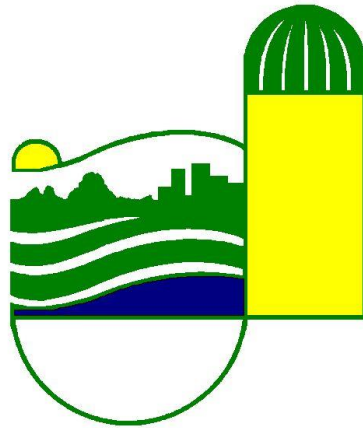


Welcome to Cortland County Soil and Water Conservation District



Water Quality Protection Across the Landscape

Prepared for NYSFOLA Regional Conference

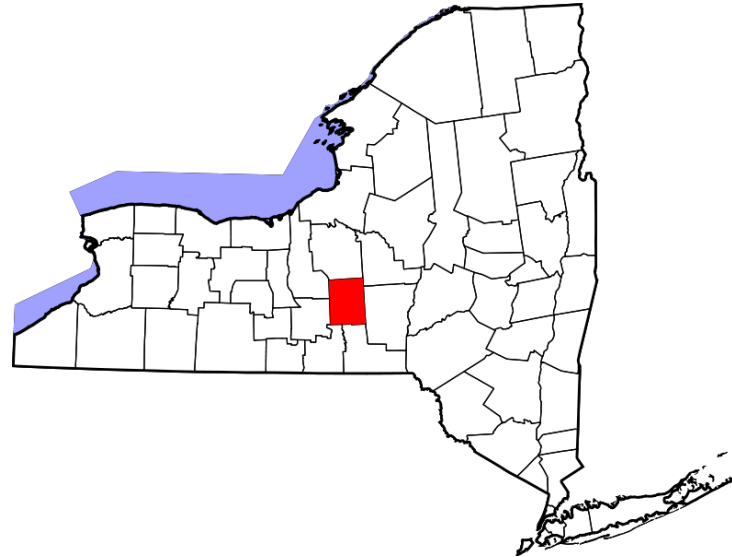
August 11, 2023

www.cortlandswcd.org

The County Natural Resource Protection Agency and Much More!

Diverse Resources & Needs

- 48,000 people
- 20 municipalities
- 320,000 ac land
- 130,000 ac forestland
- 125,000 ac farmland
- 1,800 ac lakes/ponds
- 700 stream miles
- 1100 road miles
- 536/90 farms



Activity Focus

- Agriculture and Private Lands
- Community Environmental Management
- Education and Outreach/Programs

Agricultural Environmental Management (AEM)

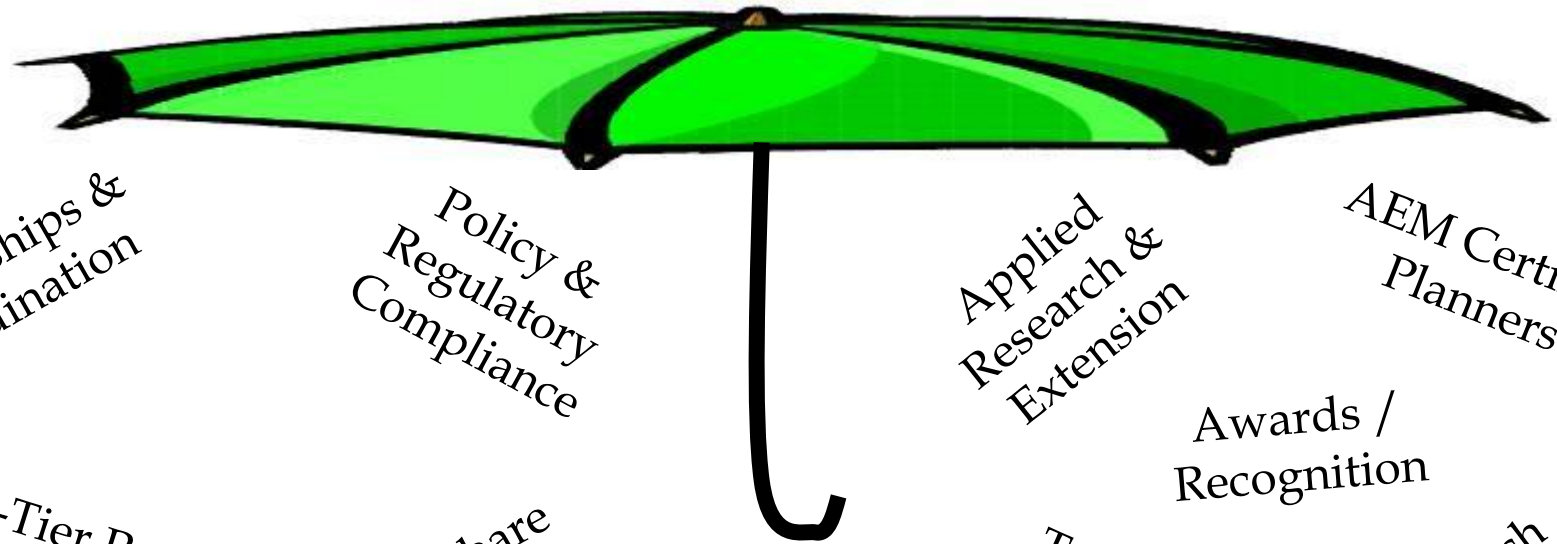
AEM is a **voluntary** program designed to help farmers make **common-sense, cost-effective and science-based decisions** to help meet business objectives while **protecting and conserving natural resources**. Farmers work with the District through a systematic tiered process.



