grown in the region—as compared to dairy farms and other types of agriculture that are prevalent in other regions of New York. The *Farmers' Guide's* resources are divided into major categories of crops produced on Long Island including:

- Vegetable/Potato
- Fruit
- Nursery
- Greenhouse
- Sod
- Grapes/Hops
- Grains
- Equine/Livestock/Poultry

The table on the following page identifies agricultural commodity-specific practices and programs that support conservation planning and implementation for the protection of water quality. Programs are grouped into two categories; Stewardship Programs and Farmland Protection Programs. If the icon appears beneath a practice, that crop or commodity may be eligible to receive funding or assistance to implement the practice from the programs listed on the right. Full descriptions of each of these programs are available on pages 13 and 14. As program criteria can vary from year to year, talk with your agency representative to determine the best programs for your farming operation.

## PRACTICES & PROGRAMS FOR PROTECTING WATER QUALITY



# Additional Resources for Long Island Farmers

Additional successful and progressive locally implemented programs available to Long Island farmers that can assist and promote environmental stewardship include:

**AGRICULTURAL ENVIRONMENTAL MANAGEMENT (AEM)**—A voluntary statewide process facilitated through county Soil and Water Conservation Districts to help farmers make common sense, cost effective, science-based decisions to protect water quality and enhance economic viability while addressing county-based water quality and natural resource priorities. Farmer decisions on BMPs to be implemented are documented in a customized conservation plan and implemented over time. Several funding programs listed in this guide may be used to help with cost of plan development and implementation.
**CONTACT:** Suffolk Co. Soil and Water Conservation District, 631-727-2315 ext. 3, www.nys-soilandwater.org/aem/index.html

**BMP CHALLENGE**—A program of the American Farmland Trust that allows farmers to try BMPs on their farm without risk of economic or quality loss of their crops. On-farm demonstration sites are established utilizing a new BMP, while the remainder of the farm uses previous farm practices. If a loss in yield is experienced on the demonstration site, the farm is compensated for the loss. The program has been implemented on Long Island with the assistance of Cornell Cooperative Extension of Suffolk County.
**CONTACT:** American Farmland Trust, 518-581-0078, www.farmland.org/initiatives/cultivating-clean-water-newyork

**FARMS FOR THE FUTURE: LONG ISLAND AGRICULTURAL CAPITAL EQUIPMENT GRANT PROGRAM**—A program of the Peconic Land Trust funded by Empire State Development to assist Long Island farmers in making capital investments for farming operations. Farmers may seek reimbursement for up to 20%, not to exceed $25,000, of the purchase cost of new or used equipment and infrastructure. For more information, eligibility requirements, or to obtain an application, email or call the Peconic Land Trust.
**CONTACT:** AgGrant@PeconicLandTrust.org, 631-283-3195, www.peconiclandtrust.org/AgCap.html

**LONG ISLAND SUSTAINABLE WINEGROWING (LISW)**—A program established by Suffolk County grape growers and wineries providing education and certification for Long Island vineyards in practicing environmental stewardship. LISW uses international standards of sustainable practices in quality wine-grape production that have been refined for the Northeast and utilized through the VineBalance Grower Self-Assessment Workbook. These practices are based on an independent third-party-verified checklist system consisting of recommended and prohibited practices and materials, thoughtful planning and numerous ecological options.
**CONTACT:** Long Island Sustainable Winegrowing, 631-734-7537, www.lisustainablewine.org

**SUFFOLK COUNTY AGRICULTURAL STEWARDSHIP PROGRAM**—A program of Cornell Cooperative Extension of Suffolk County working with farmers to address environmental issues related to the leaching of nitrogen fertilizer and pesticides into groundwater. By introducing on-farm projects based on applied local research the program demonstrates the costs and benefits of adopting new technology and best management strategies that will protect the environment while maintaining each farm's economic viability.
**CONTACT:** Cornell Cooperative Extension of Suffolk County, 631-727-7850 ext. 207, www.ccesuffolk.org/agriculture/agriculture-stewardship

**SUFFOLK COUNTY WATER QUALITY PROTECTION AND RESTORATION PROGRAM (WQPRP)**—Suffolk County provides a competitive cost sharing program for the implementation of on-farm demonstration projects for the reduction of nutrient and pesticide leaching and improvement and protection of ground and surface waters. Applications are made through a supporting sponsor such as a governmental agency, Soil and Water Conservation District, nonprofit organization, land trust and/or Cornell Cooperative Extension. A 50% cost share is provided by this grant.
**CONTACT:** Suffolk County Department of Economic Planning and Environment. 631-853-5190, www.suffolkcountyny.gov/Department/EconomicDevelopmentAndPlanning

# What You Can Do

All Long Island residents have a role to play in protecting drinking water and major waterbodies like the Long Island Sound and the Peconic Estuary.

## FOR FARMERS

- Learn more about the BMPs described in this guide.
- Reach out to organizations that can help you pursue practices that are right for your farm.
- Tap into local, state or federal resources that can help expand use of conservation practices while sustaining the viability of your farm.
- Share the environmental stewardship activities on your farm with customers, neighbors, and the press. Consider placing information on your stewardship activities at your farm stand or sharing it through social media.

## FOR THE PUBLIC

- Talk with local farmers about the ways that they care for the environment. Stop at a farm stand, visit a farmers market or find another way to connect with local farmers.
- Speak with public officials about the importance of funding and staffing conservation programs for farmers that protect water quality.
- Buy farm products from local farms that demonstrate a commitment to the environment.

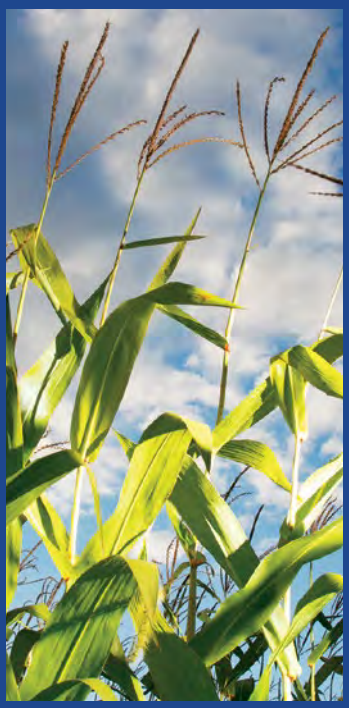
## FOR ORGANIZATIONS AND AGENCIES

- Work with farmers to set priorities and achieve the greatest benefits for water quality and the economic viability of the agricultural sector.
- Coordinate agricultural nonpoint source activities with partners to stretch limited dollars and bring additional resources to help farmers on Long Island.
- Share the environmental stewardship activities of farmers with the public and elected officials.

# A Tribute to a National Leader in Conserving Farmland

Long Island communities have a long history of partnering with farmers to protect the region's productive farmland and water. In 1974, Suffolk County became the first government in the nation to develop a purchase of development rights program to permanently protect farmland from development. Since then, hundreds of local and state governments, along with the federal government have followed this example and invested nearly $6 billion to protect 5 million acres of farmland across America.

This guide is intended to be a resource to assist Long Island farmers and communities to continue this legacy of progressive stewardship of the region's farmland. This enduring commitment to protecting the region's natural resources while fostering economic security for farmers will ensure that healthy soil, clean water and fresh food will be a part of Long Island for years to come.

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