

A Move Beyond Trading

January 5, 2015

Nutrient credit trading has failed to reduce the cost of Chesapeake Bay Total Maximum Daily Load (TMDL) compliance mandates due primarily to the following factors:

- **Program Structure.** Trading program rules were developed by existing stakeholders with vested interests (acting as an appointed committee) until rule adoption by the Pennsylvania Department of Environmental Protection (DEP). Pennsylvania's trading program has provided short term credits that temporarily meet permit requirements during planning and construction periods for traditional high-cost, large-scale public infrastructure projects. Pennsylvania's trading program does not enable low cost solutions to be used as alternatives to these projects.
- **Limited Impact.** In PA, the vast majority of required reductions come from the non-point agriculture sector. However, only the public authority sectors with captive ratepayers have the financial ability to trade. Therefore the only market for low cost alternatives is the 25% of the TMDL that they represent.).
- **Policy /Enforcement.** Pennsylvania law requires projects to utilize low cost alternative solutions available to them under the trading program. For example, the Pennsylvania Sewage Facilities Act, 35 P.S. § 750.1 *et seq.*, known as "Act 537", limits TMDL alternatives "to cost effective plan alternatives identified by a municipality" when determining whether the proposed municipal solution is cost effective and therefore meets the requirements for taxpayer supported programs such as tax exempt bonds, grants etc. This law is neither followed nor enforced. The loophole that enables municipalities to limit the scope of alternative solutions should be more closely considered in the Act 537 opinion evaluations, which are currently in direct conflict with the intent of federal and state laws to ensure that tax payer funds are used in the most cost effective manner.

From a federal perspective the Federal Water Pollution Control Act, 33 U.S.C.S. Section 1298 contains a provision that the EPA Administrator must make a determination that a municipal plan requesting federal funding under the Act for waste reduction is "the most economical and cost-

effective combination” of devices and systems used in treatment and storage of the wastes required to implement the goals of the Act.

In conclusion, the trading program has not been successful because it is the wrong approach to enabling low cost private sector solutions as alternatives to higher cost public infrastructure investments. The trading platform was designed by existing stakeholders whose economic interests were aligned with maintaining the status quo of supporting public infrastructure projects. Further, credit participation is limited to sectors with taxpayer bases that total only 25% of the reduction mandate. PA’s credit trading program was never intended to enable a competitive environment where substantially lower cost alternative solutions could replace high cost municipal infrastructure projects.

Losing Ground

Pennsylvania failed to meet its 2014 Chesapeake Bay TMDL nitrogen targets by 2 million pounds even though its large municipal treatment plants had largely completed their upgrades (see Attachment A¹). At the same time, low cost and large scale, privately funded alternatives have not been developed because the DEP has not adopted policy modifications that would create a market for these low cost, yet fully verifiable, credits.

In addition, EPA has recently issued ten objection letters for Pennsylvania-based permit renewals. Due a long term dispute regarding Pennsylvania’s agricultural baseline, EPA is not recognizing non-point source credits from agriculture as a qualified offset to enable these plants to meet their permit discharge limits. Failure to resolve this issue could place these municipal authorities in a non-compliant position potentially subject to regulatory actions and fines. See Attachment B for copies of EPA objection letters and a copy of EPA’s analysis of Pennsylvania’s agricultural baseline (which is significantly different than the baseline currently used by the PA DEP).

In June of 2013, newly designated stormwater authorities were authorized to impose fees on ratepayers to help meet Chesapeake Bay TMDL stormwater requirements. On June 24th, 2014, EPA announced it had issued letters to 85

¹ This document can also be accessed at http://www.northcentralpa.com/feeditem/2014-06-26_epa-pennsylvania-falls-short-meeting-2013-chesapeake-bay-cleanup-milestones

Pennsylvania municipalities requiring improvements in their stormwater programs. Stormwater upgrades are the most expensive source of TMDL compliance reductions (see Attachment C²). While the PA DEP and EPA continue to focus reduction mandates on high priced sources, cost effective nutrient reduction approaches, particularly from the non-point source agricultural sector, continue to languish.

Beyond Trading—A Competitive Nutrient Procurement Program

The DEP has not yet capitalized on the recent advances in science and technology to streamline its TMDL compliance process. In recent years, nutrient reductions from non-point sources have evolved from a modeled prediction based on assumptions easily disrupted by weather and other factors (i.e. Best Management Practices), to a measurable / verified data-driven commodity that could be purchased using the current state procurement code.

A January 2012 Pennsylvania Legislative Budget & Finance Committee (LBFC) study recognized that the complexity of a decades old compliance program and its trading appendage could be transformed into a standard procurement program, using the state's existing procurement code to focus on procuring measurable, verified reductions (see a summary of the study in Attachment D³) instead of uncertain predictions.

Competitive Bidding:

The LBFC study proposed a competitively bid procurement program to procure verified nutrient reductions under long term off-take agreements from all sources and sectors, including public authorities. The state would designate an agency to procure the credits under a Request for Proposal bidding format. Awards would be evaluated using a scoring program that considered the value of other environmental benefits to Pennsylvania's local communities and improvements in public health, long term cost avoidance to meet drinking water standards and economic development related to fresh water based activities such as fishing, and boating.

² This document can also be accessed at <http://yosemite.epa.gov/opa/admpress.nsf/0/7D5440B5ED7F309885257D010065F753>

³ This document can also be accessed at <http://lbfc.legis.state.pa.us/reports/2013/77.PDF>

The LBFC concluded in its summary:

“A competitive RFP program could lower overall compliance costs by 80% or more for nonpoint source agriculture and urban stormwater. We estimate achieving the required nitrogen reductions for nonpoint source agriculture and urban runoff through best management practices (BMPs) will cost about \$628 million in 2015 and about \$1.77 billion in 2025. We estimate a competitive RFP program could achieve these same levels of reductions at a cost of about \$110 million in 2015 and \$255 million in 2025.”

The LBFC study further concluded that

“A source of funding would need to be found for the competitive RFP program. In 2010, about \$187 million was spent statewide (federal and state dollars) on nonpoint source pollution management, and it is possible some of these sources of funds could be redirected to fund a competitive RFP program. A “flush tax” such as Maryland imposes (\$60 annually) would be another possible source of funds.”

