

Innovative Financing Strategies for Reducing Nutrients Webinar Series

FUNDING LANDSCAPE-SCALE NUTRIENT REDUCTIONS



July 10, 2019

Agenda



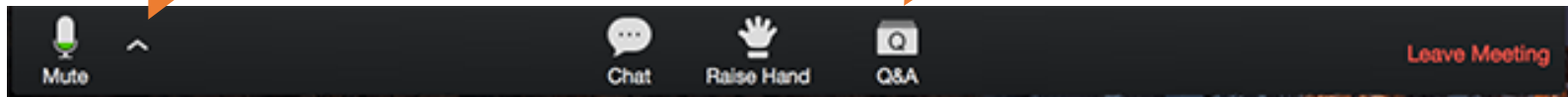
- Welcome and Agenda Overview
- How to Participate in the Webinar
- Webinar Series: Innovative Financing Strategies for Reducing Nutrients
- Opening Polls
- Featured Presentations:
 - Adam Kiel, Operations Manager, Iowa Soybean Association
 - Jason Keppler, Administrator, Watershed Implementation Program, Maryland Department of Agriculture
- Q&A
- Adjourn

How to Participate in the Webinar



The **Q&A window** allows you to ask questions to the host and panelists.

To adjust your audio settings in the webinar, click on **Audio Options**.



Send a **chat to the host** (Darcy Peth) if you have a technical issue.

Webinar Series: Innovative Financing Strategies for Reducing Nutrients



- This is the third in a four-part webinar series featuring case studies of successful approaches from across the country for funding nutrient reductions.
 - July 10: Funding Landscape-Scale Nutrient Reductions
 - July 24: Stormwater Financing Solutions for Nutrient Reductions
- For more information on this webinar series, please contact waterfinancecenter@epa.gov.

Opening Poll #1



- What type of organization are you from?
 - Utility
 - Local government (not a utility)
 - State government
 - Federal government
 - Nongovernmental organization
 - Agricultural organization
 - Other

Opening Poll #2



- What is your experience/familiarity with financing for nutrient reductions?
 - Funded one or more nutrient reduction projects in the past
 - Have nutrient-reduction initiatives/projects and looking for additional funding/financing
 - Do not have immediate projects to fund, but interested to learn more
 - Familiar with potential financing opportunities, but would like to learn more
 - No or very little experience/familiarity with the topic



Financing Nutrient Reduction Projects in Iowa

Adam Kiel

Operations Manager, Iowa Soybean Association



Financing Nutrient Reduction Projects in Iowa

July 10, 2019



Iowa Soybean Association

**Environmental
Programs & Services**

Iowa Soybean Association Environmental Programs & Services

Mission is to conceive, conduct and communicate agronomic and conservation research to increase the productivity, profitability and sustainability of Iowa's soybean farmers.