Agricultural Environmental Management

www.agriculture.ny.gov/soilwater/aem

**Protect and enhance the environment and
the viability of agriculture in New York State.**



Partnerships &
Coordination

Policy &
Regulatory
Compliance

Applied
Research &
Extension

AEM Certified
Planners

5-Tier Process,
Tools, & Technical
Assistance

Cost-Share
Programs

Awards /
Recognition


Training

Outreach

Locally-led Strategies &
Priorities

AEM Framework – 5 Tier Approach

AEM Tier	Purpose
Tier 1 – Inventory (Questionnaire)	Basic farm info and interests
Tier 2 – Assessment (“Tier 2 Worksheets”)	Identify existing stewardship, resource concerns, and opportunities
Tier 3 – Planning	Develop conservation plans
Tier 4 – Implementation	Implement conservation practices based on the plans
Tier 5 – Evaluation	Evaluate plans, practices, and programs





Tier 1 – Inventory current activities, future plans and farm activities.



AEM Tier 2 Worksheet Nutrient Management: Manure and Fertilizer



Tier 2 – Assess and then prioritize

Glossary

Animal Unit: One animal unit equals 1,000 lbs. of live animal body weight, and correlates to the amount of manure produced.

Concentrated Flow: Flow of water, greater than 1/8 inch that carries potential pollutants across a vegetative buffer.

Field Runoff Potential: Measurement of risk derived from soil characteristics and topography that estimates the potential for surface loss of nutrients.

Eutrophication: The process of nutrient enrichment and excess algae or plant growth in a waterbody.

Nitrogen Management Tests: Soil and plant tests such as the Pre-Solubility Nitrate Test (PSNT), Corn Stalk Nitrate Test (CSNT), Illinois Soil Nitrogen Test (ISNT), etc.

Vegetative Buffer: A permanent strip of dense, vigorous perennial vegetation of at least 35 feet in width established and maintained along a watercourse or stream. See NRCS Standards NY 393 (Filter Strip), NY 390 (Riparian Herbaceous Buffer), and NY 391 (Riparian Forest Buffer).

Watercourse: Water flowing over a non-vegetated channel to a waterbody.

Background

Nutrient management using soil tests, crop needs based on realistic yields, and effective application of manure and fertilizer can enhance crop productivity and farm profitability while decreasing farm operating costs. Proper application method, rate, and timing optimize the uptake of nutrients by the crop and minimize nutrient loss to the environment.

If used properly, manure is an excellent crop nutrient source and soil conditioner. Bacterial and protozoan pathogens in manure can pose a human health risk when found in drinking and recreational waters. Nitrate can leach to groundwater, creating potential human and animal health risks. Nitrate, ammonia and phosphorus can also reach surface waters, stimulating undesirable algae and plant growth, and consequently damaging recreational and drinking water uses. Phosphorus is usually the limiting nutrient for plant growth in fresh water and regardless of source can accelerate eutrophication.

Nutrients in fertilizers can also leach to groundwater or be carried by runoff into surface water, degrading water quality. Excessive nitrate concentrations in drinking water can negatively affect human and animal health. In addition to the concerns associated with phosphorus, excess potassium in feed or water can cause animal health problems.