Legislative Effort

The Pennsylvania Legislature, through the leadership of Elder Vogel (R – 47th Senate District), introduced Senate Bill (SB) 994 in the 2013 legislative session. SB 994 was introduced by Senator Vogel to implement the findings of the LBFC study and create the competitive bidding program. It was passed out of the Senate Agricultural committee on a 10-3 vote. While this bill has undergone a series of edits and alterations in Committee and subsequent thereto, the gist of the bill still meets the needs of tax and ratepayers by enabling the competitive procurement of nutrient reductions (see Attachment E). SB 994 does not address the issue of a funding source to address agriculture - the 70% of Pennsylvania’s TMDL mandate that is unfunded.

Public infrastructure investments to meet the Chesapeake Bay TMDL are, in effect, TMDL fees that are imposed through regional or local authorities. These authorities have ratepayers and dedicated sources of federal and state funding. The LBFC study clearly envisioned some percentage of this existing funding to be

reallocated to a competitive bidding program, and therefore the LBFC study results have been supported by neither the existing stakeholders nor the DEP.

The DEP needs to ensure that all known and DEP approved alternatives must be evaluated with the transparency intended by Act 537. The DEP, on behalf of the region's rate and tax payers, needs to support the clear advantages of using low cost solutions as alternatives to higher cost public infrastructure projects.

Compliance and Funding Options

Option 1 – Default on EPA Mandates. This is not an acceptable option. Pennsylvania is committed to meeting Chesapeake Bay TMDL compliance mandates.

Option 2 - Regulate agriculture and transfer the cost. While agriculture is the source of the vast majority of remaining load to be reduced, this is still likely not an acceptable option. Adding regulatory burdens onto Pennsylvania agriculture would make it non-competitive versus other states. Politically and economically this is an uphill battle.

Option 3 - State wide tax. There is no support at either the Administration or legislative level for new state taxes. The existing approach will continue to be that each water basin bears the cost of compliance with their TMDL.

Option 4 - Re-allocation of some percentage of existing funding. Fiercely contested by existing stakeholders (PMAA, CBF/ NGO's etc).

Option 5 - Periodic TMDL fee assessments in each water basin to fund competitive bidding procurement programs. Would by-pass existing dedicated funding for additional public infrastructure projects and allocate ratepayer funds to a procurement pool to purchase verified credits to meet Chesapeake Bay TMDL compliance mandates. Public authorities could participate in the bidding program.

Option 6 - Secure additional cost share funding from Washington, D.C., specifically for adoption of a competitive bidding approach.

Conclusion

Pennsylvania is not in a unique situation. Compliance with TMDL mandates is a nationwide challenge from both a cost and logistical standpoint. Also not unique to Pennsylvania is the approach of limiting competitive procurement in favor of continued funding for high cost public infrastructure solutions. Pennsylvania's successful compliance with the Chesapeake Bay TMDL will require further policy modifications to support a competitive marketplace such as what has been proposed by SB 994.

In December 2013, White House Office of Management and Budget issued guidance in support of the allocation of funds for procuring *results* and not simply funding *proposed solutions* (see Attachment F⁴). Such an approach would be attractive to the majority of states with agriculture based TMDL compliance issues. The National Milk Producers Federation (NMPF) issued a letter in support of SB 994 (see Attachment G). NMPF members nationally are supportive of efforts to create a competitive bidding procurement program that works with agriculture to provide a revenue stream that offsets costs associated with the adoption of advanced environmental technologies.

Pennsylvania has a unique opportunity to foster an alliance between national agricultural and environmental interests to seek a new cost share program that provides funding for states that adopt competitive bidding. This would be consistent with current federal policy to jump start initiatives that will significantly streamline and reduce the cost of government.

⁴ This document can also be accessed at http://www.gpo.gov/fdsys/pkg/FR-2013-12-26/pdf/2013-30465.pdf?_hstc=2527023.090e0163f34c0592f659d4a0969860df.1384937478004.1389004222297.1389007651601.10&_hssc=2527023.1.1389007651601&_hsfp=1785076307

Report Highlights

A Cost Effective Alternative Approach to Meeting Pennsylvania's Chesapeake Bay Nutrient Reduction Targets

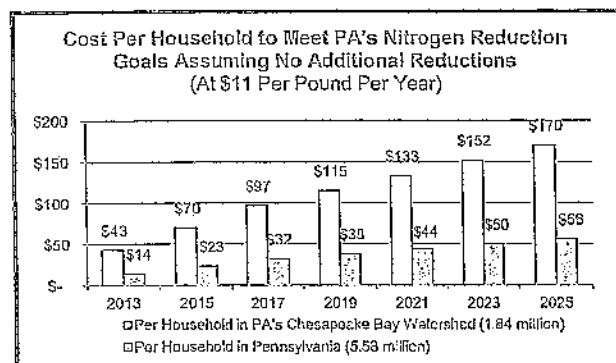
Act 2012-87, the Fiscal Code, included a provision requiring the Legislative Budget and Finance Committee to conduct a study of an alternative approach for how the Commonwealth can meet nutrient reduction planning targets contained in the Chesapeake Bay watershed implementation plan (WIP).

We found:

- *By 2025, PA is required to reduce nitrogen delivered to the Chesapeake Bay by 30 percent over 2011 levels.* As called for under the current WIP, most of these reductions (about 70%) are to come from agriculture. PA is also required to reduce phosphorus delivered to the bay by 25% and sediment by 23%.
- *Although good progress has been made by wastewater facilities, less progress has been made by agriculture and urban stormwater.* Public wastewater facilities are near, or have already achieved, their 2017 reduction targets. The EPA has, however, expressed concerns over the agriculture and urban stormwater sectors, and a recent analysis suggests that the nitrogen targets set for agriculture, in particular, will not be met under the current plan.
- *It is unclear what will happen if PA fails to meet its nutrient reduction targets.* EPA has indicated it might impose additional reductions on wastewater treatment plants as a way to compensate for the failure to achieve targets in other sectors.
- *A competitive RFP program such as outlined in the fiscal code could help achieve PA's nitrogen reduction targets.* Under a competitive RFP (Request for Proposal) program, the PA Dept. of Environmental Protection would determine how many additional pounds of nitrogen need to be removed to achieve PA's reduction targets. DEP would also develop a formula for scoring the proposals they receive. The cost per pound of nitrogen removed would be the formula's starting point, but consideration should also be given to other environmental and economic factors, such as reducing phosphorous in local streams. PENNVEST would then enter into long-term contracts to purchase credits from sellers, but payments would not be made until the credits are achieved and verified. DEP would

periodically revise the credits to be purchased based on the success of existing WIP efforts.