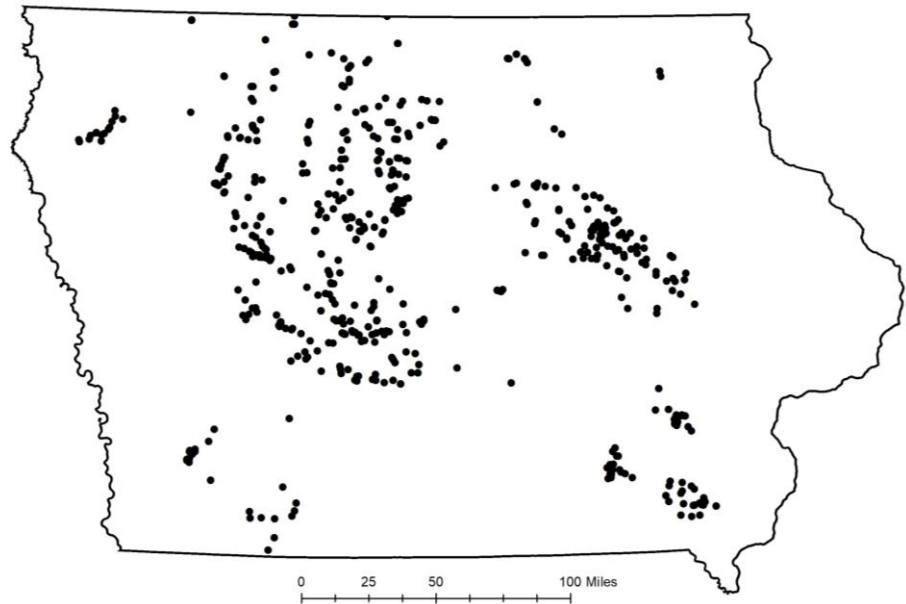


Six Lightning Topics

- Performance Monitoring
- Transforming Drainage
- SRF Sponsored Projects
- Pay for Success Financing
- Crop Insurance Discount Program
- Fertilizer Sales Assessment

Field-Scale Water Monitoring

Statewide edge-of-field monitoring program has resulted in farmers making changes to their farming operation.

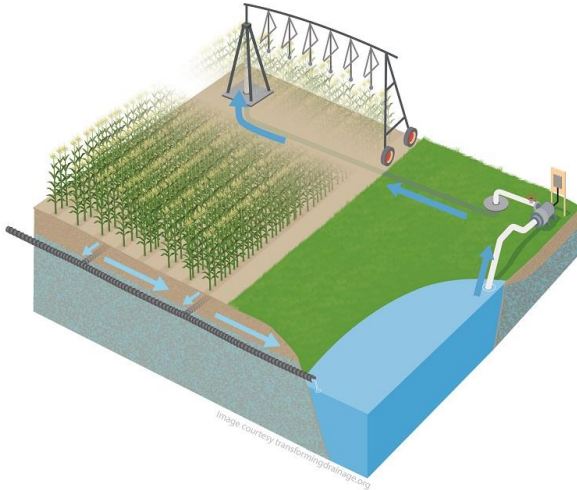


For additional information:

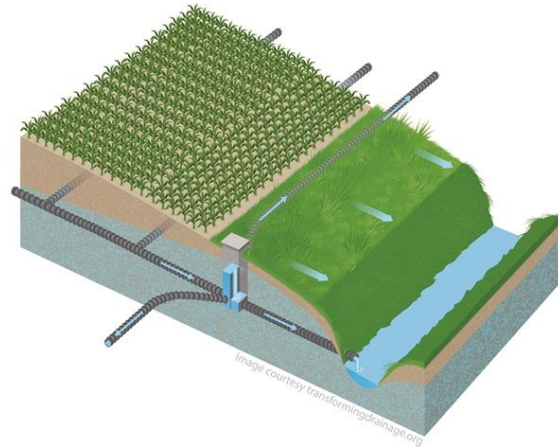
<https://www.iasoybeans.com/news/articles/tile-water-monitoring-2018-part-4-bioreactors/>

Transforming Drainage Practices

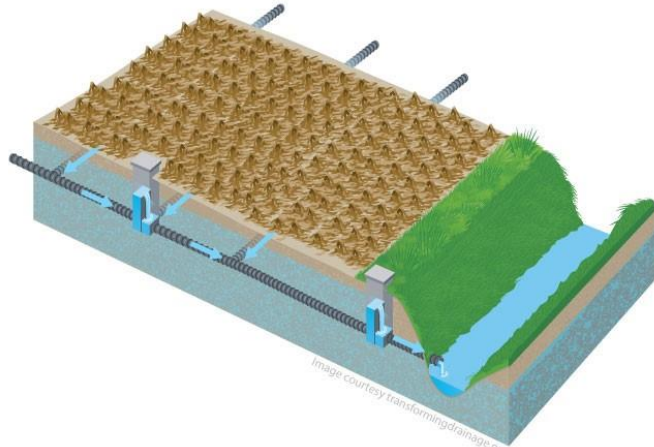
Transforming tile drainage from uncontrolled systems to systems that capture water, treat water and/or control the water level, have the potential to add on-farm and off-farm benefits and could be a driver for farmer investment.