A sound and comprehensive nutrient management plan should account for nutrients from all sources, including prior nutrient applications, soil and crops, incorporate conservation practices that control erosion and manage runoff, and deliver recommendations to minimize losses to the environment through efficient nutrient use by crops.

AEM Principle

Nutrients for crop production used by farms should be applied to land in a manner that optimizes the nutrient value and soil conditioning benefits while protecting surface and ground water resources.

AEM ID: _____ Date: _____

AEM Tier 2 Worksheet: Manure and Fertilizer Management		Potential Concern			
Table 1: General Assessment		1	2	3	4
Factor: Needing Assessment	Lower	1	2	3	Higher
Does your farm regularly use nitrogen management tests (e.g. PSNT, CSNT, ISNT) to adjust nitrogen rates?					
Do you keep records of nutrient applications to fields?	Records are kept indicating the amount applied, source, yields, rotations, and fertilizer applications for each field.			Records are kept indicating the amount applied, only.	No records of amount applied, yields, and rotations for each field.
Do you calibrate manure and fertilizer application equipment?	All nutrient application equipment is calibrated yearly to determine the amount applied per acre.			Nutrient application equipment is calibrated occasionally to determine the amount applied per acre.	Nutrient application equipment is not calibrated.
How is the rate of manure and fertilizer application determined?	Nutrients are applied based on best management guidelines. AND Commercial fertilizer applications are adjusted in order to meet crop needs.	Manure is applied based on crop needs, with nitrogen as the priority nutrient. AND Commercial fertilizer applications are adjusted in order to meet crop needs.	Manure is occasionally applied in rates that exceed the nitrogen needs of the crop. OR Commercial fertilizer applications only partially take into account nutrients in manure.	Manure is often applied at rates that exceed the nitrogen needs of the crop. OR Commercial fertilizer applications do not take into account nutrients in manure.	
How is nitrogen application determined?	Account for past and current manure application rates, soil nitrogen supply potential, and crop history. AND Routinely conduct field by field nitrogen management tests.		Some consideration of previous manure application rates, soil nitrogen supply potential, or crop history.	No accounting of previous manure application rates, soil nitrogen supply potential, or crop history.	



Tier 3 - Planning conservation and environmental improvement practices

Conservation Implementation



Tier 4 - Grazing System and Laneway BMP

Defining and stabilizing laneways for animal traffic reduces erosion and damage to pastures, and is beneficial to herd health.



Before



After

Tier 4 – Grazing System BMPs

Controlling animal access and vegetation.



Before



After

Tier 4 – Barnyard Water Management BMP

Confining and controlling animal access and providing a solid base for the collection of waste and control of runoff.



Before



After

Tier 4 – Barnyard Water Management BMP

Stabilized barnyard area with runoff control.



Tier 4 - Manure Storage BMP

By storing manure, farms are able to apply the right source of nutrients, at the right rate, in the right place, and at the right time to maximize their benefit to the farm and minimize impact on the environment.



Tier 4 - Cover Crop BMP

Vegetation saves soil and nutrients while improving soil health



Tier 4 - Silage Leachate Control System BMP

Runoff from feed storage areas is collected for use as a plant nutrient source.



Tier 4 - Riparian Forested Buffer BMP

Water quality improvement occurs through in-stream nutrient reductions and physical buffering of adjacent landuse



RFB BMP Site - March 2016

Streamside berm blocking stream and floodplain connectivity.



October 2017

Site after berm removal and regrading.



April 2018

Riparian Forest Buffer establishment



June 2018

Completed water quality improvement project



July 2023

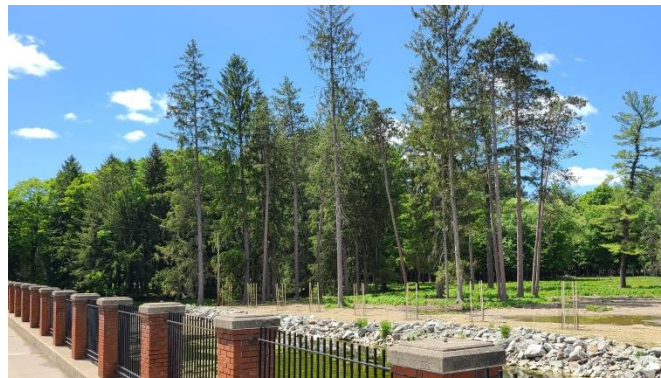
Continued maintenance needed

AEM “Umbrella”