- *A competitive RFP program could lower overall compliance costs by 80% or more for nonpoint source agriculture and urban stormwater.* We estimate achieving the required nitrogen reductions for nonpoint source agriculture and urban runoff through best management practices (BMPs) will cost about \$628 million in 2015 and about \$1.77 billion in 2025. We estimate a competitive RFP program could achieve these same levels of reductions at a cost of about \$110 million in 2015 and \$255 million in 2025.
- *The cost of a competitive RFP program depends on how many nitrogen reductions are achieved under the current WIP.* The graph below shows the costs per household if no additional nitrogen reductions are achieved. If half the nitrogen reductions anticipated by the WIP are achieved, the costs per household would also be cut in half.



- *A source of funding would need to be found for the competitive RFP program.* In 2010, about \$187 million was spent statewide (federal and state dollars) on nonpoint source pollution management, and it is possible some of these sources of funds could be redirected to fund a competitive RFP program. A "flush tax" such as Maryland imposes (\$60 annual-ly) would be another possible source of funds.

THE GENERAL ASSEMBLY OF PENNSYLVANIA

SENATE BILL

No. 724 Session of
2015

INTRODUCED BY VOGEL, GREENLEAF, SCARNATI AND WARD,
APRIL 14, 2015

REFERRED TO ENVIRONMENTAL RESOURCES AND ENERGY, APRIL 14, 2015

AN ACT

1 Providing for the creation of a watershed improvement program,
2 for establishment of a verified TMDL parameter credit
3 program, for the powers and duties of the Department of
4 Environmental Protection and the Pennsylvania Infrastructure
5 Investment Authority.

6 The General Assembly of the Commonwealth of Pennsylvania
7 hereby enacts as follows:

8 Section 1. Short title.

9 This act shall be known and may be cited as the Watershed
10 Improvement Act.

11 Section 2. Definitions.

12 The following words and phrases when used in this act shall
13 have the meanings given to them in this section unless the
14 context clearly indicates otherwise:

15 "Board." The Environmental Quality Board.

16 "Department." The Department of Environmental Protection of
17 the Commonwealth.

18 "Fund." The Watershed Improvement Fund established under
19 section 5.

1 "PENNVEST." The Pennsylvania Infrastructure Investment
2 Authority.

3 "Permittee." An individual, partnership, corporation,
4 association, institution, municipality or public authority or
5 cooperative enterprise that discharges or releases a TMDL
6 parameter to surface or ground waters of this Commonwealth. The
7 term does not include a person engaged in agricultural
8 production, as defined in section 3 of the act of June 30, 1981
9 (P.L.128, No.43), known as the Agricultural Area Security Law.

10 "Program." The Watershed Improvement Program.

11 "Sediment." Soils or other erodible materials transported by
12 storm water as a product of erosion.

13 "TMDL." Total maximum daily load.

14 "TMDL parameter." Pollutant that has been identified as the
15 cause of nonattainment of water quality standards and for which
16 a TMDL has been developed to set allowable loading targets.

17 "Unmet TMDL parameter." Total outstanding permittee
18 requirements, going forward three years, issued by the
19 department.

20 "Verified TMDL parameter credit." A unit of pollutant load
21 reduction for a TMDL parameter achieved through a pollutant
22 reduction activity approved by the department as a verified
23 reduction based upon an approved verification plan.

24 "Water year." The 12-month period beginning October 1 of
25 each calendar year.

26 Section 3. Watershed Improvement Program.

27 (a) Establishment.--The Watershed Improvement Program is
28 established. The program shall provide for the purchase of
29 department-verified TMDL parameter credits through a competitive
30 process consistent with 62 Pa.C.S. Pt.1 (relating to

1 Commonwealth Procurement Code) and any other process determined
2 to be appropriate by the department and PENNVEST.

3 (b) Powers and duties.--The department and PENNVEST shall
4 administer the program and take any actions necessary to
5 effectuate the purposes of this act.

6 (c) Contracts with TMDL parameter credit sellers.--

7 (1) The following shall apply:

8 (i) The department shall, beginning with the water
9 year in which this subsection takes effect and the next
10 two water years, publish a notice of the unmet TMDL
11 requirements in the Pennsylvania Bulletin.

12 (ii) No later than 60 days following publication of
13 the notice under subparagraph (i), PENNVEST shall issue,
14 in consultation with the department, a request for
15 proposals under 62 Pa.C.S. Pt. I for purchase of long-
16 term verified TMDL parameter credits in order to meet the
17 unmet TMDL parameter for those water years included in
18 the notice. A long-term verified TMDL parameter credit
19 under this subparagraph must be at least 10 years.

20 (2) The department, in consultation with PENNVEST, shall
21 determine the conditions or evaluation factors applicable to
22 the procurement and purchase of verified TMDL parameter
23 credits to best achieve cost-effective water quality
24 improvements within the watershed defined by the TMDL. The
25 conditions or evaluation factors shall include, but not be
26 limited to, cost, environmental benefits and whether multiple
27 TMDL parameters would be met.

28 (3) Within 30 days following the date for submission of
29 responses to the request for proposals, the department and
30 PENNVEST shall determine the cost for purchase of each long-

1 term individual verified TMDL parameter credit included in
2 the request for proposals and shall publish a notice of the
3 cost in the Pennsylvania Bulletin.

4 Section 4. Voluntary options for compliance.

5 (a) Voluntary compliance opt-in.--The department shall
6 establish a voluntary TMDL parameter permit compliance program
7 to allow permittees and other buyers to elect to comply with
8 TMDL parameter permit requirements by agreeing to make payments
9 to the fund for the requisite number of verified TMDL parameter
10 credits obtained under section 3 needed in order to meet permit
11 requirements.

12 (b) Payment amounts.--Payment amounts under subsection (a)
13 shall be based on the cost determination made under section 3(c)
14 (3) as published in the Pennsylvania Bulletin.

15 (c) Election to opt in.--A permittee shall have 30 days
16 following publication of the notice under section 3(c)(3) to
17 notify the department of the permittee's election to opt in to
18 the voluntary TMDL parameter permit compliance program or
19 proceed with an alternative compliance method under subsection
20 (e).