Water capture and reuse



Saturated buffer

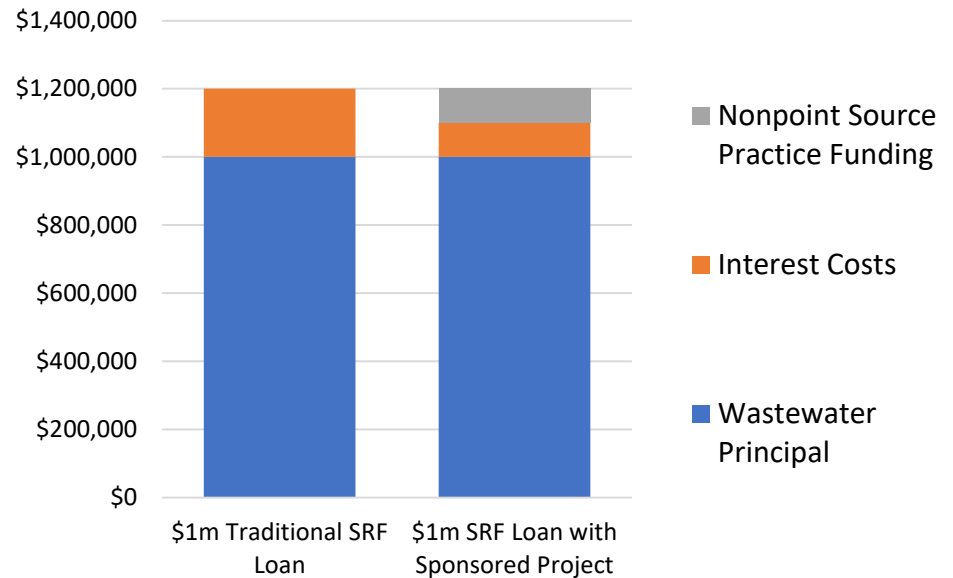


Drainage water management

For additional information: <https://transformingdrainage.org/>

SRF Sponsored Project

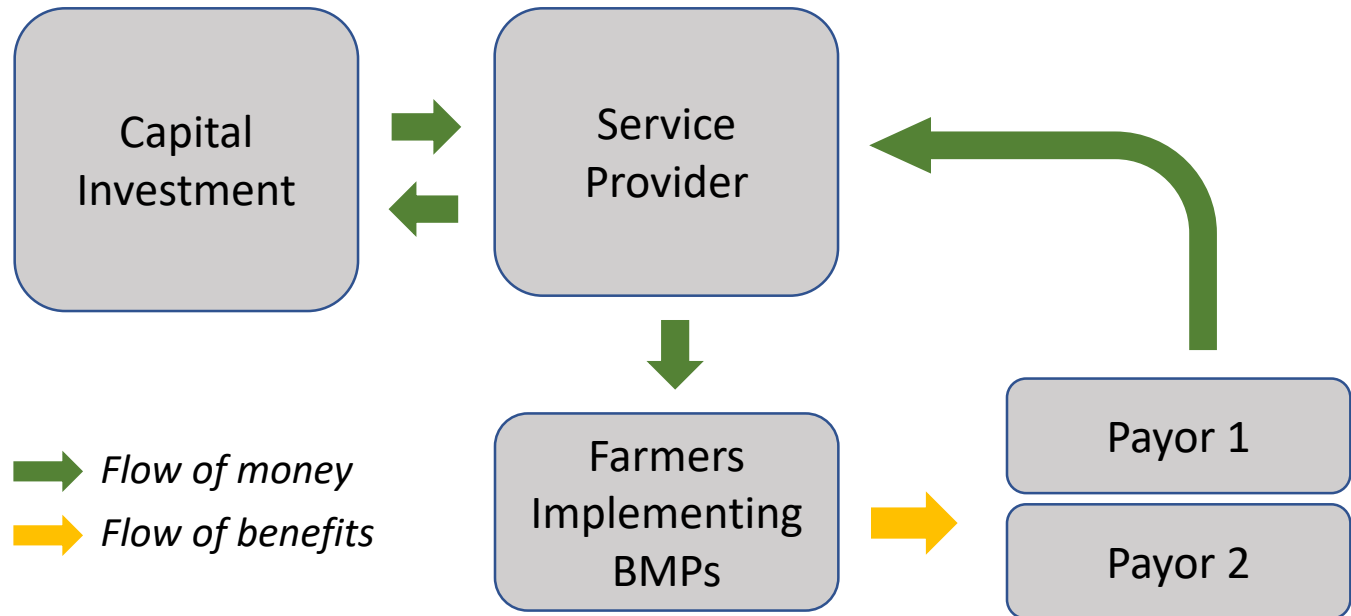
Adjusting terms of SRF loans can free up capital for investment in non-point source water quality projects.