- Certified Specialists
- Rural Road Safety
- Rescue and Response
- Grant applications

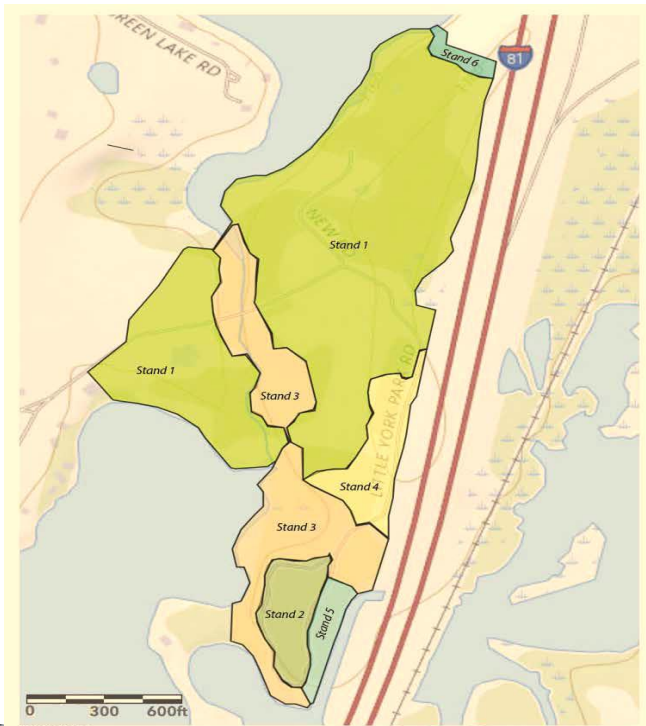


Community Natural Resource Management



Urban buffers

Tree planting



FOREST STANDS
 Stand 1 - Open/Mown - Northern Hardwoods Canopy
 Stand 2 - Early Successional - Young Northern Hardwoods
 Stand 3 - Old Forest South - Northern Hardwoods Remnant
 Stand 4 - Plantation North - Mixed Plantation Forest
 Stand 5 - Plantation South - Mixed Plantation Forest
 Stand 6 - Old Forest North - Northern Hardwood Remnant

LBSecological
 199 BRISFALO RD BROOKFIELD MA 01507
 ph. 407-342-0247 email: info@lbsayouththesea.com
 www.lbsayouththesea.com

DWYER PARK - FOREST STAND MAP



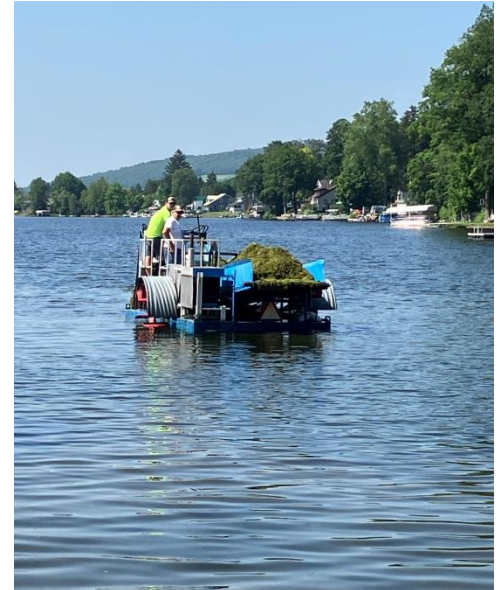
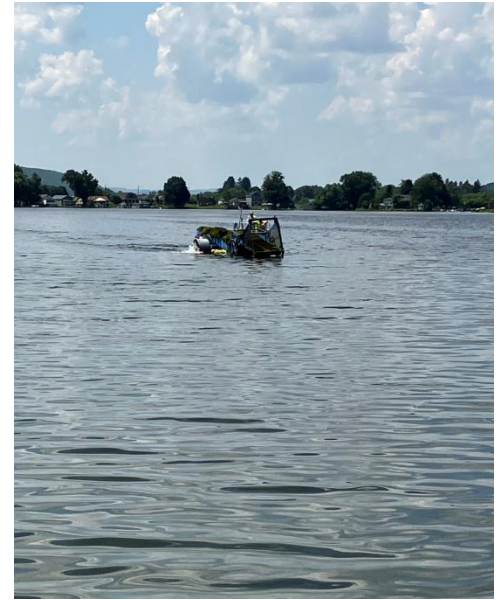
Dwyer Park Community Forestry

Pollinator plantings



Stormwater management

Hydroseeding



Invasive Species Management



Groundwater Monitoring

Stream Assessments



Before



After

Stream Corridor Management

Infrastructure improvement, flood mitigation, and habitat enhancement – win-win-win!

