

# Eastern Shore Collaborative Initiative

Third Meeting  
4H & Extension Office, Denton, Maryland  
Tuesday, July 22, 2008

## Welcome and Purpose

Joanne Throwe, from the University of Maryland Environmental Finance Center, welcomed participants and noted that this meeting would build on the work of the first two meetings. Based on the topics identified by participants at the second meeting, she had invited a series of speakers for the Collaborative to learn about relevant projects and issues. With these presentations, the Collaborative will be able to narrow its focus and decide on “next steps,” including specific projects it may wish to support or initiate.

*For decisions made at previous meetings about the Collaborative goals and structure, see Appendix 1.*

## Presentations

***Farmer Certification Program Grant:*** Lynne Hoot, Maryland Association of Soil Conservation Districts (MASCD)

Lynne described the proposed certification program that MASCD is seeking to establish. She has already received \$50,000 to get the program rolling, but anticipates needing \$500,000 to run the pilot program for three years. Her timeline is: a) six months to develop the criteria for the program; b) six months to pilot the criteria with one or several farms; and c) 2 years to test the program on a larger scale.

The details of the certification program are just being worked out now, and she is seeking input from different organizations to develop the program. The Chesapeake Bay Foundation is working with her, as well as the Maryland Assn of Soil Conservation Districts.

To obtain certification, farmers would need to have certain things in place. These have not been worked out, but preliminary thinking is that the following items could form the basis for certification: nutrient management plans are implemented, best management practices are implemented, conservation measures are implemented, integrated pest management is used. Other items could include feed management, air quality standards, and nutrient and carbon trading. To work, certification would also need to be voluntary and have certain elements of confidentiality.

A key question discussed during Lynne’s presentation was the potential benefit to farmers: what would be their incentive for wanting to get this certification? Concern was expressed that farmers are already burdened during winter months with reporting requirements. Several ideas for benefits emerged: 1) Certification could offer the benefit that the farm wouldn’t need annual state inspection; 2) Certification could help farmers *show* or demonstrate that they are doing a

good job, environmentally; 3) Certification might also help the farmer know he has credits to sell or to trade.

Certification would be different from the “Master Farmer” program, which is an *award* program that seeks to recognize financial and community services, but not environmental stewardship. The Marine Certification Program is also not seen as a good model for this certification, because it is based on a check-off system. Part of the goal for this program is to ensure that the environmental community buys into it, and that certified farms are able to benefit from recognition by the environmental community. If the environmental community is able to support a simple check-off system, then that could work, but the system selected must be meaningful to the environmental community.

Lynne was encouraged to include in her budget request some funding for communication, to help spread the word and build support for the program.

The group discussed whether and how it might be able to support this project. Support could take the shape of helping Lynne develop the program, providing services, and more. A paper was circulated for participants to indicate whether and how they might be able to support this project.

#### **AgVenture’s HighQ Program:** Mike Twining, with Willard Agri-Service

Mike described High Q’s history and purpose, which is to take elements of “precision ag” and enable farmers to use and manipulate data for sound decisions. The basic concept behind HighQ is that high productivity is good for the farmer, good for the Bay and good for the environment. With high productivity, more nutrients are actually taken up by the crop and not available for run-off or leaching into groundwater.

He described the development of the computerized program and how it works with farms, using layered GIS mapping, and computerized tracking of inputs and outputs over time. Farms must have a minimum of 200 acres to participate. A surprising discovery, after years of working with farms and testing various decisions, is that the limiting factor for productivity, contrary to current wisdom, is not soil type. They have learned that productivity depends on several factors; while soil type is one of these factors it is not necessarily the limiting factor. A key way to measure productivity is “nutrient use efficiency.” Since 1975, for example, corn yields have increased 40 percent, while nitrogen applications have increased only 12 percent, meaning that nutrient use efficiency has actually increased by 29 percent. He also noted that they have found irrigated land to be more efficient at using nutrients than non-irrigated land, as it enables crops to better absorb the nutrients.