For additional information: http://www.iowasrf.com/about_srf/sponsored-projects-home-page/

Pay for Success Pilot

Creating a pay for success pilot project to leverage low-cost capital to deploy on-farm BMPs generating outcomes valued by downstream and supply chain stakeholders.



For additional information: coming soon

Crop Insurance Discount Program

Farmers in Iowa who plant cover crops can apply to receive a \$5/acre discount on their following year's crop insurance premium.



For additional information: <https://www.cleanwateriowa.org/covercropdemo-main>

Fertilizer Sales Assessment

Ag retailers in the Raccoon & Des Moines River watersheds contribute \$0.001 per pound of nitrogen sold to support the Agriculture's Clean Water Alliance. Ag retailer staff who secure BMP implementation with farmers receive an incentive paid from the fertilizer assessment.



For additional information: <https://www.acwa-rrws.org/>



Iowa Soybean Association

**Environmental
Programs & Services**

Thank You

Adam Kiel

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515-865-6535



State Conservation Incentive Programs

Jason Keppler

Administrator, Watershed Implementation Program



State Conservation Incentive Programs

Jason Keppler



Bay Restoration Fund



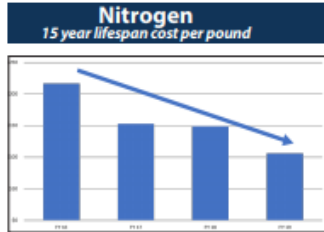
- Senate Bill 320 (Bay Restoration Fund) was signed into law on May 26, 2004.
- **Wastewater Treatment Plants Fund**
 - \$5.00 monthly fee is collected from each home served by a wastewater treatment plant.
 - Commercial and industrial users are charged at the rate of \$5.00 per month per equivalent dwelling unit (EDU).
 - Fees from wastewater treatment plant users generate an estimated \$100 million per year.
- **Onsite Disposal Systems Fund**
 - \$60 annual fee is collected from each user served by an onsite system.
 - The total estimated program income is \$27 million per year.
 - 60% used for septic system upgrades
 - 40% percent are used for cover crops.

CHESAPEAKE AND ATLANTIC COASTAL BAYS TRUST FUND 2019 ANNUAL REPORT

Maximizing Investments

The Trust Fund allows Maryland to accelerate Chesapeake Bay restoration by focusing available financial resources on the most cost effective non-point source pollution control projects in targeted geographic areas of the state. Essential to success is the competitive solicitation process that annually focuses on getting the greatest environmental benefit per Trust Fund dollar spent and allows for the flexibility necessary to take advantage of constantly changing conditions, opportunities, and scientific developments.

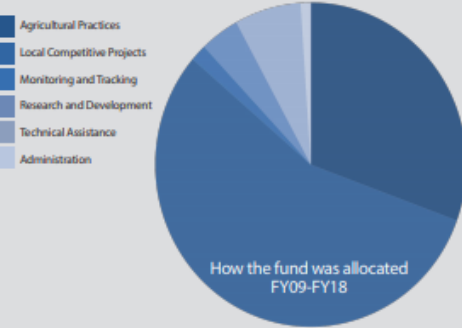
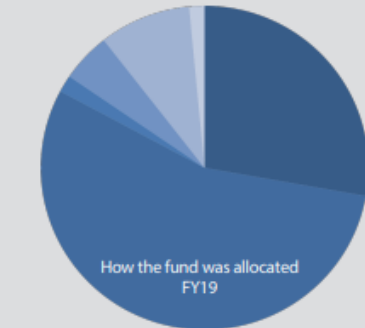
Recognizing these factors, the state partnered with Chesapeake Commons and the National Fish and Wildlife Foundation to develop FieldDoc, a platform of tools for restoration professionals, to better estimate the potential nutrient and sediment to be achieved per investments. Through FieldDoc and the continued focus on outcome based performance, the Trust Fund has seen an increased return on investment as measured in cost per pound of pollutant removed.