21 (d) Offset.--Verified TMDL parameter credits obtained under
22 subsection (a) shall be deemed by the department to satisfy
23 applicable waste water and storm water TMDL parameter permitting
24 requirements.

25 (e) Alternative compliance.--A permittee which elects not to
26 opt in to the voluntary TMDL parameter compliance program under
27 subsection (a) shall, as part of the permittee's wastewater or
28 storm water permitting process, demonstrate to the department
29 the cost-effectiveness of the alternative TMDL compliance method
30 selected in comparison with other alternatives, including opting

1 in to the voluntary TMDL parameter permit compliance program
2 under subsection (a) and as part of the permittee's review under
3 the act of January 24, 1966 (1965 P.L.1535, No.537), known as
4 the Pennsylvania Sewage Facilities Act and the act of October 4,
5 1978 (P.L.864, No.167), known as the Storm Water Management Act.
6 Section 5. Watershed Improvement Fund.

7 (a) Establishment.--The Watershed Improvement Fund is
8 created within the State Treasury as a special fund.

9 (b) Deposits.--The following shall be deposited into the
10 fund:

11 (1) Any appropriation made to the fund.

12 (2) Any other Federal or State appropriation or other
13 money determined by the department, in consultation with the
14 Governor's Office of the Budget, to be available for the
15 program.

16 (3) Any money received from a permittee under section 4.

17 (c) Use.--Money in the fund shall be used by PENNVEST for
18 the purchase of verified TMDL parameter credits under section 3.
19 Section 6. Regulations.

20 The board may promulgate regulations to carry out the
21 provisions of this act.

22 Section 7. Effective date.

23 This act shall take effect in 30 days.

Pennsylvania Farm Bureau

510 S. 31st Street, P.O. Box 8736 | Camp Hill, PA 17001-8736 | 717.761.2740 | www.pfb.com

August 7, 2014

The Honorable Dominic Pileggi, Majority Leader
Senate of Pennsylvania
Senate Box 203009
Harrisburg, PA 17120-3009

Dear Senator Pileggi:

Pennsylvania Farm Bureau is asking the Senate for prompt and favorable consideration and action on Senate Bill 994. This bill creates a cost-effective administrative mechanism for Pennsylvania to attain required pollution reductions in the Chesapeake Bay watershed through the generation and marketing of nutrient trading credits under a competitive bidding process,

As you may know, the federal Environmental Protection Agency (EPA) is commanding Pennsylvania and other states in the Chesapeake Bay watershed to significantly reduce levels of nitrogen, phosphorus and sediment pollution within a rigid and specified time frame. The agriculture sector is being especially targeted by EPA in attaining nutrient and sediment reductions that comply with EPA's aggressive pollution reduction schedule.

Many environmental experts believe that the agricultural sector is in the best position to meet the pollution reduction goals mandated by EPA in the most cost-effective manner. Implementation of conservation practices commonly performed on farms, as well as the recent development of advanced technologies for processing animal manure to greatly reduce nitrogen and phosphorus, provide a more economical cost alternative to construction or expansion of traditional municipal and industrial waste treatment systems.

Senate Bill 994 would provide for Pennsylvania the administrative infrastructure for development and financing of lower-cost conservation management practices and advanced waste treatment technologies on farms through nutrient credit generation and trading. Farm Bureau policy supports the administrative structure and mechanisms for generation and marketing of tradable nutrient credits proposed in Senate Bill 994, and would encourage the Senate to promptly take action for final passage of this bill.

We must also note that Senate Bill 994 is only one component of what is truly needed for the Commonwealth to achieve EPA's mandated pollution reduction goals. While agricultural best management practices and advanced manure processing technologies on farms are less costly relative to projects for new or expanded municipal or industrial waste treatment systems, it is still very costly for farmers to implement conservation programs and develop and operate these advanced processing systems on their farms. The cost for implementation of more advanced conservation practices and pollution control systems is still greater than what most farm families can afford. And available sources of state funding fall far short of what farmers need to feasibly finance the implementation and use of more advanced conservation programs and systems on their farms.

In addition to Senate Bill 994, we would encourage the Senate to support legislation that will provide an additional and independent commitment of state funds for financing advanced on-farm agricultural conservation programs and waste processing systems, at levels as will allow Pennsylvania to attain EPA's mandated pollution reduction goals.

Sincerely,

Joel Rotz, Senior Director
State Government Affairs

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Harrisburg, PA 17112-1099



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August 29, 2014

The Honorable Dominic Pileggi, Majority Leader
Senate of Pennsylvania
Senate Box 203009
Harrisburg, PA 17120-3009

Dear Senator Pileggi:

PennAg Industries Association is an agriculture trade association with more than 600 business members and has been in existence since 1878. Our mission focuses on working to create and maintain an effective, viable and competitive environment for Pennsylvania agribusiness to grow and prosper.

PennAg Industries Association is supportive of technologies which advance Pennsylvania agriculture and help Pennsylvania meet the overall reductions called for in the Watershed Implementation Plan (WIP) for restoring the Chesapeake Bay. At this time, there is a bill before you (SB 994) that would begin to address this objective. Senate Bill 994 is one tool that could prove to be beneficial to Pennsylvania agriculture.

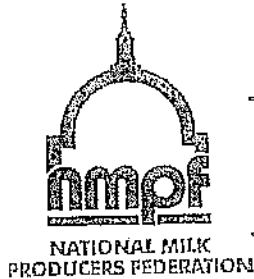
PennAg supports the Commonwealth of Pennsylvania as well as federal agencies to create, maintain and modify regulatory guidelines and programs to facilitate the growth of technology and systems which are innovative and proven to supply the end result needed to restore the Chesapeake Bay. This would include supporting the entrepreneurial effort by encouraging private and public financing to fuel innovative technologies as well as funding for the purchase of verified agricultural credits.

Sincerely,

A handwritten signature in black ink, appearing to read "CHRISTIAN R. HERR", with a long horizontal flourish extending to the right.

