

National Association of Conservation Districts

WATER QUALITY TRADING NONPOINT CREDIT BANK MODEL

Introduction

In January 2003, EPA announced final policy on the concept of water quality trading as one potential option to help finance and solve water quality problems on a watershed basis. A typical trading system would allow credits to be sold by those who can voluntarily implement water quality measures to those who need them to achieve a regulated water quality standard that they cannot provide by themselves. Trading could help to finance watershed restoration or Total Maximum Daily Load (TMDL) implementation plans. (See Appendix, *An Introduction to Water Quality Trading*).

When a trading program allows trades involving nonpoint sources, landowners could agree to implement agricultural best management practices (BMPs) that they are not required by law to implement and would generate credits based on the BMP's ability to control nutrients or sediment. Generally, agricultural credits can be sold for less than credits generated by point sources or industry because they cost less to install and maintain.

The conservation community should provide leadership and encouragement to create water quality trading programs wherever feasible because it provides another source of incentives for landowners to voluntarily install the same BMPs that the conservation community has been endorsing for decades. Those practices provide more environmental improvements than nutrient and sediment control. BMPs also provide erosion control, carbon sequestration, animal waste management, wildlife habitat and floodplain management.

The design and promotion of a relatively unknown, market-driven concept such as water quality trading must be carefully planned and presented in order to be perceived in a favorable light and draw enough players to make it effective. Preliminary negative perceptions can present acceptance problems to any new program.

There are several perception and other issues that may present barriers to establishing a good start for a water quality trading program. In reviewing existing programs around the country, it is NACD's conclusion that establishing a water quality trading program to operate as a bank for nonpoint credits within a state agricultural cost-share program would resolve a number of those issues and would present the best format for channeling trading revenue to conservation on the land.

Barriers to Acceptance

Several factors could present acceptance problems to buyers, sellers and the general public. Those factors include:

- **The trading mechanism**– The concept of environmental credit trading is new and somewhat mysterious to many. Some may be skeptical that trading will provide an

opportunity for regulated entities to buy their way out of achieving tougher environmental standards. Although water quality or carbon trading is based on the remarkable success achieved by sulphur dioxide trading established in the Clean Air Act Amendments of 1990, there is currently little to show by completed trades to prove that water quality trading can also be successful. Even after a trading program is established in a watershed, there will be caution exercised by both buyers and sellers as they attempt to negotiate deals when a market price has not yet been recognized. The presence of a trading bank can instill some confidence and stability at the start by setting the price.

- **Combining credit sales with cost-sharing** – Some trading programs have been established with rules that if a BMP has been installed with cost-sharing provided, a landowner can only sell the percentage of credits generated by his share of the installation cost. For example: if a BMP was cost-shared 70% and generated 10 credits, the landowner is only entitled to sell 30% of the credits or 3 credits. Some have claimed that the perception of selling credits is “unduly enriching individuals”, while cost-sharing is perceived as an incentive that constitutes the public benefit derived from stopping pollution before it starts on private land.

NACD perceives credit sales as another form of voluntary incentives that should be regarded the same as cost-sharing. It is a way for two forms of incentive from different funding sources to leverage each other’s efforts by working together to increase participation in a voluntary program to put conservation on the land. The increased combined incentive may convince those who have so far resisted accepting the standard cost-sharing rates alone or credit sales, if it was conducted alone. Increasing incentives for the same BMPs is very similar to the intent behind the establishment of the Conservation Reserve Enhancement Program (CREP). Increasing incentives within a targeted area results in greater participation, which will be necessary to generate sufficient credits to be meaningful in a trading program. Working through a bank within a state cost-share program that uses the combined assets of cost-share funds and credit sales to increase cost-share rates or extent cost-share funds would hopefully remove the stigma perceived by some that the process of selling credits for a cost-shared BMP is improper.

- **Concerns about operating costs** – If buyers had to negotiate individually with farmers to buy water quality credits, transaction costs would be high. Depending on a buyer’s need for credits, he might need to make dozens or hundreds of individual sales to cover his requirement. Buyers might also find themselves responsible for verifying the continued maintenance of a BMP and replacing BMPs that fail to function as planned.

A cost-share program has an existing infrastructure that includes administrative, technical and financial services operating through a state office and a network of local conservation districts with the capability of inspection, verification and adequate record keeping. A trading bank within a cost-share program would allow a buyer to purchase credits without the necessity of verification or additional insurance, although the bank may find it necessary to assess a fee to cover additional verification and insurance.

The Nonpoint Trading Bank Model

This model is based on the concept of a water quality trading bank for nonpoint credits being established as a component of a state cost-share program. It is based on the efficiency of using the existing funding, procedures, staffing and infrastructure of a state cost-share program. The bank sells the credits generated by implemented, cost-shared BMPs. Credit sale revenue is accounted for separately, but then can be added to state funds to either increase cost-share rates, extend cost-share funds at the same rate or provide credit sales to farmers in addition to cost-share (see *Credit Sale Revenue Scenarios*). There should be little or no difference between the requirements for the regular cost-sharing program and a credit trading. The Bank may create special BMPs that generate credits but might not be in the cost-share program.

Cost-Share Program Features

A cost-share program performs the following services:

- **Establish/Revise Standards** – Standards and specifications for BMPs and their maintenance requirements are established and reviewed periodically.
- **Set Cost-Share Rates and Areas for BMPs** – Cost-share rates are set to increase incentives for priority BMPs. Areas can be targeted where severe pollution is taking place or to support a specific project.

Using credit sale revenue, cost-share rates for selected BMPs could be increased to raise participation or extend the amount of funding at the standard cost-share rate, whichever is anticipated to result in the desired level of voluntary participation.