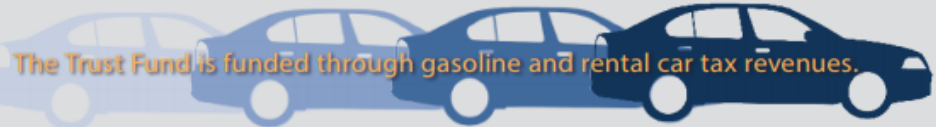
"The Center [Center for Watershed Protection] has the pleasure of working directly with many state and local government organizations, and we have been extremely impressed with the Department of Natural Resources' staff and programs supporting innovation including the Chesapeake and Atlantic Coastal Bays Trust Fund. Like the center, the department applauds strategies that are simultaneously cost-effective and inventive, yet realistic, to reduce polluted runoff and support improvements in habitat."

**- Hye Yeong Kwon, executive director
Center for Watershed Protection**

Trust Fund By the Numbers



- Agricultural Practices
- Local Competitive Projects
- Monitoring and Tracking
- Research and Development
- Technical Assistance
- Administration



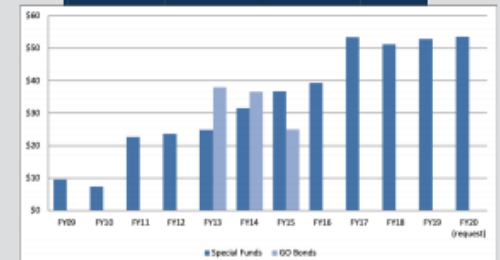
The Trust Fund is funded through gasoline and rental car tax revenues.

\$453 million to date
for non-point source pollution projects across Maryland

Funding by County 2009-2018



Trust Fund Growth 2009-2020 (in millions)



Completed to Date

4,982 acres of wetland restored

206,765 linear feet of stream restored

605 stormwater retrofits installed

661 rain gardens installed

22 acres of impervious surface removed

20,558 urban trees planted

395,862 acres of Cover Crops in FY18

1,201 acres of riparian forest established

36,529 volunteers engaged

2,973 direct and indirect jobs supported

Annual Expenditure Plan (FY18 - FY20)

Targeted Activity	Project Partner	FY18 Actual	FY19 Current	FY20 Request	+/- FY19 to FY20
Accountability, Verification and Management					
1. Strategic Monitoring & Assessment	Natural Resources	\$400,000	\$400,000	\$400,000	\$0
2. Restoration Research Grant Program	Competitive grants	\$300,000	\$300,000	\$300,000	\$0
3. Implementation Tracking	Information Technology	\$200,000	\$200,000	\$200,000	\$0
4. Administration & Management (1.5%)	Natural Resources	\$695,000	\$793,970	\$804,380	\$10,410
Accelerating Restoration through Research & Development					
5. Innovative Technology Fund	Natural Resources/ University of Maryland	\$1,000,000	\$1,000,000	\$1,000,000	\$0
6. Manure Management through Proven Technology	Agriculture	\$1,660,000	\$1,600,000	\$1,600,000	\$0
Implementation Technical Assistance					
7. Agricultural Technical Assistance	Agriculture	\$3,290,000	\$3,290,000	\$3,290,000	\$0
8. Water Management Permit Expeditors	Environment	\$825,000	\$750,000	\$750,000	\$0
9. Field Restoration Specialists	Natural Resources	\$750,000	\$750,000	\$750,000	\$0
Sub TOTAL		\$9,120,000	\$9,083,970	\$9,094,380	10,410
Integrated Targeted Projects to Meet Maryland's Milestones					
Implementation of Agricultural Practices					
10. Cover Crop Program	Agriculture	\$11,250,000	\$11,250,000	\$11,250,000	\$0
11. Conservation Reserve Enhancement Program Bonus Payments	Agriculture	\$500,000	\$500,000	\$500,000	\$0
12. Grants to Farmers	Agriculture	\$2,000,000	\$2,000,000	\$2,000,000	\$0
13. Manure Transport Program	Agriculture	\$750,000	\$750,000	\$750,000	\$0
14. Governor's Phosphorus Management Tool Initiative	Agriculture	\$150,000	\$210,000	\$210,000	\$0
Implementation of Local Watershed Implementation Plans (WIPS)					
15. Cost-Effective Nonpoint Source Projects	Competitive grants	\$21,540,000	\$23,137,363	\$23,820,948	\$683,585
16. Natural Filters on Public Lands	Competitive grants	\$6,000,000	\$6,000,000	\$6,000,000	\$0
Sub TOTAL		\$42,190,000	\$43,847,363	\$44,530,948	\$683,585
GRAND TOTAL		\$51,310,000	\$52,931,333	\$53,625,328	\$693,995



