

November 3, 2004

State Conservation Commission  
2301 North Cameron Street  
Suite 405  
Harrisburg, PA 17110-9408

**RE: Proposed Changes to Nutrient Management Regulations – 25 PA §83**

Dear State Conservation Commission:

I am deeply concerned with the proposed revisions to the Nutrient Management Regulations and the impact the revisions will have on Pennsylvania Agriculture.

My concerns with the proposed regulations are as follows:

- We need flexibility within the plan to allow for unexpected changes in importers, changes in conservation practices, etc. A Nutrient Management Plan is an evolving document. It is not a once and done item.
- If I can purchase land to become a volunteer NMP thereby not needing to submit a formal plan to the Conservation District, that is what I will do. The increased regulations are driving farmers away from submitting information.
- There will be a tremendous increase in expense to the farming community. The price of a nutrient management plan has increased due to the extra demands for soil sampling and planning. Manure hauling expenses are increasing due to the need to haul manure a further distance because of the setback requirements and the unreasonable limits Conservation Districts feel free to self impose. This is in addition to the requirement to use a Certified Manure Hauler.
- As the demands for increased regulations on manure application increase, it appears that little to no consideration is being given to the crop needs. In one instance, the Conservation District did not feel comfortable with varied rates for the different crops and actually requested that the same application rate be used on all crops. What sense does that make? Other than a false sense of security for the District that they will not be exposed to potential litigation if an anti group obtains the Nutrient Management Plan.
- The definition of a Perennial Stream; Surface Water as written allows for varied interpretations. Therefore allowing for different agencies to enforce this definition in different manners. I would suggest that it be defined as named streams therefore avoiding the potential for someone to define a diversion ditch as a stream.

Nutrient Application Rates should be allowed as either **phosphorus indexing OR phosphorus balancing for nutrient management plans**. This will give additional flexibility to the agricultural community in its efforts to address phosphorus loss. Phosphorus balancing would limit the amount of phosphorus that will be applied for a given year, to that amount that will be removed by the crop that given year. If the Commission is not agreeable to also allowing phosphorus balancing for all CAOs and CAFOs, I would recommend that the addition of phosphorus balancing be allowed for existing CAOs and CAFOs only, and not for new operations. Also, I am concerned about how the Commission defines the term "stream or other water body" for its use in the current version of the Phosphorus Index. The identification of streams or other water bodies (as defined for the index) on a farm serves a critical role in the calculation of the Phosphorus Index for a given field.

- I do not support manure export sheets, nutrient balance sheets and any other paperwork pertaining to manure importing and exporting being considered "official" components of a Nutrient Management Plan. When it is considered "official" it is available to the public to inspect. Too many times the public retrieves this information and has no understanding of how to interpret the information. The Conservation District does not have time to explain because that would require the District providing a mini course in Nutrient Planning to the individual.
- I would also recommend that either the State or the Conservation District have on staff a person to assist the farming community in identifying land that is available for manure application.
- I would also recommend that both small and large animal agriculture operations be considered equal. Still today, I can drive down the road and see animals standing in the stream – what is that doing to the water quality?
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- I would recommend that Pennsylvania regulations be identical to the EPA regulations.

I believe that farming must be done in an environmentally responsible manner to protect our food supply, the waters of the Commonwealth and the health and safety of our citizens. We need clear regulations, consistently applied so that we are not always trying to hit a moving target.

At the same time, however, it must be noted that regulations that are too stringent or drive the cost of farming up too much will negatively affect the contribution that agriculture makes to the economy of Pennsylvania.

Sincerely,

Rosalie Calamus

Mr. Gerald Zimmerman  
50 Pine Grove Rd  
Nottingham PA 19362



State Conservation Commission  
2301 North Cameron Street  
Suite 405  
Harrisburg, PA 17110-9408

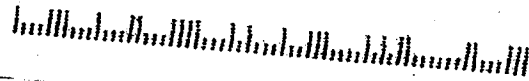
STATE CONSERVATION COMMISSION  
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Original: 2413

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Sincerely,



Tom Zartman  
820 Hilltop Rd  
Ephrata PA 17522

2004 NOV 16 AM 9:07

Original: 2413

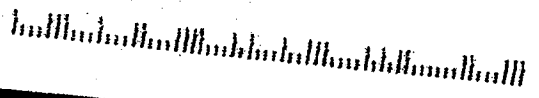
STATE CONSERVATION COMMISSION

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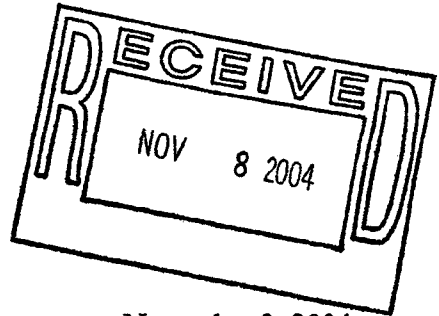
State Conservation Commission  
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*Thomas L. Zartman*