So the goal of HighQ is to increase nutrient use efficiency through a detailed analysis of every part of the farm over time. Recommendations might vary greatly from one field to another, or even sections of fields, within the same farm. Recommendations for one farm are not applicable to other farms, even if they are adjoining land. The key to success is analysis of detailed data of every input on every part of every field, and comparing these with detailed data on yields.

Mike suggested that the farmer of the future will have a different kind of “bragging rights:” while farmers have always bragged about *yield per acre*, now he envisions that farmers will

begin bragging about *dollars per acre*. In response to a question, Mike noted that farmers are very receptive to this approach, because it appeals to their interest in maximizing yields for the minimal cost and, at the same time, is good for the environment.

The group discussed how this work could be useful to others, and most agreed that this approach is very attractive to farmers and researchers and environmentalists, alike.

Mike said he would be open to working with the research community to integrate soil and groundwater testing into the analysis. He agreed that it would be important to add an ecological component to the program.

Some members of the Collaborative mentioned specific interests and potential applications for this tool:

- Could HighQ be a powerful tool for using targeted fertilizer application to reduce nitrogen in soils?
- How could research findings be disseminated for the benefit of all? Mike suggested that HighQ might be one way for farmers to get an objective “report card” for the farmer certification.

**University of Maryland and University of Delaware proposals to obtain accurate data on litter production:** Bud Malone, with University of Delaware Cooperative Extension

Bud’s grant proposal was sent to the Collaborative in advance of the meeting, and he spent some time summarizing its purpose. He stressed that it is equally important to know where litter is *going*, not just how much is being produced. As the economics of farming change over time, the situation of surplus litter may change. So it’s critical to understand the *factors influencing* whether or not there is a surplus. In response to a question, Bud indicated that the grant proposal does not include funding for an economist to help formulate the questions for the farmers.

One suggestion was made to change the language used, so that, instead of talking about *tons* of manure transported, the project would talk about *pounds* of nutrients, which is more meaningful for water quality. Some participants expressed concern that the timing of Bud’s study would mean that the data was already outdated by the time of completion. Other participants said the study would hold up under close scrutiny because the data has gone through scientific rigor, meaning that it would be trusted by policymakers, environmentalists, and others.

A hybrid approach was suggested by some: perhaps a quicker scan of the data – such as using number of birds killed – could provide faster interim results, while the longer data trends and analysis could provide scientifically rigorous findings.

**Manure Transport and Matching Programs:** Norman Astle, Maryland Department of Agriculture; and Bill Massey, Delaware Department of Agriculture

Norman and Bill described their respective state programs for matching farms that have excess manure with farms that need manure. In Maryland, less than five percent of manure actually leaves the state. The mushroom industry uses between five to seven tons of manure per years, mostly Chester County, PA and Kent County, MD. The material returning *from* mushroom

farms in Pennsylvania is a good source of organic matter, but with lower nutrient values in nitrogen.

There was some discussion about whether there is an excess or shortage of manure in Maryland. Norman expressed that, based on their existing data there is a shortage of manure. The Attorney General had stated publicly that there is an excess, even though he receives the data from Norman's office.

Bill explained that Delaware has privatized its nutrient management planning and now has almost 2000 certified planners. Relocation of manure has increased significantly, from 20 tons in 2001 to 95 tons thus far in 2008. Of this, 14 percent is transported for land application outside of Delaware, and 41 percent is land-applied in Delaware. In terms of the Chesapeake Bay watershed, 68 percent is exported *out* of the watershed – meaning it is relocated from a farm within the watershed to another farm or to an alternate use. In terms of the rate for land-application, Delaware uses “crop removal” rates, not a P or N-based rate. The average cost for land-application in 2008 is \$0.11 per ton, which is considered *extremely* cost effective when compared with \$50 to \$100 per ton for other uses of litter.

When asked about whether there is an excess of manure in Delaware, Bill noted that there is about 118,000 tons of excess manure – before it is transported. Since 2004, they have been able to increase transport of manure to 114,000 tons, so now they are very close to reaching a “balanced” level of manure. The remaining imbalance in Delaware is principally in Sussex County. The budget for manure transport needs to be around \$1 million, although the legislature wants to reduce it to around \$700-800 million.