Maryland
Department of Agriculture
Office of Resource Conservation

Maryland Agricultural Water Quality Cost-Share Program

Providing grants to help farmers
protect natural resources and
comply with environmental
laws and regulations



- The General Assembly created the MACS Program in 1982 as a key component of the Chesapeake Bay Agricultural Initiative
- The goal of the MACS Program is to provide financial support to farmers for the installation of BMPs that control and reduce agriculturally related water pollution
- 65% - 87.5% of eligible cost for over 30 conservation practices (\$50,000/\$150,000 or \$200,000/\$300,000)
- State (BPW approval) & Federal funding sources
- ~\$6mil - \$8mil annually
- 10 – 15 year Agreement between MDA, SCD & farmer/landowner
- Subject to Spot Checks to ensure compliance
- MACS Technical Advisory Committee
- State Soil Conservation Committee



Maryland
Department of Agriculture
Office of Resource Conservation

Maryland's Cover Crop Program

Providing grants to help farmers
protect the Chesapeake Bay

MACS

- Provides grants to help farmers offset seed, labor, and equipment costs associated with planting cover crops
- Maryland has earmarked approximately \$22.5 million for this year's program
- Farmers can receive up to \$75/acre to plant traditional cover crops on their fields this fall
- Various options including rye, barley, wheat, brassicas, legumes & forage radish
- All seed purchased for cover crops must be tested and labeled following Maryland Seed Law and Regulations
- Applicants must be in good standing with MACS and in compliance with Maryland's nutrient management requirements.
- Soil conservation districts conduct field checks on a percentage of certified acres to verify program compliance

CRP

Conservation Has Its Rewards...



- Federal-state partnership that pays top dollar to landowners who agree to take environmentally sensitive cropland out of production for 10 to 15 years to plant:
 - streamside buffers
 - establish wetlands
 - protect highly erodible lands
 - create wildlife habitat
- Provides steady, dependable land rental income
- This completely voluntary program offers:
 - a one time signing bonus of up to \$250 an acre
 - attractive annual rental and incentive payments
 - cost-share assistance for streamside buffers, wetlands, livestock fencing and more
- 100,000 acre statewide goal
- Landowners have the option of selling a permanent easement on their land to the State of Maryland



Maryland
Department of Agriculture
Office of Resource Conservation

Maryland's Manure Transport Program

Providing Grants to Help Farmers
Manage Manure



Now Less Paperwork—More Hauling

- Helps poultry, dairy, beef and other animal producers cover the costs of transporting excess manure off their farms
- Animal producers with high soil phosphorus levels or inadequate land to spread their manure can receive cost-share assistance of up to \$20 per ton to transport excess manure to other farms or alternative use facilities that can use the product safely
- To support Maryland's goal of transporting 20 percent of the poultry litter produced on the Lower Eastern Shore to other regions, cost-share rates are 20 percent higher for farms located in Dorchester, Somerset, Wicomico or Worcester counties
- Poultry Industry contributes 50% of transportation costs
- FY2017 \$1,174,690 in state grants for 2017 + \$453,038 in poultry match
- 241,941 tons of manure transported in FY2017