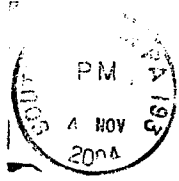
Raymond Harnish  
491 Barnsley Rd  
Oxford PA 19363

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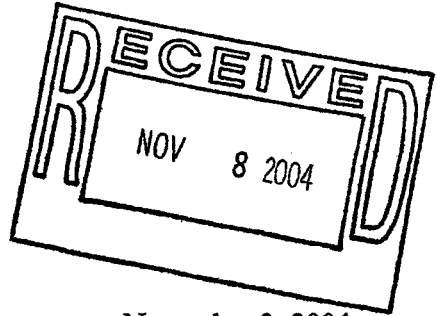
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*J. Raymond Harris*

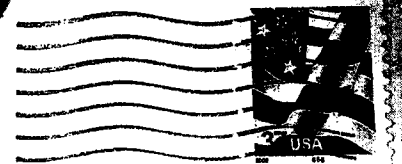
Mr. Robert Shearer  
806 Anderson Ferry Rd  
Mt Joy PA 17552

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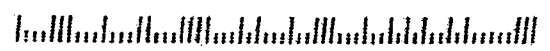
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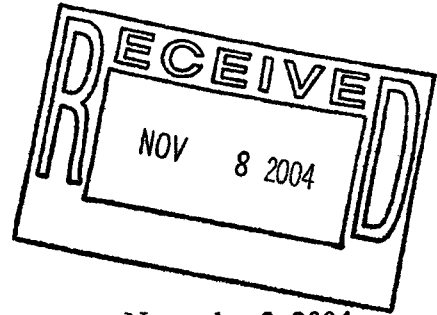
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Sincerely,

*Robert D. Shearer*

Original: 2413

166

Flanagan, Joann

From: Barb Lavin [lavinland@comcast.net]  
Sent: Thursday, November 04, 2004 8:34 AM  
To: ag-scc@state.pa.us  
Subject: Comments on Nutrient Management Regulation Revisions

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2004 NOV 16 AM 9:06

REGULATORY  
REVIEW COMMISSION

November 04, 2004

State Conservation Commission  
2301 North Cameron Street, Suite 405  
Harrisburg, PA 17110-9408

Dear ,

Subject: Comments on Nutrient Management Regulations: One-page summary for distribution to State Conservation Commission Members  
Many of the improvements in the revised Nutrient Management regulation will help reduce the nutrient pollution that is choking almost 4,000 miles of Pennsylvania's streams and the Chesapeake Bay. The revised regulation has improvements that resolve many of the current problems, and they need to be incorporated into the final regulation.

As you know water is a valuable and irreplaceable resource. Any pollution into our water way and thus into the environment should no longer be tolerated. We need to be more aware.

Phosphorous in itself can no longer be tolerated. We need to protect our environment and MAKE people understand the neccessity behind the need. If we stay on the course we are in mother nature will only have one recourse and that's not an outcome I'd like to see. We have a responsibility as members of the world and as a civilized country to protect, not destroy our planet.

I appreciate the following improvements:

- \* Inclusion of horse operations.
  - \* Tightening of the export "loophole," and requiring careful planning and tracking of manure that is shipped from one farm to another.
  - \* Inclusion of the phosphorus index.
  - \* Requirement that animal access to surface water be controlled, so that livestock may not directly deposit their manure in streams.
  - \* Prohibition of manure application on bare ground.
  - \* Requirement of an Erosion and Sedimentation Control Plan.
- The proposed Nutrient Management regulation, however, has some shortcomings that I urge you to correct:
- \* A setback of 100 feet (or 200 feet on steep slopes) from surface water should be throughout the year, not just when the ground is frozen, snow-covered or saturated. Water pollution occurs throughout the year, and the regulation should be changed to require these setbacks at all times.
  - \* Setbacks from all surface waters, in addition to property lines, water wells and sinkholes, should be required for manure storage facilities. Wetlands, intermittent streams, and downstream waters could suffer devastating effects if inundated by millions of gallons of manure when a manure storage facility fails, most likely after a heavy rain when intermittent streams are flowing and wetlands are full.
  - \* Temporary manure stacking areas should only be used for emergency situations, and for no longer than 30 days.
- Thank you very much, and I look forward to an improved regulation leading to improved water quality.

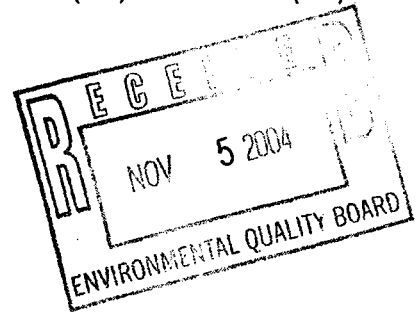
Sincerely,



# Snyder County Conservation District

403 WEST MARKET STREET, MIDDLEBURG, PENNSYLVANIA 17842 TEL. (570) 837-0007 FAX (570) 837-3000

November 3, 2004



State Conservation Commission  
Agriculture Building  
Room 405  
2301 North Cameron ST  
Harrisburg, PA 17110

Environmental Quality Hearing Board  
P O Box 8477  
Harrisburg, PA 17105-8477

Rachel Carson State Office Building  
15<sup>th</sup> Floor  
400 Market ST  
Harrisburg, PA 17105-2301

Dear SCC and EQHB Members:

Enclosed with this letter is the compilation of comments from the technical staff of the Snyder County Conservation District regarding the proposed nutrient management regulations changes under Title 25, Chapter 83 of the Pennsylvania Code. Please forward and consider our comments to the proper members of the State Conservation Commission (SCC) and Environmental Quality Hearing Board (EQHB).

