Ag Workgroup Status Report

Workgroup: Ag Workgroup

Status Report Date: July 18, 2006

Team Leader(s): Cedric Karper

Team Members in Attendance:

Bill Angstadt, Consultant
Alex Chianittini, Red Barn
Don McNutt, Lancaster CD
Marel Raub, Chesapeake Bay Commission
Andrea Sharretts, PFB
John Bell, PFB
Michael Hubler, Dauphin CD
Doug Goodlander, State Conservation Commission
Peter Hughes, Red Barn
George Wolff, Wolff Strategies
Brenda Shambaugh, PACD
Sue Yenchko, American Water
Jenny Guiling, WRI
George Wolff, Wolff Strategies

DEP:
Cedric Karper
Mark Dubin
Duke Adams
Jim Spontak

Issue (s) Addressed:

- Use of Chesapeake Bay Model to Determine Tradable Credits
- Baseline Requirements
- Threshold Requirements
- Trading Ratio
- Credit Generation Methodology
- Edge-of-Segment Ratio
- Segment Cap Loads

Status Report:

The Ag Workgroup met for their 7th meeting on July 18. Workgroup members continued to express concern that the current direction for nutrient trading, which is predominantly based on the Chesapeake Bay Model for measuring tradable credits, will not provide sufficient financial incentives for farmers to actively seek participation in nutrient trading. The Workgroup believes that efforts should continue after initial establishment of the nutrient trading program to look at more suitable alternatives.

The Technical Subgroup of the Ag Workgroup, at its meeting of July 5, recommended review of alternative models, such as the Generalized Watershed Loading Functions (GWLF) Model, for use in determining tradable credits. Ag Workgroup members were informed that the GWLF model, as it is currently used by the Department, is not adaptable for use in estimating nutrient effects from improved agricultural practices, and further work would need to be made to the GWLF model before a meaningful assessment of its usefulness in determining tradable credits from BMPs can be made.

Recommendations for Initial Nutrient Trading Program:

The following are the group's recommendations for the Chesapeake Bay Tributary Strategy Steering Committee.

Baseline Requirements

- Compliance with Act 38 Nutrient Management Regulations, Chapter 102 Erosion & Sedimentation Regulations, Chapter 91.36 (Agricultural Operations) when applicable, and Chapter 92 (CAFOs) when applicable.
- Compliance can be determined through a site inspection OR verification of the development and implementation of a Nutrient Management Plan, E&S Plan or a Conservation Plan, as well as a Manure Management Plan when applicable.
- Compliance must be verified by DEP, Conservation District, or other delegated agent.

It is also understood that the baseline compliance checklist is currently being worked on through an ACRE grant by the Department and 3 participating Conservation Districts; Bradford, Lancaster, and Westmoreland. The Ag Workgroup expressed concerns about the language currently contained in the Agricultural Baseline Checklist (Exhibit B) of the Draft Nutrient Trading Program Guidance Document being reviewed by the Nutrient Trading Workgroup as susceptible of misstatement or misinterpretation of farmers' legal requirements. The Workgroup recommends that the checklist to be used by reviewers to determine farmers' compliance with baseline to ensure that the checklist clearly and accurately reflects required standards for farmers to reach baseline and does not state or suggest standards or requirements that go beyond farmers' legal requirements.

Threshold Requirements

- 100 Foot mechanical setback is achieved when ***ONE of the following*** is performed:
  - Manure is not mechanically applied within 100 feet of a stream
  - There are no surface waters on or within 100 feet of the farm.
  - Farm uses no manure application and applies commercial fertilizer at or below the Penn State recommended agronomic rates.

OR

- 35 Foot buffer is achieved when:
  - A minimum of 35 feet of permanent vegetation is established and maintained between the field and the stream.