Christian R. Herr
Executive Vice President, PennAg

National Milk Producers Federation



2101 Wilson Blvd., Suite 400, Arlington, VA 22201

703-243-6111 • www.nmpf.org

"Connecting Cows, Cooperatives, Capitol Hill, and Consumers"

September 24, 2013

Sen. Dominic Pileggi
Senate Majority Floor Leader
Senate Box 203009
Harrisburg, PA 17120-3009

Sen. Jay Costa
Senate Minority Floor Leader
Senate Box 203043
Harrisburg, PA 17120-3043

Dear Majority Leader Pileggi and Minority Leader Costa:

I write today to express the support of the National Milk Producers Federation (NMPF) of Senate Bill 994 (SB 994) which authorizes a nutrient procurement program within the State of Pennsylvania. The National Milk Producers Federation, based in Arlington, VA, develops and carries out policies that advance the well-being of dairy producers and the cooperatives they own. NMPF's member cooperatives produce the majority of the U.S. milk supply, making NMPF the policy voice of more than 32,000 dairy producers in Washington, DC and across the U.S. on matters of national significance.

The nutrient procurement program authorized by SB 994 will provide an effective and important policy mechanism to reduce nutrients cycling into the Chesapeake Bay and create needed incentives to encourage Pennsylvania dairy farmers to adopt new technologies, while saving precious taxpayers' money by reducing municipal wastewater treatment facility costs. The nutrient procurement program proposed in SB 994 would enable Pennsylvania dairy farmers to implement nutrient reduction practices at a fraction of what it currently costs municipal wastewater treatment facilities to achieve equivalent reductions in nutrient loads from existing waste streams.

SB 994 provides the necessary transparency and accountability that an effective nutrient procurement program requires while also providing significant savings for Pennsylvania taxpayers. The measure proposes that nutrient trading credits will be verified by the Pennsylvania Department of Environmental Protection using science-based metrics. Under SB 994, nutrient credit awards would be made solely on the basis of the most cost-effective proposals using price and defined benefits such as verified nutrient or sediment reductions. A recent Pennsylvania Legislative Budget and Finance Committee (LBFC) report, *A Cost Effective Alternative Approach to Meeting Pennsylvania's Chesapeake Bay Nutrient Reduction Targets* (January 2013), projected that utilizing an upstream non-point source strategy, such as defined in SB 994, could provide savings to Pennsylvania taxpayers up to \$1.5 billion annually by 2025.

- Agri-Mark, Inc.
- Arkansas Dairy Cooperative Association
- Associated Milk Producers Inc.
- Continental Dairy Products, Inc.
- Cooperative Milk Producers Association
- Dairy Farmers of America, Inc.
- Dairyco Cooperative Inc.
- Dairyman's Marketing Cooperative, Inc.
- Ellsworth Cooperative Creamery
- Farmers Cooperative Creamery
- FarmFirst Dairy Cooperative
- First District Association
- Foremost Farms USA
- Land O'Lakes, Inc.
- Lens Star Milk Producers
- Maryland & Virginia Milk Producers Cooperative Association
- Michigan Milk Producers Association
- Mid-West Dairyman's Company
- Northwest Dairy Association
- Prairie Farms Dairy, Inc.
- Premier Milk Inc.
- St. Albans Cooperative Creamery, Inc.
- Scioto County Cooperative Milk Producers' Association
- Select Milk Producers
- Southeast Milk, Inc.
- Swiss Valley Farms Company
- Tipton County Creamery Association
- United Dairyman of Arizona
- Upstate Niagara Cooperative, Inc.
- Zig Milk Producers, Inc.

The dairy industry is an important component to a vibrant economy in Pennsylvania. Statewide dairy production and associated businesses contribute more than \$6 billion annually to Pennsylvania's economy creating more than 60,000 jobs. The nutrient procurement program authorized by SB 994 will provide important nutrient reduction for the Chesapeake Bay while providing Pennsylvania's dairy industry with improved economic viability and significant savings to Pennsylvania taxpayer.

I urge you to support SB 994 to authorize a nutrient procurement program to the benefit of Pennsylvania taxpayers, dairy farmers and the environment.

Sincerely,

A handwritten signature in cursive script, appearing to read "Jim Mulhern".

Jim Mulhern
Chief Operating Officer

Special Report on the Importance of Meeting Pennsylvania's Chesapeake Bay Nutrient Reduction Targets

Executive Summary

The Commonwealth of Pennsylvania has economic and environmental incentives to step up its efforts to comply with U.S. Environmental Protection Agency (EPA) requirements to reduce nutrient and sediment pollution in the Chesapeake Bay watershed, which extends throughout much of the central and eastern parts of Pennsylvania.

A 2010 federal mandate requires the Commonwealth, by 2025, to reduce an assigned share of the nitrogen, phosphorus, and sediment affecting the unhealthy Bay.¹ To achieve the mandated pollution reduction levels, Pennsylvania memorialized its pollution reduction strategies in a Watershed Implementation Plan² (WIP).

EPA's oversight includes a 2017 mid-point check-in, by which time 60 percent of the WIP strategy must be in place; otherwise, regulatory consequences (e.g., requiring additional pollution reductions from point sources such as wastewater treatment plants, increasing federal enforcement and compliance in the watershed, and prohibiting new or expanded pollution discharges³) will be imposed by EPA. In order to ensure compliance with the required reductions, the Commonwealth must accelerate its work to reduce the amount of nitrogen and sediment released into the Chesapeake Bay watershed by 2017.

Currently the Commonwealth appears to be close to target for phosphorus reduction; however, nitrogen and sediment reduction is not on target to hit the 2017 goals. Numerous studies have shown that the principal sources of nitrogen pollution are from the agricultural sector, municipal stormwater runoff, and sewage treatment plants.

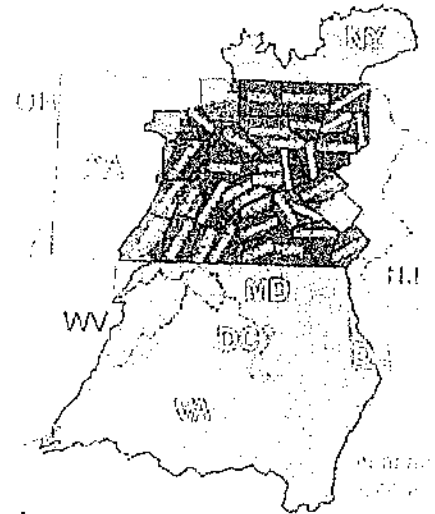


Figure 1. Source: PennFuture

☆☆☆☆☆☆☆☆

Excess nutrients and sediment — transported to the Bay by the Susquehanna and Potomac rivers and their tributaries — contribute to “dead zones” in the Chesapeake Bay.