If you have any questions about our comments, please feel free to contact us at (570) 837-0007, extension 5 or [snyder@pa.nacdn.net](mailto:snyder@pa.nacdn.net). Thank you for allowing us to place our input in this regulation review and comment period.

Sincerely,

Sean Levan,  
Act 6 Technician,  
Snyder, Montour & Northumberland  
County Conservation Districts

Barry Spangler,  
Chesapeake Bay/Biosolids Technician,  
Snyder County Conservation District

Jim Roush,  
Watershed Specialist,  
Snyder County Conservation District

Enclosed Comments

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ENVIRONMENTAL QUALITY BOARD



Compiled Comments from the Technical Staff of the Snyder County Conservation District  
Regarding Proposed PA Nutrient Management Regulation Changes  
Page 1 of 2

No.:	Comment: (Page Numbers refer to <u>PA Bulletin</u> , Vol. 34, No. 32, August 7, 2004)	Page No.	Referenced Section:
1	Definition for "In-field stacking": Suggest that regulations limit time or provide a duration that manure can be stacked. "Until next growing season" could be 6 to 8 months, which is too long.	4371	83.201
2	Provide an additional definition for "Emergency Stacking Areas."	4371	83.201
3	When does temporary stacking become permanent? The regulations do not currently make a distinction.	4371	83.201
4	Why have this section included in the regulations? From conservation district staff observations, no one at the state level currently enforces the preemption of local ordinances on local municipalities.	4373	83.205
5	On the location map, road names and distinguishing landmarks should be present and required. This makes it much easier for conservation district nutrient management plan reviewers.	4378	83.281 b (1)
6	Why does manure test have to include ammonium nitrogen (NH <sub>4</sub> -N)? Is this really necessary?	4378	83.291 (b) (3) (i)
7	Why can soil test results not be in pounds of phosphorus (P) and P <sub>2</sub> O <sub>5</sub> instead of parts per million (ppm)? There are conversion factors that a plan writer can use to convert pounds of P or P <sub>2</sub> O <sub>5</sub> into ppm of P.	4379	83.292 (e) (4)
8	Why can fertilizer be applied within 100 ft. of a stream, but not manure? Can not fertilizer nutrients pollute surface and groundwater as well as manure nutrients?	4380	83.294 (f)
9	To be consistent with the governor's proposed ACRE initiative, there should be no manure spreading within 100ft of a stream regardless of soil conditions.	4380	83.294 (f) (vii)
10	The Commission should provide guidance and time frame for in-field stacking. "Next growing season" could be too long of a time frame for in-field stacked manure nutrients to either leach or wash away.	4381	83.294 (h)
11	The conservation district technical staff believes that all the proposed excess manure regulation requirements will cause importing operations to cease acceptance of manure from CAO's. Specifically the Amish community and "anti-government" farmers. What will occur when farmers and manure brokers begin to refuse to accept manure due to regulatory requirements?	4381	83.301
12	The anticipated increased workload may overwhelm current conservation district technical staff time and resources dedicated to this program.	4301	83.301
13	We would like these questions answered: When is a permanent manure stacking area required? When does a temporary storage become permanent?	4383	83.311 (a) (6)
14	When a CAO construct required BMPs, the operator should provide a copy of the Operation and Maintenance Plan and BMP designs to the conservation district. However, we strongly urge that these items should not be considered public information.	4383	83.311 (d)
15	How do we address ACA's? Is reducing size and treating runoff enough? It is our belief that this does not meet <u>PA Soil &amp; Water Conservation Technical Guide</u> standards. How will manure be collected off of these lots? What will be done about the leaching potential of the soil in these areas?	4383	83.311 (e)

Compiled Comments from the Technical Staff of the Snyder County Conservation District  
Regarding Proposed PA Nutrient Management Regulation Changes