- Area can be grazed or cropped under a specific management plan, and permanent vegetation must be maintained at all times. *(Permanent vegetative buffers 50' or greater in width may qualify to generate nutrient reduction credits.)*

OR

- 20 % Reduction Option
  - A reduction of 20% in the farm's overall nutrient balance beyond baseline compliance.
  - It should be noted that the Ag Workgroup is split in its decision on the use of this option. A compromise was met to keep it available at the present time to current proposals, the "Strawman" districts and other district nutrient trading grants. The results of how the districts use the option and its success or failure will be discussed by the Ag Workgroup in the future.

Trading Ratio

- Farms utilizing 100% Commercial Fertilizer Applications: Trade at 1:1
- Farms utilizing Manure or Manure/Commercial Fertilizer Applications:
  - Trade at 2:1 for reductions 1-20% beyond baseline nutrient recommendations (Operation's historical nutrient management or minimal acceptable PSU agronomic rates, whichever is less) and Threshold requirements
  - Trade at 1:1 for reductions greater than 20% beyond baseline nutrient recommendations (Operation's historical nutrient management or minimal acceptable PSU agronomic rates, whichever is less) and Threshold requirements
- Farms opting to use the 20% Reduction Threshold Option, must achieve an additional 20% reduction in nutrients beyond Threshold in order to trade at 1:1
- It should be noted that other than PA Farm Bureau representation, the Ag Workgroup as a whole supports this Trading Ratio Approach. The PA Farm Bureau contends that all farm operations should trade at 1:1

Credit Generation Methodology

1) Determine if farm is in Baseline Compliance and meets the Threshold for trading
2) Determine current rates of nutrient application
3) Account for any overall reductions in applications
   - Commercial Fertilizer Applications – Reduction in commercial fertilizer applications below PSU agronomic rate
   - Manure Applications – Reduction in total manure applications below current practices (and below minimal acceptable PSU agronomic rates) through better manure management practices.
   - Combination – Reduction in total nutrient applications (manure and commercial fertilizers) below current practices (and below PSU agronomic rates) through better manure management practices.
4) Calculate new nutrient load not going to crop production.

5) Apply EOS factor to load
6) Calculate nutrient reductions from BMP efficiencies. BMP Efficiencies can be calculated from the following methods:
    - *Table 1: Nonpoint Source Best Management Practices that have been Peer-Reviewed and CBP-Approved for Phase 5.0 of the Chesapeake Bay Program Watershed Model, Revised 1/12/06*
    - *Table 2: Nonpoint Source Best Management Practices requiring additional Peer-Review for Phase 5.0 of the Chesapeake Bay Program Watershed Model, Revised 1/12/06*
    - Additional methods or Tables that have been approved by the Department
7) Total all nutrient reductions in terms of Pounds
8) Apply Delivery Ratio
9) Apply Trading Ratio
10) Apply Retirement Ratio
11) Total Credits available

Edge-of-Segment Ratio

The Edge-of Segment (EOS) Ratio continues to be a sticking point for the Ag Workgroup. At the present time for the purposes of current proposals, the "Strawman" Districts and other District nutrient trading grants the EOS ratio should be applied as it stands. However, The Workgroup is requesting additional research go into the use of a Generalized Watershed Loading Functions (GWLF) Model to determine EOS. Additionally, the Workgroup recommends that additional research be made to see if the Chesapeake Bay Watershed Model could be used to make further adjustments in the EOS ratio to reflect sub-watershed segments based on distance from a farm to the stream.

The Ag Workgroup understands that credits must be generated on load reduction of the nutrients delivered to the bay. At the present time the Chesapeake Bay Watershed Model is the tool we have to generate those numbers. In the future if better approaches can be developed to more accurately measure tradable credits from individual farms or small watershed areas, the nutrient trading program should adapt to include those approaches.

Segment Cap Loads

It was discussed by the group and should be noted that each segment has a maximum load cap that can be traded. As trades are generated it will be important for the Department to track these trades within segments to insure that these cap loads are not exceeded.

The Ag Workgroup is scheduled to meet again on Sept. 21.