Delaware relocation of manure is considerably higher than in Maryland – more than double the chicken litter – even though the number of birds is the same. Although Maryland and Delaware spend about \$1 million on transport, on a tonnage basis, Maryland moves more dairy than poultry manure. Relocation is limited by funding and participation in the program. It's hard to get the program to grow – meaning to recruit more farmers into the program – when funds are limited.

A participant asked how a Maryland farmer might decide between Delaware or Maryland manure. The program is entirely market-driven. The state programs aim to stimulate the market but do not directly connect one producer to one purchaser. There is no matching beyond providing lists of interested clients.

**The Effects of Increasing Phosphorous levels because of Nitrogen-Based Nutrient Management Plans (NMPs):** Dr. Russ Brinsfield, Harry R. Hughes Center for Agro-Ecology

Russ discussed the effect of phosphorous levels in the soil. He noted that the goal of changing to P-based NMPs was simply to *stop the continuing rise* of P levels in soils. This seems to have worked, and soil levels now seem to be holding steady. The model says that P levels in streams and rivers in agriculture-dominated areas *should* be declining, but the data does not support the model: there is no evidence that soil P levels are actually declining.

On the other hand, P levels in manure *have* declined by 30 percent, principally because of the increased use of phytase in feed management, which increases the absorption of P and lowers the quantities of P in the manure.

Clearly, because P-levels in soils are not actually declining, the current strategy of using P-based NMPs will not achieve the 40 percent reduction in nutrients needed. This is just an intermediary strategy, a “holding pattern” that is basically allowing all the rest of our agricultural soils to build up to the highest acceptable level of P. Eventually, he suggested, all NMPs will need to shift to crop-uptake or agronomic levels.

Research also has shown that P is a major *surface* water issue and that N is an important *groundwater* issue. Increased use of cover crops, however, does seem to lead to declining levels of N. Since 1984, they have studied two trial properties: one conventional till and one no-till. From these long-term studies, they have learned that no-till definitely works for sediment control. But runoff of P is also much higher with no-till, as P is released in the no-till method when plants decompose over the fall and winter. Most P in the runoff is in a dissolved form, not bound in the sediment. They have also learned that P levels in runoff are distinctly worse when an *organic* fertilizer, such as poultry manure, was applied and not worked into the soil. But if the manure is worked into the soil, P levels in the runoff decline.

Russ offered several recommendations that have emerged from this 24-year long-term trial:

- If runoff is a big issue on a field, manure should be incorporated within 24 hours of application. Incorporation of poultry manure can reduce N runoff by up to 50 percent, and, where erosion is low, can reduce P runoff by up to 75 percent.
- No manure should be applied in the fall.
- The use of cover crops should be promoted. Cover crops can reduce leaching by up to 50 percent or more. Also, aggressive use of cover crops can prevent N leaching into the groundwater.
- The use of “turbo-tilling” (a method between no-till and conventional till) should be promoted.

**Farm Bill and Chesapeake Bay Trust Fund RFP updates:** Mark Rose, Maryland NRCS, and Jenn Raulin, Department of Natural Resources

Mark summarized the updates to the farm bill, including the following:

- Ag Water Enhancement Program – a new program and possibly available in MD;
- Conservation Innovation Grants (CIG) – available in MD;
- Wildlife Habitat Incentive Program (WHIP) – changes a bit;
- Private Lands Protection Programs – includes Farm and Ranch Lands Protection Program (FRPP), not new in 2008.
- Ag Preservation – yellow-book appraisals are now eliminated;
- Healthy Forest Reserve Program – has a four-fold increase in funding;
- Wetlands Reserve Program – available;
- Conservation Stewardship Program– nationwide.

Jenn walked the group through the entire RFP, explaining that the majority of the funding will go through the Maryland Department of Agriculture to fund cover crops. The MDE-NPS grant program is very project-oriented, whereas a *watershed-wide approach* is more appropriate for DNR-LIG grants.