Page 2 of 2

No.:	Comment: (Page Numbers refer to <u>PA Bulletin</u> , Vol. 34, No. 32, August 7, 2004)	Page No.	Referenced Section:
16	Dimensions of a proposed manure storage structure may change from initial plan writing to the final design. Therefore, storage capacity and time frame should be adequate.	4383-4384	83.311 (f) (1)
17	Although the conservation district agrees that conservation plans are needed, we feel that current NRCS staff and priorities will prohibit conservation plan development before Nutrient Plan approval can occur.	4384-4385	83.321
18	We have two questions that we would like answered: With annual manure tests, will a plan update be required each year? What type of variances in manure analysis will require a plan update?	4385	83.342 (b) (2)
19	With the P-indexing requirements in plan development and the site visits and planning for all importing operations, is a 90 day review period adequate for CAO nutrient management plans? This timeframe seems to be unrealistically short.	4387	83.361 (e)
20	We believe that the 3-year time period for plan implementation should be extended if the farmer is working with the conservation district, NRCS or the private sector to implement the BMPs specified in the plan. This should include securing funds and design work for plan implementation.	4387	83.362 (a)
21	Please define "significantly changed" in reference to soil test levels.	4388	83.362 (c)
22	Why does manure test have to include ammonium nitrogen (NH <sub>4</sub> -N)? Is this really necessary?	4390	83.401 (b) (3) (i)
23	Why can soil test results not be in pounds of phosphorus (P) and P <sub>2</sub> O <sub>5</sub> instead of parts per million (ppm)? There are conversion factors that a plan writer can use to convert pounds of P or P <sub>2</sub> O <sub>5</sub> into ppm of P.	4391	83.402 (e) (4)
24	The Commission should provide guidance and time frame for in-field stacking. "Next growing season" could be too long of a time frame for in-field stacked manure nutrients to either leach or wash away.	4392	83.404 (h)
25	It appears that the requirements for VAO's are identical to CAO's in regards to manure and nutrient balance sheets. We feel that this will discourage VAO participation in the program.	4393	83.411 (a)
26	We ask that the Commission give an exact time period for VAO plan implementation. What is "a reasonable implementation schedule"?	Not in Bulletin	83.441
27	With the P-indexing requirements in plan development and the site visits and planning for all importing operations, is a 90 day review period adequate for VAO nutrient management plans? This timeframe seems to be unrealistically short.	4398-4399	83.471

Original: 2413

**Flanagan, Joann**

RECEIVED

2004 NOV 16 AM 9:05

GOVERNMENT REGULATORY  
REVIEW COMMISSION

**From:** Goodlander, Douglas  
**Sent:** Thursday, November 04, 2004 8:09 AM  
**To:** 'Yarnsmith@aol.com'  
**Cc:** Hughes, Marjorie; Brennan, Douglas; Flanagan, Joann  
**Subject:** RE: nutrient management comment

Dear Ms. Smith,

Thank you for your reply and I will enter your comments for the record.

Doug Goodlander

-----Original Message-----

**From:** Yarnsmith@aol.com [mailto:Yarnsmith@aol.com]  
**Sent:** Wednesday, November 03, 2004 9:35 PM  
**To:** dgoodlande@state.pa.us  
**Subject:** Re: nutrient management comment

Dear Doug Goodlander,

Yes, it's okay to use my comment about the nutrient management law that's proposed. I feel very strongly that the farmer is singled out for all of the woes of our environment. If anything, the farmer needs assistance in keeping current so that the farming practices that are not beneficial are replaced with good farming techniques. My father-in-law is a farmer & had the neighbors complaining when he has treated human waste put on his fields every 3 years. My philosophy to those people is that they should just keep their own waste & see how wonderful things would be! They may go a bit less.

But any law dealing with "fertilizing" should include the homeowner and any other entity that uses any type of fertilizers on their properties. The responsibility for a clean environment is everybody's job.

Thanks for listening.  
 Sue Smith

-----Original Message-----

**From:** Yarnsmith@aol.com [mailto:Yarnsmith@aol.com]  
**Sent:** Monday, November 01, 2004 9:22 PM  
**To:** aginfo@state.pa.us  
**Subject:** nutrient management comment

Hello,

I live in Montgomery County & have not been able to attend the "hearings" concerning the new nutrient management legislation.

My area was once open & farm land however, the developments have invaded. With the invasion, comes the homeowner that over fertilizes his property. I believe before a law is pushed onto the PA farmer to be responsible for the proper use of fertilizer, the same laws should be forced onto the neurotic homeowner that believes more for his lawn is better.



U

Should the stream that is over 1000 feet from my property become "polluted" with nitrates, phosphorus, & potassium, I know fingers will point at me with my 4 horses rather than the 500 homes with 1/8 acre lots that are chemically enhanced to make them green and weed-free. (Not to mention the tons of human manure they produce & don't want it in their backyards!)

Please put the responsibility of keeping the water clean on ALL people. Stop making it the sole responsibility of the farmer that is desperately attempting to make ends meet.

Thank you for your time.

Sue Smith  
568 Buchert Rd.  
Gilbertsville, PA 19525  
610-323-4464

167

Original: 2413  
Flanagan, Joann

RECEIVED

2004 NOV 16 AM 9:06

STATE CONSERVATION COMMISSION  
REGULATORY  
REVIEW COMMISSION

From: Susan Markowitz [puffin7@comcast.net]  
Sent: Wednesday, November 03, 2004 1:09 PM  
To: ag-scc@state.pa.us  
Subject: Comments on Nutrient Management Regulation Revisions

November 03, 2004

State Conservation Commission  
2301 North Cameron Street, Suite 405  
Harrisburg, PA 17110-9408

Dear ,

Subject: Comments on Nutrient Management Regulations: One-page summary for distribution to State Conservation Commission Members  
I am truly hopeful that the Nutrient Management regulation, as revised and improved, will help reduce the nutrient pollution currently afflicting almost 4,000 miles of Pennsylvania's streams, as well as the Chesapeake Bay. The revised regulation contains improvements that would resolve many of the problems currently experienced; it is vital that they be incorporated into the final regulation.