The Chesapeake Bay Foundation’s 2014 State of the Bay report gives a grade of D+ for the current health of the Bay. The grade represents an improvement in water quality indicators from 2010, but also indicates that significant improvement is still needed.

Because of Auditor General Eugene DePasquale’s long-standing concern about water quality and potentially negative economic impact if the Commonwealth does not meet the 2017 nutrient reduction targets, the Department of the Auditor General reviewed this critical issue. There would be significant economic consequences for Pennsylvania taxpayers if the EPA mandates further regulatory changes such as costly pollution discharge

¹ EPA’s Notice for the Establishment of Total Maximum Daily Load (TMDL) for the Chesapeake Bay. See <http://www.epa.gov/chesapeakebaytmdl/>
² http://www.depweb.state.pa.us/portal/server.pt/community/chesapeake_bay_program/10513
³ <http://www.epa.gov/reg3wapd/tmdl/ChesapeakeBay/FrequentlyAskedQuestions.html>

prohibitions. However, the Commonwealth and stakeholder industries still have time to implement solutions to meet the 2017 and 2025 sediment and nutrient reduction targets. Developing its own solution might be more efficient and could be less costly than the EPA's possible mandates. The primary goal should be to protect Pennsylvania taxpayers while protecting and improving the water quality in the Chesapeake Bay region.

One of the more financially appealing options is an effective and efficient nutrient credit trading program that provides for a more cost efficient method for National Pollutant Discharge Elimination System (NPDES) permittees to meet their effluent nutrient limits⁴ because it allows local choice while using the market system to create competition and innovation. However, this is not a silver bullet resolution to the complex factors affecting waterways. It is important for the Commonwealth to continue to review and implement other industry best practices, in dealing with both agricultural and municipal stormwater run-off issues. Specifically, Pennsylvania's Department of Environmental Protection (DEP) must continue to work with the agricultural sector, as well as municipalities, to implement the necessary practices to achieve the nutrient reduction targets, future benchmarks and regulatory mandates.

Background

Given that both the Susquehanna and Potomac rivers feed into the Chesapeake Bay, Pennsylvania plays a significant role in the regional ecosystem of the Chesapeake Bay Watershed. Although Pennsylvania has only a small portion of the Potomac watershed, the Susquehanna River and its corresponding streams and tributaries contribute 50 percent of the water that empties into the Chesapeake Bay. While providing necessary resources, these waterways also contribute to the pollution of the Chesapeake Bay, which occurs through an accumulation of sediment and various nutrients as their waters flow out into the Bay.

In 1983, the Chesapeake Bay Program was established based on a cooperative partnership between the EPA, Maryland, Pennsylvania, Virginia, and Washington, DC with the hope of restoring health to the Bay. In 2000, the Bay signatories signed a new agreement to establish allowable levels, which were to be achieved by 2010, for various point and non-point sources of nutrients. These newly established levels included such sources from agriculture, wastewater treatment plants, stormwater management systems, and products such as phosphorus-laden detergents.

From 2004 to 2006, Pennsylvania worked with its watershed partners to develop a nutrient-credit trading program. This program was established to help municipalities achieve newly established pollution limits for wastewater treatment plants in a more cost-effective manner. The nutrient-credit trading program allowed entities that exceeded their own requirements to sell their extra credits to municipalities that were unable to meet their limits.

In 2008 it became clear that the 2010 goal would not be achieved, thus the partnership was transformed by the EPA into a mandatory pollution-reduction program under the auspices of the Clean Water Act. The program to reduce the nutrients and sediment established Total Maximum Daily Loads (TMDL), or levels of pollutants that were essentially "pollution allowances" for the whole Chesapeake Bay watershed. These levels were then extrapolated over time to provide milestones that would achieve acceptable levels in order to stabilize the environment and reverse some of the effects of pollution on

⁴ http://www.portal.state.pa.us/portal/server.pt/community/nutrient_trading/21451

the Chesapeake Bay. In 2010, the EPA issued TMDLs and established final goals to be achieved by 2025, as well as a 2017 interim goal of completing 60 percent of the commitments.

This special report by the Department of the Auditor General explores a number of potential options available to the Commonwealth in order to improve its chance of meeting the targets at their corresponding deadlines and avoiding costly sanctions.

Discussion

Each state that is part of the Chesapeake Bay Watershed ecosystem has been allowed to design its own nutrient reduction plan, referred to as a Watershed Improvement Plan (WIP). The EPA reviews and enforces these plans and is authorized to mandate additional regulations⁵, for instance, affecting Pennsylvania farmers and/or municipal sewage treatment plants. Therefore, the Commonwealth must continue in earnest to ensure that Pennsylvania develops programs and technologies to meet nutrient reduction targets.

Wastewater Treatment

Rather than mandating upgrades to all major sewage treatment plants, Pennsylvania chose the more cost-effective option of allowing municipalities to meet their more stringent permit limits by investing in other practices to achieve nutrient reductions in the watershed. These off-site alternatives are referred to as nutrient trading programs.

For example, a Lancaster municipality provided funding assistance to a local farmer who put more acres into nitrogen-reducing farm practices, such as no-till farming. This investment, combined with a more modest plan for upgrading its sewage treatment facility, achieved the same total pollution reductions at reduced costs for that municipality. This is an example of a partnership between multiple sectors, which may not single-handedly bring the Commonwealth into compliance, but is one necessary step toward reaching the 2025 goals.

Very few municipalities, however, chose the nutrient trading option for achieving compliance and instead chose to upgrade their sewage treatment infrastructures. Low participation in the nutrient trading program may have been as a result of several factors, including lack of familiarity, the difficulty in calculating costs of credits, uncertainty about outcomes, and concerns expressed by the environmental community about accountability.

There are many reasons other than nutrient reductions that a municipality may choose upgrades over trading, despite the higher cost. Aging sewage treatment infrastructures are a significant concern for most municipalities in Pennsylvania. This concern arises not as a result of the TMDL for the Chesapeake Bay, but from fundamental problems with antiquated systems where improvements were deferred for a long period of time. Many municipal sewage treatment facilities are in need of upgrades to:

- 1) replace leaking pipes and inadequate tanking,
- 2) address insufficient capacity to properly treat sewage, and

⁵ See <http://www.epa.gov/chesapeakebaytmdl/>

3) reduce the amount of untreated sewage discharged into waterways when it rains.