Maryland
Department of Agriculture
Office of Resource Conservation

Maryland's Manure Matching Service

Connecting manure suppliers
and users



- Connects farmers who have excess animal manure with nearby farmers or alternative use projects that can use the manure as a valuable resource
- Authorized by the Water Quality Improvement Act of 1998, the Service helps farmers manage manure resources, comply with nutrient management regulations, and protect water quality in streams, rivers and the Chesapeake Bay
- The Service is voluntary, free and available to both sending and receiving operations



Maryland
Department of Agriculture
Office of Resource Conservation

The Maryland Income Tax Subtraction Modification for Conservation Equipment



- Helps farmers offset costs associated with buying certain types of conservation equipment to control soil erosion, manage nutrients and protect water quality in streams, rivers and the Chesapeake Bay
- The subtraction modification allows farmers to subtract eligible equipment purchases from taxable income on Maryland individual and corporate tax returns
- Equipment includes:
 - Conservation Tillage / Vertical Tillage Implements
 - Deep No-Till Rippers
 - Manure Spreading/Injecting Equipment
 - GPS, Optical Sensing/Nutrient Applicators
- All equipment must be retained for three years following the tax year that the subtraction is taken

Helping Farmers Bridge the Cost-Share Gap

Maryland's Low Interest Loans
for Agricultural Conservation



- Available to help farmers install best management practices (BMPs) on their farms, purchase conservation equipment and adopt new technologies that help protect natural resources and safeguard water quality in streams, rivers and the Chesapeake Bay
- LILAC loans provide farmers with up-front funds needed to bridge the cost-share gap and get a project up and running
- LILAC loans may also be used to
 - purchase certain types of equipment to control soil erosion
 - inject manure into the soil or manage crop nutrients
 - adopt new technologies
 - integrated optical sensing equipment
 - nutrient application equipment
 - global positioning systems that manage agricultural nutrient applications
- Guaranteed by the Maryland Water Quality Revolving Loan Fund, LILAC loans are typically offered at three to four percent below market rates and are available at lending institutions statewide. Read on to learn more.

NOW ACCEPTING APPLICATIONS

JUMP START YOUR SPRING PLANTING

with cost-share grants for manure injection



Cost-share grants are now available from the Maryland Department of Agriculture to help farmers inject all types of liquid manure into their fields. Grants are available for spring or fall-planted crops and may be used to hire custom operators, rent or lease equipment, or offset operating costs associated with manure injection. Call or visit your soil conservation district to jump start your spring planting today!

Advantages of Manure Injection

- ▶ Reduces odors and complaints from neighbors
- ▶ Reduces nitrogen volatilization—more nitrogen is available to crops
- ▶ Minimizes soil disturbance—helps prevent soil and nutrient losses
- ▶ Works well with no-till and strip-till systems

Guidelines and Conditions

- ▶ Manure must be injected below the soil surface
- ▶ Grant applications must be approved **before** work begins
- ▶ Applicants must be in good standing with the Maryland Agricultural Water Quality Cost-Share (MACS) Program and the Maryland Nutrient Management Program
- ▶ Additional restrictions may apply

Manure Injection Eligible Cost-Share Expenses

Expense	Cost-Share Rate
Use of purchased injection equipment to inject manure	Up to \$45 an Acre (Must submit invoices)
Rent or lease manure injection equipment	
Hire a custom operator to inject manure	
Drop off/pick up of equipment	
Not eligible for cost-share:	
▶ Cost to transport manure from the storage structure to the tanker in the field using auxiliary equipment	
▶ Cost to pump or agitate manure	



Maryland
Department of Agriculture

Office of Resource Conservation

1-855-6MANURE

mda.maryland.gov/manure



2018 Request for Proposals

Demonstration of Innovative Technologies to Manage Animal Manure

The Maryland Department of Agriculture seeks to fund one or more projects demonstrating proven and innovative technologies that manage agricultural manure and on-farm generated waste in a manner that improves its utility as a fertilizer, changes its form or function for alternative uses, or produces energy or other marketable products. The project must reduce the movement of nitrogen and/or phosphorus that is associated with animal manure produced on Maryland farms to the surface waters of the State.

