

## Maryland Agriculture and Nutrient Trading

Maryland farms offer an untapped opportunity to bank nutrient credits and help public facilities and private industry meet water quality standards. This is an opportunity for a private-public partnership to provide a market based incentive for environmental improvements. Many farming and conservation practices do an excellent job of holding nutrients in the soil profile for extended periods.

There are opportunities to improve nutrient removal by encouraging farmers to adopt many of the farming practices that both conserve soil, energy and nutrients on a long term basis.

Production practices that sequester nutrients on cropland include:

- Conservation tillage and residue management
- Improved crop rotations and winter cover crops
- Improved fertilizer management
- Use of organic manure and byproducts
- Improved irrigation management

Production practices that sequester nutrients on pastureland include:

- Improved use of fertilizers
- Use of organic manure
- Planting of improved species
- Grazing Management

Land use changes that sequester nutrients include:

- Conservation buffers
- Restoration of wetlands
- Croplands shifted to perennial grasses
- Afforestation of cropland
- Afforestation of pastureland

Focusing on the production practices commonly used in Maryland there is an opportunity to encourage adoption of the practices, provide an incentive or land rental type payment to the farmers for maintaining the practices for an extended period and achieving several objectives: nutrient retention, carbon sequestration, soil health improvement, energy savings and improved water quality in the Chesapeake Bay.

**Problem:** There is no central organization capable of promoting, tracking and managing the potential non-point nutrient credits. Industry may be interested in purchasing nutrient credits and investing money into the agricultural sector but there is no framework or infrastructure to facilitate and manage the activity.

**Proposed Solution:** The Maryland Department of Agriculture and the USDA, Natural Resources Conservation Service need to partner to establish an agricultural nutrient trading bank. Both agencies offer various programs that would encourage and maximize

nutrient sequestration. The Maryland Department of Agriculture would establish the mechanism to obtain and manage funds from private industry, establish contracts with local farmers and manage the program on the ground. USDA, NRCS would provide the technical expertise and nutrient sequestration payment funds for farmers through the Conservation Security Program (more details in the Opportunities section). This bank and the technical experts associated with it could also assist farmers with the reporting requirements and verify the accuracy of the reporting.

### **Program Stacking**

Current programs offered by both the State of Maryland, Department of Agriculture, and the USDA, Natural Resources Conservation Service (NRCS) could be combined with assessments or payments from private industry seeking interim nutrient credits. The programs and opportunities follow:

- NRCS Conservation Security Program: Offers a long term rental payment for various tiers of conservation and management practices utilized on the farm. An additional payment could be added by the State of Maryland for the top tier when the practices that sequester nutrients are utilized. Funds could come from public entity or industry payments or assessments to the state nutrient sequestration fund. This assures a long term commitment to maintaining the farming methods most beneficial to the environment.
- State of Maryland and NRCS: Nutrient Management plans in place and followed. The State requires all farm operators to have a current Nutrient Management Plan in place. NRCS provides assistance in developing plans for CAFOs. NRCS and MDA provide cost sharing assistance on nutrient management plan development. This assures proper fertilizer management and manure use with minimal environmental damage while maintaining maximum crop yields and sequestering nutrients.
- NRCS and State of Maryland: provide cost sharing assistance on implementing conservation practices through the Environmental Quality Incentives Program (EQIP) and Maryland Agricultural Water Quality Cost Share Program (MACS) respectively. This includes land use conversions of pasture or trees. This provides the establishment costs of conservation practices such as buffers, wetland conversions, grassed waterways, animal waste management facilities, etc. Once established the farmer is obligated to maintain the practices for the lifespan of the practice, usually 10 to 20 years depending on the practice.
- State of Maryland and NRCS provide funds for easement purchases through the Maryland Amland Preservation Foundation (MALPF) and the Farm and Ranchland Protection Program (FRPP) respectively. This assures that the farmland will remain as open space farmland in perpetuity.
- State of Maryland offers the Low Interest Loans for Agricultural Conservation Program (LILAC) which offers an interest subsidy for agricultural practices and

equipment which improve water quality and sequester nutrients as an additional benefit.

Combined cost sharing assistance and incentive payments are utilized to implement continuous no-till on all cropland acres, winter cover crops are used each year with incentive payments provided, fertilizer and manures are applied according to an approved nutrient management plan, the irrigation system is improved and managed according to the latest technology, streams are all buffered and wetlands are restored. This will qualify the farmer for the top level of payment in the Conservation Security Program and also qualify them for a Nutrient Trading Payment for the life of the contract.

### **Opportunities for MDA and NRCS:**

An agricultural nutrient trading bank is needed to serve as a brokering and contracting service between industries that need to mitigate their nutrient releases and farmers who hold the key to managing the non-point nutrients on agricultural land. The bank would receive mitigation payments from industry and contract with farmers for long term farm maintenance.

The bank would verify that the farmers have optimized their farm management regarding conservation practices and operational management strategies in place. This is to assure maximum environmental improvement while farming and managing the land. A certification would be documented. This bank and the technical experts associated with it could also assist farmers with the reporting requirements and verify the accuracy of the reporting.

The farm owner has the opportunity to install all necessary conservation practices to reach the optimized level of conservation on the property. All applicable federal and state programs could be utilized (EQIP, CREP, MACS, MALPF, LILAC)

Once the farm operation has been certified by the technical experts then the bank would consummate a contract with the farm owner for long term maintenance and management of the property. This could include, at the landowner's discretion, all applicable long term program payments such as all Agland Preservation Program Payments, all CSP payments, all Nutrient Trading payments, all CREP, WRP and other agricultural easement program payments.

Annual reviews would be conducted on the farm with the farm owner to assure that required practices and management strategies are in place and properly maintained. These reviews could be conducted by private Technical Service Providers funded by administrative costs from the various programs managed through the bank or the staff of the local Soil Conservation District in each county.

Initially this could be a joint venture between the MDA, MDE, NRCS and the Maryland Association of Conservation Districts (MASCD) with the goal of bank establishment within 12 months.

**Actions needed:**

- MDA, MDE, NRCS and MASCD need to agree on the concept.
- MDA needs to engage all appropriate elected officials, state agencies and affected industries in the development and implementation of a business and marketing plan.
- MDA needs to plan for and provide staffing, office space and related business operation necessities.
- NRCS needs to accelerate the CSP watersheds in Maryland to a 3 year implementation schedule and continue to provide funding for the various CSP Tiers.
- NRCS needs to provide training to TSP's that will be engaged in the planning and certification of the farms.
- NRCS and MDA need to review payments, cost share incentives to assure adequate assistance to farmers to achieve the project goals.