Most sewage systems in Pennsylvania were built in the 1960s and 1970s when federal construction grants were available for up to 75 percent of the costs. Many systems have not been significantly upgraded in decades. The Governor's Sustainable Water Infrastructure Task Force in 2008 found that over \$25 billion was needed to rebuild the sewage treatment infrastructure across the Commonwealth over the next 20 years.⁶ The lack of significant upgrades in the past several decades means that pipes, tanks, and other problems with this antiquated infrastructure potentially can cause increased costs on taxpayers' water and sewer bills.⁷ When a major upgrade is needed, it may be cost-effective for growing municipalities to include nutrient treatment. It is important to note that the typical nutrient reduction portion amounts to no more than 10-15 percent of a major upgrade project cost.

Agricultural Reductions

The greatest opportunity for achieving nitrogen reduction targets is in the agricultural sector. Unfortunately, nitrogen reduction in the agricultural sector is lagging behind expectations, according to the EPA Milestone⁸ and Legislative Budget and Finance Committee⁹ (LBFC) reports. Pennsylvania is responsible for about 46 percent of the nitrogen that flows into the Chesapeake Bay, and so nitrogen reduction is a specific target for the Commonwealth, much of which is produced by the agricultural sector. Therefore it is imperative that Pennsylvania's reduction plan relies heavily upon reductions in the agriculture sector. The EPA noted in its 2012-13 milestone progress report that Pennsylvania failed to meet 2013 targets for nutrient reduction, and also failed to meet implementation targets for best management practices. This second point is significant because the Pennsylvania WIP relies heavily on best management practices to achieve reduction targets.

Pennsylvania's Options Regarding Mandated Nutrient Reduction Targets

1. Default on EPA mandates.

Currently there are fewer than 689 days to put into place the practices that will reduce the amount of sediment, nitrogen, and phosphorus required under the TMDL. Given the level of effort in place today, the Commonwealth will be unable to meet these 2017 milestones, thereby forcing the EPA to adopt backstop measures.

If the Commonwealth defaults on the EPA mandates and fails to meet nutrient reduction targets, the EPA can then require the Commonwealth to make improvements that could be extremely costly, specifically related to stormwater management. In fact, the EPA noted that Pennsylvania's current program depends on 75 percent of its reductions coming from the agricultural sector, which has not achieved its milestones, as compared to the stormwater management sector. The EPA has also threatened to require additional reductions from the wastewater sector.¹⁰ This option is rampant with short- and long-term costs affecting the health, safety, and welfare of the Commonwealth.

⁶ Entitled, *Creating a Sustainable Solution for Pennsylvania, Governor's Sustainable Infrastructure Task Force Report*, 2008. pp. 5-6

⁷ <http://www.chesbay.us/Publications/nutrient-trading-2012.pdf>

⁸ Entitled, *EPA Evaluation of Pennsylvania's 2012-13 Milestone Progress and 2014-15 Milestone and Commitments to Reduce Nitrogen, Phosphorus, and Sediment*, June 26, 2014.

⁹ Entitled, *A Cost Effective Alternative Approach to Meeting Pennsylvania's Chesapeake Bay Nutrient Reduction Targets*, January 2013.

¹⁰ *Ibid.*, at page 7

2. Maintain current reduction strategy.

While the Commonwealth is meeting some of its targets, it is not yet fully compliant. Thus, for certain pollutants, this option would be effectively the same as defaulting on the EPA mandates. The LBFC has estimated that the current plans could exceed \$1.5 billion in expenses.¹¹ This means that the Commonwealth could end up not only being non-compliant, but also spending millions of dollars even if it remains non-compliant.

3. Accelerate implementation of current strategy.

a. Increase DEP enforcement of existing regulations

Pennsylvania's WIP calls for the implementation of an agricultural compliance strategy. The regulations include agricultural management programs as well as erosion and sediment control plans. Pursuant to an agreement with the EPA, from meetings held in June 2014, DEP is required to monitor and update the reduction strategy on an annual basis. In fact, similar to the Department of the Auditor General's report on DEP's oversight of water quality during the Marcellus Shale natural gas boom, the EPA has noted that the DEP needs to improve reporting on its "Agriculture Compliance Policy and Compliance Inspections." DEP is required to:

- provide details on the types of non-compliance actions and how they are being resolved,
- ensure that farms are implementing manure-management plans, and sediment erosion or conservation plans pursuant to Pennsylvania regulations, and
- improve its tracking, verification, and reporting of the agricultural sectors management best practices.

This is not to say that DEP should create additional regulatory requirements, but instead should ensure compliance with regulations that already exist.¹² DEP would have to take a more proactive approach in order to ensure the agricultural sector's compliance with existing regulatory mandates.

b. Accelerate implementation of best management practices

The Commonwealth has established a number of programs at DEP, through *Growing Greener*, a joint program between the Department of Agriculture and the State Conservation Commission, which are engaged in the delivery of the cost effective agricultural best management practices such as cover crops, no-till, manure management, the legacy sediment restoration program, and riparian buffers. Pennsylvania should continue to evaluate and provide resources for the most effective of these programs using adaptive management approaches as intended by the milestone process. More consistent state funding and advocating for federal resources through the farm bill and other programs are needed to revitalize these programs that are already designed to deliver on-the-ground farm improvements.

¹¹ <http://lbfc.legis.state.pa.us/Resources/Documents/Reports/453.pdf>

¹² EPA Guidance Report, July 2014

4. Revise and promote the nutrient trading program.

While Pennsylvania already has an existing nutrient trading program, it has become stagnant because few entities use the program, and the intended buyers—those operating major sewage facilities—are generally already implementing their compliance choice, be it trading or upgrading their plants. However, opportunities do exist to expand the current nutrient trading program so that it can provide direct incentives for innovative investment in nutrient reduction technologies, such as manure to energy systems.

The LBFC performed a study in 2012, which was issued in January 2013, reviewed the effect of a state-operated nutrient management trading program¹³ designed to have the Commonwealth use the trading platform at PENNVEST, which could directly invest in nutrient-reducing projects using state funds. Presumably, this concept would be an alternative to new grants or regulatory programs for achieving reductions. Assuming that municipalities and the agricultural sector become involved in a revised nutrient trading program, the study shows that, with effective monitoring, a state-operated program could be a low-cost alternative strategy to help the Commonwealth achieve the necessary reductions. The creation of a new trading platform could incentivize technological innovation and provide a monetary benefit through trading along with the use of cutting edge environmental and agriculture technology.