We owe it to future generations to do all we can to improve the quality of these waters, especially when the deterioration is due to human-related causes.

I appreciate the following improvements:

- \* Inclusion of horse operations.
- \* Tightening of the export "loophole," and requiring careful planning and tracking of manure that is shipped from one farm to another.
- \* Inclusion of the phosphorus index.
- \* Requirement that animal access to surface water be controlled, so that livestock may not directly deposit their manure in streams.
- \* Prohibition of manure application on bare ground.
- \* Requirement of an Erosion and Sedimentation Control Plan.

The proposed Nutrient Management regulation, however, has some shortcomings that I urge you to correct:

- \* A setback of 100 feet (or 200 feet on steep slopes) from surface water should be throughout the year, not just when the ground is frozen, snow-covered or saturated. Water pollution occurs throughout the year, and the regulation should be changed to require these setbacks at all times.
- \* Setbacks from all surface waters, in addition to property lines, water wells and sinkholes, should be required for manure storage facilities. Wetlands, intermittent streams, and downstream waters could suffer devastating effects if inundated by millions of gallons of manure when a manure storage facility fails, most likely after a heavy rain when intermittent streams are flowing and wetlands are full.
- \* Temporary manure stacking areas should only be used for emergency situations, and for no longer than 30 days.

Thank you very much, and I look forward to an improved regulation leading to improved water quality.

Sincerely,

Ms. Susan Markowitz  
PO Box 656  
Lahaska, PA 18931-0656

**Flanagan, Joann**

**From:** Lovegreen, Mike - Towanda, PA [Mike.Lovegreen@pa.nacdnet.net]  
**Sent:** Wednesday, November 03, 2004 12:44 PM  
**To:** ag-scc@state.pa.us  
**Cc:** dgoodlande@state.pa.us  
**Subject:** Nutrient Mgt. Proposed Regs. Change Comments

RECEIVED  
2004 NOV 16 AM 9:05  
REGULATORY REVIEW COMMISSION



BCCD COMMENTS  
ON NUT REGS.doc

Dear Commission Members:

On behalf of the Bradford County Conservation District, I am submitting the following comments relative to the proposed changes to the Nutrient Management Act regulations. The Bradford County Conservation District supports the proposed amendments as improvements to an already exemplary program. Our comments are general in nature and largely aimed at providing clarification and consistency.

Our deepest appreciation for the opportunity to provide such input and for the opportunity to be part of the implementation of the program.

Sincerely,

Michael W. Lovegreen  
District Manager



**COMMENTS ON  
25 Pa. Code, Chapter 83 Subchapter D. NUTRIENT MANAGEMENT  
PROPOSED CHANGES**

**Submitted by The Bradford County Conservation District**

**§ 83.201 Definitions.**

*Biosolids* – s referred to in the regulations and should be defined.

*Conservation Plan / Erosion and Sedimentation Control Plan* - a conservation plan has specific definition under differing circumstances. A conservation plan in the most general definition is the one defined in the proposed regulations. USDA defines a RMS level plan as well as a compliance plan that may be used when a hardship is expressed. The alternate plan allows soil losses as high as 3T, T being tolerable soil losses. An erosion and sedimentation control plan is clearly defined by Chapter 102 of the DEP regulations. Confusion can be a problem in defining a conservation plan that does not meet Chapter 102 standards. In many counties in PA a locally (conservation district) approved conservation plan is one that meets the standard for Chapter 102 requirements. A suggestion would to set some type of minimal standards to the conservation plan definition.

*Surface water* – The original definition, which is consistent with the Clean Streams Law and the Chapter 105 DEP regulation, should be kept. There are numerous instances that manure and related nutrients directly enter into road ditches, diversions and other “artificial” channels and directly outlet into a “natural” channel or stream. These direct conveyances are recognized in the “P” index for a reason and should be recognized in the regulations.

**§ 83.272. Contents of plans.**

(d) *the Conservation Plan* should have minimum standards applied (see comment above).

**§ 83 281. Identification of agricultural operations and acreage**

(b) the topographic map should have a minimum scale defined to make it usable for the farmer as well as the reviewer.

**§ 83.293 Determination of nutrient application rates**

(d) the District supports the inclusion of the calculations. During the review process it is often the questioning of the source and use of calculation in the nutrient balancing the often results in timely delays in the back and forth communications between reviewer and planner. By providing these calculations up front, the reviewer can quickly determine in proper values such as expected yields etc., were based on local conditions such as soils.