Who Is Eligible?

Individuals, businesses and non-profits in good standing to do business in Maryland and State and local government entities.

- ▶The proposed technology must have been previously implemented and be either commercially available or proven to function as described in the proposal. The technology must reduce the movement of nitrogen and/or phosphorus that is associated with animal manure produced on Maryland farms.
- ▶Technologies in the research and development stage are not eligible.
- ▶Proposed projects must be located in Maryland.
- ▶Proposals must include verification that a site has been secured to implement the technology.

▶The applicant, identified subcontractors, experts, or partners, shall have at least three years experience with the proposed animal manure technology.

Amount

Up to \$3.5 million will be granted. Approximately \$2 million of this amount will be directed to renewable energy or related components of project (s). There is no maximum or minimum request.

Process

Applications will be reviewed by the Evaluation Committee. Awards will be made by the Secretary of Agriculture on advice of the Animal Waste Technology Fund Advisory Committee.

Contact

Louise Lawrence

Maryland Department of Agriculture
50 Harry S. Truman Parkway | Annapolis, MD 21401
410.841.5873 | louise.lawrence@maryland.gov

Closing Date and Time

December 29, 2017 at 4 P.M. Local Time



Maryland
Department of Agriculture
Office of Resource Conservation
mda.maryland.gov/manure



Farm with Certainty

MARYLAND'S AGRICULTURAL
CERTAINTY PROGRAM



*A certification program for
Maryland's top conservation farmers.*

- In 2012, MDA received a CIG grant from USDA to develop a Certainty Program.
- During the following Legislative session SB 1029 was introduced and passed creating the Maryland Agricultural Certainty Program.
- Provides a “safe harbor” (regulatory relief for any new regulations with regards to nitrogen, phosphorus and sediment) for farmers who meet and exceed their local TMDL reductions at the farm scale.
- Goal: is to allow farmers to conduct business in a predictable regulatory environment, while providing certainty that agricultural pollution controls are being implemented.



Welcome to the Maryland Nutrient Trading Program . . .

Please Read This Notice before Using the Maryland Nutrient Trading Tool

As of May 1, 2014, the Maryland Nutrient Trading Program launched the latest version of its online tools. The World Resources Institute (WRI), which partners with the Maryland Department of Agriculture (MDA) and the Texas Institute for Applied Environmental Research (TIAER), has utilized the Maryland trading platform as the template for a new multistate platform that can be accessed by users in Maryland, Pennsylvania, and Virginia. WRI and TIAER have transferred all existing accounts from the Maryland platform to the new multistate platform. They are also in the process of transferring the 253 farm worksheets for users who met the April 16 deadline for transfer requests.

To enter the new site, you can continue to use www.mdnutrienttrading.com or alternately you can switch to www.cbntt.org. However, it is recommended that you continue to use the former web address so that you can find specific information and/or learn about activities related to Maryland's program. **For those who had an existing account established before May 1, your account can be found under your current username, but you will have to change your password in order to access your worksheets.**

Because the latest version of the calculation tool incorporates any needed modifications since the last update, as well as changes required by current Maryland Nutrient Management regulations, there have also been some changes to the format for entries. You will have to make a few revisions to your worksheets to reflect the data entries for meeting the new setback, stream fencing, and manure incorporation requirements. When these have been

Governor
Larry Hogan
Lt. Governor
Boyd K. Rutherford



[View Nitrogen and Phosphorous Credits](#)

[Login to CBNTT](#)

[Login to Market \(Under Construction\)](#)

[Technical References & Guidelines](#)

- [Guidelines for Agricultural Credit Sellers](#)
- [Guidelines for Agricultural Credit Buyers](#)
- [Policy for Point Source Buyers & Sellers](#)
- [NRCS BMP List \(PDF\)](#)



GrowingBlue™



Questions

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Open Q&A



Q&A

Thank you!



Thank you for attending the webinar.