Royden Powell, Assistant Secretary for MDA, informed the group that MDA will be giving out \$12.5 million in grants

- \$9.5 million for cover crops; and
- \$3 million through Conservation Reserve Enhancement Program (CREP) for animal management. Of this, about \$1 million will be allotted for technical assistance directly to conservation districts.

He mentioned MDE's 2010 Trust Fund Non-point Source program and said that a project can put together funding from all the different funding programs.

For this grant program, a project can put together funding from all the different funding programs. People are encouraged to apply for this grant, even if weak in one area of evaluation criteria. For the next funding cycle, the state is committed to providing staff to help people develop sound proposals. Additionally, while there are clear priority levels identified for funding, people are encouraged to apply even if they don't fit within one of these priority levels. No match is required, but the provision of a match will make a proposal more attractive. The deliverable will be demonstrated nutrient reduction; at first, this will probably be done through modeling, then later by monitoring.

The state is trying build capacity for local governments and others to apply for funding. The CBT is collaborating with establishing a service center, including a website to help people find staff, contractors and funding for projects.

### **Next Steps**

Tanya Denckla Cobb facilitated the group discussion about next steps. Were there proposals that the group would like to support? Were there initiatives that the group would like to undertake?

The group discussed how and whether it might support Lynne's proposal for a farmer certification program, and Bud/Jenn's proposals for a litter study. Some suggested that the Collaborative could assist by finding funding for these proposals, by building partnerships that would make the proposals work, and by enhancing the proposals so that they will be more effective.

A concern was raised about Lynne's proposal – that, before progressing with the proposal, it is first important to learn what agribusiness, the state, and the farmers actually need. One participant noted that the Farm Bureau Board of Directors is being consulted, and a big need already identified is irrigation; in some areas irrigation is as important as cover crops and nutrient management. Several others agreed that irrigation should be an important part of the proposal. Irrigation helps crop yields be more consistent and also thereby lowers nutrients that might runoff in surface water or leach into groundwater.

The group discussed possible value-added partnerships. For example, the HighQ model could determine nutrient runoff characteristics of a farm, for free; with this information, the

Chesapeake Research Consortium could provide the farmer with funding for irrigation, but only on the condition that the farmer could show increased yield and thereby decreased nutrients remaining in the soil.

Whatever criteria are used for the farmer certification program, the group agreed that it's important that real environmental benefits occur from changes in the farming process. And farmers will be more likely to adopt these practices if there is increased revenue from these practices. It could be helpful to develop a tool that that would enable farmers to know, for example, this farming practice will provide this much added revenue, or that farming practice will provide that benefit.

The group tested for consensus on whether it would formally endorse Lynne's proposal for a farmer certification program, with two stipulations:

1. That irrigation be included in some way. Irrigation is a piece of the puzzle that hasn't been adequately explored, as it ensures crop uptake and yields, increases nutrient use efficiency, helps prevent the sale of the farm, and raises the investment value. Perhaps there could be a cost-share 50% program, in exchange for providing data and participating in the HighQ program, as long as water availability is also taken into account.
2. That the program work on building partnerships with the HighQ model for data-driven decision-making to increase efficient nutrient use, and connecting other sources of funding into the program for farmers' benefit.

Earlier, over lunch, Tanya had presented to the group the idea of making decisions by consensus. She defined consensus (*see Appendix 1*), and explained that making decisions by consensus can be important for Collaborative decisions that: 1) require full group support (i.e., when the Collaborative wants to formally endorse something); or 2) will need full group support for implementation (i.e., action needs to be taken). Testing for consensus can also be helpful to help move the group forward more quickly – to find out where people stand. Sometimes groups may perceive more disagreement than there is in reality, and when they test for consensus are surprised to learn that that they have consensus. Consensus is not usually used for trivial or administrative decisions. Anyone can call for a test for consensus at any time. (*See Appendix 1 for details on testing for consensus.*)

When the group tested for consensus on formally endorsing the farmer certification program, consensus was not achieved, and more discussion is required. There was not enough time remaining in the meeting to have this discussion. One concern is that the group needs to understand what will happen when the Chesapeake Bay fails to meet its goals by 2010, and is governed by a TMDL. How might this affect a certification program? Another concern was the amount of paperwork that might be required for certification; will farmers actually want to a certification program? Will they see it as beneficial or just another burden? The group needs more information on these issues before it can officially endorse a certification program.