- **Create Mechanism to Cover Losses**– Policy can allow additional cost-share payments for the restoration of BMPs damaged by acts of God. In the case of negligence or fraud, the landowner is required to return the cost-share payment amount.
- **Verification through Field Spot Checks** – Conservation districts or NRCS field office staff make periodic field visits throughout the maintenance life of a BMP to verify that the practice is still in place and functioning properly. An annual percentage of all existing BMPs with a maintenance life over one year is established for spot checks. Annual cost-shared BMPs such as cover crops are not paid until field staff verifies that the cover has been established; or, in the case of conservation tillage, that adequate residue is established. A visit to a farm for one BMP can also verify any other active BMPs on the same farm.

Some state cost-share programs allow “piggy-backing” on federal cost-sharing through programs such as the Environmental Quality Incentives Program (EQIP). If the state offers a higher rate than EQIP, the landowner gets the higher rate, EQIP pays its rate and the state pays the difference. This arrangement would leverage even more funding to apply BMPs that generate credits. EQIP requires field checks each year for the first several years. State cost-share programs may generate a random selection of practices by computer that does not consider if EQIP practices are involved. The net result is that more BMPs are field checked each year than state records might indicate.

Nonpoint Trading Bank Features

- **Defining a Credit** - A credit may be defined as a unit in effect for the entire maintenance life of a BMP, which in many cases would be 10 years. Adjustments may need to be made for the value of BMPs with different maintenance lives. Using the Revised Universal Soil Loss Equation (RUSLE) or some other approved scientific method, the pollutant control capability of each cost-shared BMP and thus, the corresponding number of credits generated by each eligible BMP is determined.
- **Set Credit Price** – The Bank will establish the price for eligible credits and the time period that it will hold until it will be reviewed again (annually or as the market might demand). The credit price may also reflect add-on charges if it is deemed necessary for operating costs in the event that the additional activity will require more staff and support infrastructure.
- **Credit Price Versus Maintenance Life** – As BMPs have different maintenance lives, the credit price should be pro-rated against a standard maintenance life. If the standard maintenance life were set at 10 years (covering most vegetative BMPs), those BMPs with different maintenance lives would have different credit prices. Structural practices, such as animal waste management facilities, have 15-year maintenance lives and their price would be 1.5 times the standard credit price. Annual practices, such as cover crops or conservation tillage, would be available at 1/10 the standard credit price.
- **Determine Eligible Credits Against Baseline** – if agriculture has a baseline of pollution reduction to reach as established by a TMDL or other requirement, the bank must determine a method of ensuring that the baseline is deducted from the total implementation of BMPs to arrive at the total of eligible credits to sell, either by individual landowner or by county or watershed totals.
- **Establish Margin of Safety** - establish a margin of safety that will compensate for the uncertainty of measurement, variable on-the-ground performance through the maintenance life of a BMP and other risks to desired environmental improvements.

Operating the Bank

- **Providing the Initial Credits for Sale** - When the trading program is established, a base year and a baseline for nonpoint source pollution reduction are set. The bank has an opening balance of credits based on all eligible BMPs implemented within the trading watershed boundaries, with results above the baseline, accumulated from the start of the base year to the Bank's opening. The implementation of BMPs that created all of these initial credits were funded with state cost-share and private landowner funds only. The Bank's capacity to generate additional credits for sale will be based on the implementation of BMPs within the trading watershed funded by the combination of state cost-share funds plus the portion of credit sale revenue allocated to cost-sharing.

- **Issue Credits to Buyers** – Buyers purchase credits that are in effect during the full maintenance life of the BMPs that generate them. The Bank is responsible for verification and insurance.
- **Coordinating Cost-Share Funds with Credit Sale Revenue** - Revenue from credit sales are held in a special fund that will allocate amounts to be added to cost-share funds for targeted areas. The amount of revenue allocated for cost-sharing is combined with state cost-sharing funds either as:
 - an additional amount to raise the standard cost-share rate on selected BMPs (ex.: 10% added to a state cost-shared BMP of 70% to total 80%);
 - a lump sum of additional funds to be allocated only in a targeted area that extends the amount of implementation at the standard cost-share rate on more BMPs in that area; or,
 - providing credit sales to farmers on either a pro-rated or full basis.

The Bank needs to determine the appropriate level of incentive to achieve the desired response in participation and the resulting number of BMPs on the land.

Verification and Maintenance

State cost-share programs usually require a percentage of existing BMPs to be field checked each year. In general, most vegetative BMPs have a 10-year maintenance life and structural BMPs, such as animal waste storage facilities, have a 15-year maintenance life. Any practices implemented due to credit sales should have the same maintenance requirements as it would with cost-sharing alone.

Technical assistance and field verification are usually performed by conservation districts and USDA service centers. Field checks also present the opportunity for planners to meet with landowners to discuss the status of their conservation plans and the possibility of applying new BMPs. If the volume of BMP planning, implementation and maintenance field checks increases dramatically due to water quality trading, the Bank may wish to consider increasing the credit price to help cover increased infrastructure costs.

Record Keeping

Adequate record keeping is required to accurately track the sale of all credits. Those who monitor a buyer's performance standards may require records that can show who is implementing the BMPs that generated the credits, the location of BMPs on each property, the date and frequency of field checks and when the full maintenance life has been reached. The Bank will provide the official registry of credit sales and BMP implementation and will require timely responses from conservation districts on implementation and maintenance checks.

If a watershed restoration project or TMDL requires agriculture to establish a baseline of water quality, that level must be deducted from either the individual contribution or as a percentage of the total BMPs implemented within the watershed.