Education and Outreach / Programs

Ag plastic recycling assistance, composting, burning bmps and regulations



NYS DEC Open Burn Ban

As of October 14, 2009, it is illegal to burn household trash and yard waste. However, there are alternatives and some exceptions.

What is the Open Burn Ban?

Open burning of household trash and yard waste releases dangerous chemical compounds including arsenic, carbon monoxide, benzene, formaldehyde, lead, and other toxins and carcinogens. Poor air quality contributes to serious acute and chronic health conditions, including childhood asthma and lung cancer. Open burning is the leading cause of wildfires in New York.

Leaves are included in materials that cannot be burned. No burning of home building materials (except untreated lumber). There are no open fires allowed between March 15th and May 14th due to threat of wildfires.

Are There Exceptions?

- Small cooking and campfires (untreated wood only and no larger than 2' tall and 4' wide)
- Ceremonial bonfires
- Onsite burning of agricultural waste (organic in origin) generated on farms larger than 5 acres.

In towns with less than 20,000 residents, burning of downed limbs and branches with leaves attached is allowed but subject to the above date restrictions.

How Can Yard Waste Transport Invasive Species?
Invasive species can easily be spread through transporting yard waste and woody debris. Consider composting at home to limit the spread of invasive species from these listed below. If removing yard waste to a transport compost site, minimize risk by not transporting yard waste from areas which may have the following plant/animals:

- **Japanese Knotweed** Looks like "horsetail", small weeds are easily transported in soil by wind and attachment, the plant can also be spread by transporting any part of the root. Control is very difficult due to fragmentation from root fragments.
- **Emerald Ash Borer** Small insect threatening New York State ash stands, spread through transport of ash and wood. If wood ash can also fly.
- **Pink Shadblow Weed** Field growing vine like plant that is easily spread through transport of seed, weeds and stems (also wind spread).

If you have any questions or would like further information, please contact the Cortland County Soil and Water Conservation District at 607/756-3884 or the NY State Department of Environmental Conservation, Check All State Programs.

Recycling is offered to Cortland County residents through the County's Recycling and Solid Waste Department. Some items require a permit or fee for disposal. The list below details what is trash and what could be recycled. (Information may be subject to change)

Items that can be recycled by Cortland County:

- Paper (newsprint, office paper, etc.)
- Dry paper, plain white, lightweight card-stock (personal business cards, etc.)
- Metal food/beverage cans and lids, flat, rigid, and aerosol cans (no car parts/chemical containers)
- Glass (no lead glass)
- Tires (permits and fees may be required)
- Electronics (computers, TVs, stereo, and recreational metal appliances—must present statement of purging/Bev certified removal if applicable)

Items that can be recycled individually:

- Plastic shopping bags (not heavy weight)
- Medications, pesticides, household hazardous waste (for local collection only, see Cortland County Recycling Solid Waste webpage for dates or call 607-756-3877 for details)

Items that can be reused/donated:

- Furniture, clothing, silverware/dishware/cookware, toys, etc.
- (at local thrift store/donation center)

Items that can be composted:

- Used paper products, pizza boxes, and food by-products
- Organic materials like: lawn clippings, food scraps, wood chips

Items considered trash (commonly):

- White coated cardboard, frozen food microwave containers, broken glass, mirrors, appliances, car parts, tires, broken, damaged household items, plastic

substances like: lawn (except law mowers), and empty pesticide/agricultural containers



Contractor erosion control workshops; truck and manure safety workshops; aquatic invasive species blitz; septic maintenance workshops



Envirothon HS competition; Conservation Field Days – 6th grade; Water Festival; River Cleanup



Spring planting sale; Soil and Water Stewardship Week activities; Pond stocking program



NO-MOW-MAY



Pollinators are an integral part of our environment. They are essential to plants that provide food and habitat for humans and animals, produce oxygen for us to breathe, moderate climate extremes, and produce wood for fuel and construction. No-Mow-May is a conservation initiative designed to protect pollinator habitat, and allow for spring flower production. If you sign-up, send pictures so SWCD can promote your efforts!

Sign-up Now to Receive a Free Tree

	Name	Phone Number	Address
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			