The group decided that its next meeting would be devoted almost entirely to discussion of group goals and next steps. Much was presented and learned today, and now participants in the Collaborative need time to discuss the issues and identify common ground and goals.

Participants generally agreed that the Collaborative needs to stay focused on two themes;

1. Ensuring there are environmental benefits from new practices, and
2. Providing, developing tools for new kinds of decisions and programs.

The agenda for the next meeting should focus on

3. Discussing funding opportunities, program eligibility, and building partnerships to see who might do what, and ways to build-up or enhance the proposals for:
  - Proposed certification program.
  - Litter studies.
  - High Q
  - Irrigation
  - Litter Transport
4. Local leadership of the Collaborative
5. Name – what do we call ourselves
6. Two new additional topics that have been proposed by members that need brief discussion time
7. Overall, keep focused on: how can the Collaborative make a difference? What will it do, and what will it support?

In response to a request, Elizabeth Skane from EFC agreed to provide the Collaborative with an updated contact list that will list participants *by sector*, so that it is easier to identify people.

Joanne will coordinate the details of the next meeting, which the group hoped might be scheduled for mid to late September.

**APPENDIX 1**

**Eastern Shore Collaborative Initiative**

**EMERGING STRUCTURE AND FOCUS**

<b>Eastern Shore Collaborative</b>	Official name to be determined
<b>Geographic Scope</b>	Delmarva Peninsula, south of the Chesapeake & Delaware Canal
<b>Overarching Goal</b>	Improving water quality and economic viability of agriculture
<b>Structure</b>	Meet quarterly, from 9-3, in a central location (Denton, MD or Georgetown, DE)
<b>Principles of Operation</b>	1) an open, transparent process; 2) balanced representation of different interests; and 3) continuity in representation
<b>Decision-Making</b>	<p>Consensus – to be used for issues of official group endorsement, or other major issues where buy-in of all participants is important for implementation.</p> <p><i>Consensus defined:</i> You may like some parts of the proposal better than other parts, but overall you are <i>able to live with the proposal</i>. <u>And</u> you are willing to support the entire package, not just the part you like best.</p> <p><i>Method of using consensus.</i> Anyone can call for a “test for consensus” on any topic at any time. People show their level of support by the following:  <ul style="list-style-type: none"> <li>** 3 fingers – you fully support the proposal</li> <li>** 2 fingers – you may have some questions and concerns but can <i>live with</i> the proposal, and are willing to support the <i>entire package</i> not just the part you like best</li> <li>** 1 finger – you have too many questions and concerns, cannot live with the proposal, and need further discussion. This <i>blocks consensus</i>.</li> </ul> <p>After the “test for consensus,” the group should:  <ul style="list-style-type: none"> <li>** ask each person with a “1” to explain his/her concerns, and what it would take for them to move to a “2.”</li> <li>** if the remaining consensus is still weak (more “2s” than “1s”): ask each person with a “2” for their concerns, and what it would take for them to move to a “3”.</li> </ul> <p>This way the group builds understanding of each other’s interests, and is able to build a strong consensus.</p> </p></p>
<b>Specific Goals</b>	
<i>Establish and Understand the Baseline</i>	Learn most recent water quality data: levels and sources of nutrients; decide which data set(s) to use; or bypass this decision by simply agreeing that there is water quality degradation and moving on to the issue of how to fix it.