**§ 83.294 Nutrient application procedures**

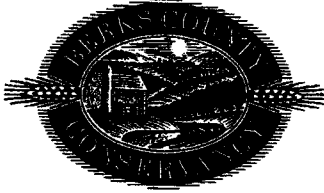
(h) *in-field stacking* should have site conditions/restrictions related to the practice included in the regs. if being stored for prolonged periods such as until the next growing season. Sites such as active floodplains, steep slopes during periods of frozen soils and those within close proximity to channels of conveyance to a stream could and do cause water quality impacts.

**§ 83.301 Excess manure utilization plans for CAOs**

(f) (1) there are many cropping operations that import manure from a variety of sources for their nutrients. In the case of an importer receiving manure from multiple sources there are still no obligations for that importer to develop and implement a plan.  
The amounts listed here appear to be high.

1

1



25 N. 11th Street • Reading, PA 19601 • 610-372-4992 • FAX 610-372-2917  
E-mail: info@berks-conservancy.org • Web: www.berks-conservancy.org

November 3, 2004

State Conservation Commission  
Agricultural Building, Room 405  
2301 North Cameron Street  
Harrisburg, PA 17110



Gentlemen:

The Berks County Conservancy is involved in many facets of water quality protection in Berks County. We not only comment on legislation and, in this case, regulations, but also manage and expedite storm water, nutrient management, and stream bank fencing, restoration and enhancement projects. We are aware firsthand that a pound of prevention is worth a ton of cure.

Regarding the proposal for the revision of nutrient management, the Berks County Conservancy recommends:

- Section 83.294(h) - Dry manure must not be stored uncovered in fields for longer than two weeks
- Manure application setbacks should apply year round and include setbacks to sinkholes in Section 83.294(f).
- Setbacks should be required for manure storage facilities from all surface water and the SCC or Conservation District should not be allowed to waive setback requirements (Section 83.351).
- Section 83.201 - A phosphorus balancing approach should be used which takes into account existing high P levels on farms.
- Section 83.301 - Nutrient management plans for importing of manure should include balance sheets for phosphorus as well as nitrogen.
- Section 83.301 - Exporters and importers of manure should have a signed agreement that requires the proper handling of manure at the import site.

Thank you.

Sincerely,

Lawrence E. Lloyd  
Conservation Specialist

RECEIVED  
2004 NOV 10 PM 3:42  
PA DEPARTMENT OF ENVIRONMENTAL PROTECTION  
STATE CONSERVATION COMMISSION

The Berks County Conservancy is a registered 501(c)3, nonprofit, charitable organization. A copy of the official registration and financial information may be obtained from the Pennsylvania Department of State by calling toll free, within Pennsylvania, 1-800-732-0999. Registration does not imply endorsement.

HELPING TO PROTECT OUR OPEN SPACES, FORESTS, WATERWAYS, FARMLAND, AND HISTORIC SITES

Original: 2412 192

Original: 2413 136

911 Pushersiding Road  
Ulysses, Pa. 16948

November 3, 2004  
2004 NOV 15 PM 3:44

RECEIVED  
MULTI-MEDIA REGULATORY  
REVIEW COMMISSION

Environmental Quality Board  
P. O. Box 8477  
Harrisburg, Pa. 17105-8477

Gentlemen:

We had a meeting concerning the proposed regulations the evening of October 20, with our Senator present, and I wish to convey my strong objection to the proposals which seem to be overstepping the original intent of the Legislation.

**Perhaps** you folks who write these regulations are unaware that the farmer does not have a six or eight hour day - every day - or ever, because working with animals requires at a minimum 14 hours, so saddling the farmer with additional tasks, and paper work just is unreasonable.

**CAFO PERMIT COSTS:** It appears these costs are excessive, and the farmer having to absorb such is unable to do so, because he cannot pass these costs on to his customers. Farmers wait 30 days at a minimum to receive whatever the customer deems necessary to pay for his product, never knowing exactly what deducts are taken, etc.

Any further regulations must have sufficient funding to cover implementing the same, without added cost to the farmer.

**MANURE STORAGE WATER QUALITY PERMITS:** The farmer is always trying to keep our water quality up; to keep the cost of spreading the manure to a minimum, and still try to continue with his farming operation. The criteria proposed gives a department (DEP) too much authority to regulate water management permits. Is it your intent to put the farmer in Pennsylvania out of business? The restrictions and paper work required by the proposed regulations concerning exported and imported manure are absolutely unnecessary because anyone may go to the marketplace and buy bagged manure without knowing from whence it came (nor caring), nor telling to where it is going, so why saddle the farmer with such a requirement, simply because you regulators want more paper work? It sounds as though these permit costs are implemented in order to keep the EQ Board & perhaps the State Conservation Commission in business.

**MANURE APPLICATION SETBACKS:** Surely you don't intend to issue further "appropriate" setback and buffer requirements which as yet haven't been determined!!!! -- or does that require more meetings, to which the ordinary farmer doesn't have time to attend?



**To summarize: Any further regulations and many of the present ones, have to have sufficient funding to cover the implementing of same, WITHOUT added costs to the farmer and without further paperwork. LET THE FARMER DO HIS JOB OF PRODUCING HIS PRODUCT WITHOUT FURTHER HARRASSMENT.**

Thank you for the opportunity to comment on the proposed regulations. Perhaps a reduction in staff for you folk, would help you realize what the farmer is going through with added paper work on top of his regular work?