It should be noted that the LBFC estimated that if no other reductions were performed, a trading program could save the Commonwealth over \$1.2 billion in costs by 2025.¹⁴ It is important to note that DEP's original work with PENNVEST as a host of live-trading auctions was rated as a strong proposal by the EPA.

5. Enhance municipal waste water treatment grants and upgrades.

Many municipal waste water treatment facilities are severely antiquated and could require hundreds of millions of dollars to achieve necessary enhancements. However, even if the best technologies are implemented in the overall sewage treatment infrastructure, it appears as though nitrogen reduction targets cannot be achieved without the agricultural and stormwater sectors' full participation to reduce pollutants. According to an early and well-received study by the Chesapeake Bay Commission, for sewage treatment infrastructure improvements, the pounds of reduction would be achieved at a very high cost per pound, estimated in excess of about \$10 per pound, as compared with about \$4 per pound from available agricultural best management practices.¹⁵ Many other cost evaluations have been done with different absolute numbers, depending upon what is counted, but the relative economic efficiencies remain similar in that the agricultural reductions are more cost effective than sewage treatment upgrades for nitrogen reduction. Furthermore, there are more opportunities in agriculture for major reductions than in numerous small sewage treatment plants.

This does not mean that certain wastewater upgrades are not valuable or even necessary, but they should be evaluated as part of a thorough cost-benefit analysis.

¹³ Entitled, *A Cost Effective Alternative Approach to Meeting Pennsylvania's Chesapeake Bay Nutrient Reduction*.

¹⁴ Ibid.

¹⁵ *Cost-effective Strategies for the Bay*, Chesapeake Bay Commission, Dec. 2004

Recommendations

There is no silver bullet that will help Pennsylvania resolve its pollution problems affecting the Chesapeake Bay. Instead, a hybrid approach, which includes commitments from several different sectors and a combination of methods, is the most appropriate and cost-effective approach for the Commonwealth to achieve mandated nutrient reductions for the Chesapeake Bay by 2025.

- The Commonwealth's commitment to ensuring that the nutrient reduction milestones are met requires that DEP and the Department of Agriculture have adequate staffing levels so that important practices are implemented.
- DEP and the Department of Agriculture should more thoroughly examine TMDL requirements and existing regulations and join with the agriculture community to achieve mutually beneficial objectives and mandated goals. DEP and the Department of Agriculture should also work together on an ongoing basis to review and update reduction levels and to ensure compliance targets are being met.
- Revision of the existing nutrient trading program, as discussed by the Legislative Budget and Finance Committee, should be thoroughly examined. Better use of the existing nutrient trading program appears to be a necessary step to help Pennsylvania meet the 2025 nutrient reduction levels.
- DEP should support using low-cost solutions as alternatives to higher-cost public infrastructure projects, where possible. As one example, DEP should work with existing stakeholders to develop and implement a Commonwealth offset program that will provide additional methods for entities exceeding TMDL limits to meet the necessary goals while allowing them to work within budgets yet encouraging the various sectors to work together.
- While it appears that an effective trading program could help achieve the required reductions, it is imperative that DEP and municipalities continue to enhance and support existing treatment facilities to ensure that the Commonwealth hits the 2017 target reductions and the 2025 target.
- Municipalities must review all available options and strive to utilize the most cost-effective practices. Financial considerations should be included when considering any treatment facility enhancement because large financial commitments could end up adversely impacting taxpayers and the community as a whole.

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For Immediate Release
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Coalition for an Affordable Bay Solution Says Neither Environment nor Public Can Afford Status Quo Approach to Nutrient Reduction in Chesapeake Bay Watershed

MANHEIM, Pa. – (April 27, 2015) – Senator Elder Vogel recently introduced Senate Bill to relieve the burden on taxpayers for expenses associated with mitigating pollution in the Chesapeake Bay. The proposed legislation would initiate a transparent competitive bidding program in which the Commonwealth would only pay for actual verified nutrient reductions after they have been approved by the Pennsylvania Department of Environmental Protection.

After decades of failed efforts and billions of taxpayer dollars, Pennsylvania finds itself in default on its 2013 Chesapeake Bay compliance targets and faces the very real potential of a far larger default by 2017.

“SB 724 addresses two critical issues that opponents of the proposed legislation are ignoring,” said Ed Schafer, former U.S. Secretary of Agriculture and current chairman of the Coalition for an Affordable Bay Solution. “First are the monumental Chesapeake Bay compliance costs to Pennsylvania taxpayers that have resulted from outdated spending practices. Second is the failure to effectively reduce nitrogen and other nutrient runoff from the Chesapeake Bay.”

SB 724 is based upon the recommendations in the 2013 Pennsylvania Legislative Budget & Finance Committee (LBFC) study. Funding for the bi-partisan LBFC study was included in the Commonwealth’s 2012 budget to determine whether the adoption of a competitive bidding program would reduce the cost of compliance with the Chesapeake Bay mandate. The LBFC study recommended that a transparent, competitive bidding program limited to verified nutrient credits be implemented to replace the decades-old sector allocation approach. The study projected potential cost reductions of 80 percent or up to \$1.5 billion annually for Pennsylvania taxpayers by 2025.

Two separate independent reports – an EPA Region III Technical Memorandum and the Chesapeake Bay Scientific Technical Assessment Committee report “An Economic Study of Nutrient Credit Trading for the Chesapeake Bay” – concluded that hundreds of millions of dollars spent on modeled Best Management Practice (BMP) to effect nutrient reduction have only delivered 50 percent (at most) of the modeled reductions. Pennsylvania farmers have made significant contributions, but the current, less-effective system doesn’t reflect their efforts.

“Competitive bidding is the very process government at all levels nationally uses to procure the vast majority of its commodities since it provides transparency and ensures against taxpayer abuse,” Schafer pointed out. “Opponents have labeled the proposed competitive bidding program as a ‘rigged system’ even though the legislation requires that the program be consistent with the Commonwealth’s Procurement Code. A ‘stay the course’ strategy of continuing the existing broken system is an option that neither the public nor the environment can afford.”

For more information on the Coalition for an Affordable Bay Solution, please visit AffordableBaySolutions.org.

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