	Learn about manure transportation program: can the collaborative do something to make it more effective?
<b><i>Utilization of Manure</i></b>	Share available data on manure utilization
	Share information on impacts of lowering P in manure
<b><i>Farmer and Public Education</i></b>	Ag Env Stewardship Certification: share proposal
	Evaluation programs for farmer practices: share information on Iowa evaluation program and others
	Consider other awards or education programs: PSAs to show what are right and wrong farming practices
	Strategies to bring last 3% into compliance: education about manure piles; manure pile award;
	Bring latest research to farmers
<b><i>Land Use</i></b>	Consider working with local governments to change their comp plans to specifically address farm preservation through specific programs and zoning
<b><i>Research and Development and Market Opportunities</i></b>	
<b><i>Diversification of Income Streams (on and off farms)</i></b>	
<b><i>Technical Resources</i></b>	
<b><i>Building Trust</i></b>	

**APPENDIX 2**  
***LIST OF PARTICIPANTS***

**33 People Participated**

Env	Jenn	Aiosa	Maryland Senior Scientist	Chesapeake Bay Foundation
State	Norman	Astle	Coordinator	Manure Transport Program Maryland Department of Agriculture
Agribusiness	Doug	Baxter	Area Environmental Manager	Tyson Foods, Inc.
Academic	Wayne	Bell	Senior Associate	Center for the Environment and Society, Washington College
Academic	Russ	Brinsfield	Research Associate & Executive Director	Harry R. Hughes Center for Agro-Ecology, Inc.
State	Carrie	Decker	Tributary Strategies Program	Maryland Department of Natural Resources
Academic	Tanya	Denckla Cobb	Senior Associate	Institute for Environmental Negotiation
Ag Org	Kurt	Fuchs	Asst. Director for Government Relations	Maryland Farm Bureau, Inc.
Env	John	Groutt		Wicomico Environmental Trust
State	Lynne	Hoot	Executive Director	Maryland Association of Soil Conservation Districts
Agribusiness	Cathy	Klein	Director, Co-Product Sales	Perdue AgriBusiness Inc.
Academic	Jim	Lewis	Senior Agent, Agriculture & Natural Resources & County Extension Director	Caroline County Extension
Academic	George (Bud)	Malone	Extension Specialist III, Animal and Food Sciences Assoc Scientist, Agriculture Experiment Ctr	Animal and Food Sciences, University of Delaware
Agribusiness	Bill	Massey	Director of Housing	Mountaire Farms
Ag Org	Steve	McHenry	Executive Director Executive Director	Maryland Agricultural and Resource-Based Industries Development Corp. Rural Maryland Council
Env	Eileen	McLellan	Chesapeake Bay Project Coordinator, Land, Water and Wildlife Program	Environmental Defense
Academic	Connie	Musgrove	Senior Research Coordinator	UMD Center for Environmental Science
Env	Michelle	Perez	Senior Analyst	Agriculture and Natural Resources Environmental Working Group
State	Royden	Powell	Acting Assistant Secretary	MD Department of Agriculture
State	Jenn	Raulin	Program Coordinator	Maryland Department of Natural Resources Chesapeake & Coastal Programs Grants & Funding Services
Agribusiness	David	Redinger	Complex Safety & Environmental Manager, Temperanceville Complex	Tyson Foods, Inc.
Producer	Lee	Richardson	Poultry Farmer	

State	Bill	Rohrer	Administrator	Nutrient Management Program, DDA
Fed	Mark	Rose	Assistant State Conservationist for Programs	USDA Natural Resource Conservation Service
Agribusiness	Bill	Satterfield	Executive Director	Delmarva Poultry Industry, Inc. (DPI)
Academic	Kevin	Sellner	Director	Chesapeake Research Consortium
Fed	Kelly	Shenk	NSC Coordinator	EPA Chesapeake Bay Program Office
Agribusiness	Beth	Sise	Environmental Manager	Mountaire Farms
Env	Elizabeth	Skane	Graduate Assistant	University of Maryland Environmental Finance Center
Agribusiness	Jack	Tarburton	Representative	Perdue Farms Incorporated
Env	Joanne	Throwe	Associate Director	University of Maryland Environmental Finance Center
Agribusiness	Michael	Twining	General Manager	Willard Agri-Service of Greenwood, DE