Sincerely,

A handwritten signature in cursive script that reads "Ed Kosa".

Ed Kosa

EK:hyk

152

**Flanagan, Joann**

RECEIVED

2004 NOV 16 AM 9:05

REGULATORY  
REVIEW COMMISSION

**From:** Goodlander, Douglas  
**Sent:** Wednesday, November 03, 2004 9:06 AM  
**To:** Flanagan, Joann; Hughes, Marjorie  
**Subject:** FW: comments on proposed NM rules

Marge,

you asked me to check with Keith Heimbach and Doug Graybill to make sure they wanted their comments submitted for the formal record since they emailed them to me instead of the scc address. below is their response (yes) and a copy of their comments (i am not sure if these comments are the same as their initial comments, i hope so).

doug g.

-----Original Message-----

**From:** Doug Graybill [mailto:dgraybil@sosbbs.com]  
**Sent:** Tuesday, November 02, 2004 10:28 PM  
**To:** dgoodlande@state.pa.us  
**Subject:** comments on proposed NM rules

Yes, we want this letter entered as part of the formal public comments. Our address is included in comment letter.

Thanks, Doug & Keith

TO: Doug Goodlander, Pa State Conversation Commission

DATE: 10-25-2004

FROM: Keith Heimbach and Doug Graybill,

RR 1 Box 178A, Granville Summit, Pa 16926

**Comments on the proposed Nutrient Management (NM) rules.**

We want to address a number of areas concerning the possible effects on farmers in the proposed NM changes.

Our farming enterprise is located in Bradford County, Northeast of Canton. The topography of our farm is gentle rolling with a few sharp slopes. Rivulets border many our fields and pastures. Two swamps border some of our fields and serve as a rivulet source. We have about 234 cultivated acres( 80-100 acres of corn, the balance in hay) and 146 acres of pasture,. Our animal agriculture is composed of a 30 cow dairy plus young stock, 45 bison cows plus young stock and two 2100 head hog finishers. All cultivated acres and 100 acres of pasture receive from 4-6000 gallons of hog manure/acre/year. If and when we have extra manure, it is exported to neighbor's corn or hay ground.

**CAO/CAFO**

I believe the proposed rules unfairly focus on CAO/CAFO's since they are the most visible and easiest target to convince critics, that Pennsylvania is serious about reducing the nutrient load in the Chesapeake Bay basin.

1. A survey of the nutrient load data from 1985 to 2003 provides little evidence of increasing or decreasing nutrient loads in the Susquehanna River and only points to great nutrient variations based on wet or dry years. (www.srbc.com)

2. Nutrient loading has occurred over many decades prior to the advent of CAO/CAFO's which are a recent development in the history of Pennsylvania animal agriculture. It would be interesting to know the nutrient loads during the lumbering era, the mining era, and 1930's through the 1950's. Consequently, other sources must have contributed to the nutrient loading in prior years.

3. If animal manure is the cause then small animal operations (AO) (dairies, poultry flocks, pig operations, steers, etc) have and are presently contributing to the nutrient loads accumulating in the river and bay.

4. The agricultural share of the nutrient load will only be reduced when winter spreading of animal manure on frozen or snow covered ground is greatly restricted. Our experience is, we are making better use and exercising more care in spreading manure from the hog finishers. Our dairy manure was and is still spread on frozen or snow cover ground during the winter months. I have seen our fields literally swept clean in a few hours during a spring thaw. Our pig manure is spread on hay ground in fall or spring (rapid absorption). Pig manure on our corn ground is incorporated within 12-24 hours. The fact is, since hogs, we have never been more environmentally right in our farming operation.

5. The focus on more restrictions for CAO/CAFO's are mis-directed and the increasing cost

of compliance will stop or force us out of business. Our production contracts do not generate enough cash flow to justify the cost of exporting manure.

6. Many contributors to the bay's nutrient load problems seem to be ignored or excused - Milton, Pa = six million gallon dump of raw sewage(summer, 2004), Baltimore, Md = 130 million gallon dump of raw sewage(first 10 months of 2003), allowing municipalities to dump raw sewage during flood events (how many gallons of raw human sewage were released in the past two 2004 hurricane events by local municipalities?), golf courses, chemical fertilizing and herbicide treatment of residential lawns, runoff from residential, commercial and industrial areas. In fact, we have read that cleaning up the bay presents a nearly impossible situation in light of the current expansion rate of urban/suburban development and associated population growth rates within the Chesapeake Bay drainage.

7. The winter time spreading of all animal manures should be restricted and tax free grants should be made available to build manure holding structures.

## SET-BACKS AND BUFFERS

1. To comply with the proposed rules, we calculated that 40% of our rented acreage (40 acres) will be excluded from manure treatment. Therefore, just on the rented acreage, we will have to export 240,000 gallons. The financial impact is that we must pay (\$55/hr) for a certified hauler to spread manure on some distant acreage if we can find an eligible farmer with a conservation plan (E&S) and a NM plan. Then, we will have to purchase chemical fertilizer (15-15-15=\$291/ton, Urea=\$345/ton, 2004 prices) if we want a crop yield from our rented acreage. **A double expense to raise a crop of hay or corn. The**

implication is that CAFO manure is bad, non-CAFO manure and chemical fertilizer is ok, yet all deliver N-P-K. Both are subject to runoff but CAFO's manure is designated the problem. This situation leaves us with only a few choices. a) drop the rented land. b) we cannot compete with CREP to rent more distant acreage. c) call it quits. d) ignore the buffer restrictions. Obviously, we cannot afford any of these options. Farmers may be forced to ignore the restrictions in the name of survival.

2. Abiding by all the suggested setbacks (streams or conduits for surface water, public roads, property lines, etc) amounts to a tremendous sacrifice in potential crop production and threatens our ability to be financially solvent. We purchase the land, pay property taxes and then we are prohibited from maximizing its agricultural potential. If the restrictions are in the interest of the larger public interest, then the government should reimburse the loss of income forced on us.

3. The broad definition of "stream or conduits for surface water" can mean anything to an environmentalist. We have no idea what to do with the diversions or sod waterways, temporary ponding, etc which occasionally collect and carry excess water off our fields.

4. We have not been able to find any long-term research projects which measures the pre-animal agriculture phosphorus levels and associated leaching with post-animal agriculture phosphorus levels and associated leaching into the waterways. We do know of a North Carolina study featured in Feedstuff magazine (6-2-2003) which contradicts the current justification for animal phosphorus restrictions.

5. Based on the Act 6 Nutrient Management rules, we entered into loan and payback schedules, cash flow projections, rate of return on investment projections and return on labor. Don't change the rules for us in the middle of the game. We should be grandfathered in and guided by the old rules if the proposed rules are adopted. New CAO/CAFO'S could be guided by the proposed rules.

6. Proposed setbacks/buffers should be dropped and the original NM rules kept in place.

## EXPORTING OF MANURE

1. With the proposed manure spreading limitations on our present operation (owned and rented acreage), we will be forced to find more distant acres for receiving animal manure.

2. The 150 foot rule setback for non NM acreage will remove more acreage from spreading and increase our acreage needs and expenses.

3. Our conservation district lacks the manpower to fast track E&S plans. Our present E&S plan is totally inaccurate and will have to be redone. It was created in an office by a technician based on inaccurate topo's with no farm walk-over and contains recommendations which have no practical validity for our operation. We have significant acreage mis-labeled HEL which in no way qualifies for this designation.

4. Most of the neighboring farms now receiving our exported manure spread on less than forty acres, just a portion of their total acreage. They carefully choose the crop and acreage based on proximity in an effort to reduce hauling costs. Will they endure the process of developing an inaccurate E&S and the cost of developing a NM plan (\$1-3000)-- a guaranteed NO? Even if our neighboring farmers survive the hoops, it could be years until the acreage would be available for exported manure. Can we convince them to go through all the hoops just to receive our manure? It will be easier for them to place their land in CREP. Do not require an E&S and NM plan as a prerequisite for receiving exported manure.

5. A general reading of the proposed regulations addressing recording keeping for manure spreading is

enough to scare our neighbors. The old reporting rules have been adequate for fulfilling the NM requirements. The proposed regulations read as if we are the most distrustful people in existence. We are being treated as if we are the criminals in the bay watershed.

### BEST MANAGEMENT PRACTICES

1. A tremendous amount of money has been spent on BMP's with little if any reduction in nutrient loads. We understand that the millions spent have not produced the anticipated results.

a) The Mill Creek project, Mt. Pisgah, Bradford County is one example. Nutrient loads have not significantly changed.

b) The Bentley Creek, Bradford County stream bank project is a total disaster after a tremendous amount of money was spent to make this creek a model for other projects.

c) The Towanda creek was literally gutted by hurricane Ivan in a few hours (livestock grazing the creek banks are almost none existent) and the suspended sediment load will be charged to animal agriculture. DEP's stream philosophy has encouraged a meandering characteristic which results in more bank erosion during flooding.

2. Best Management Practices are always done with a "Cadillac" mentality by the conservation district personnel which will result in a nice tax owed to IRS by us.

3. To install BMP's on our small dairy operation (30 cows), the price tag is approximately \$40,000. I (Doug) told my son-in-law ( Keith) that this is insanity, how can a small dairy justify even our share of the cost plus pay the tax burden created by the total project. "Better to shoot the cows and forget the whole mess". Or maybe, new buildings should be subsidized and constructed in more environmentally safe areas. Somewhere, there has to be some common sense applied and these proposed NM rules are more of the same illogical thinking.

4. Our old dairy facility is our environmental problem. The new hog finishers buildings are environmentally sound. Our dairy problems are duplicated hundreds of times all over in our county. Most of our area dairy and hog CAO/CAFO'S are less then ten years old. New buildings, under roof slatted concrete manure holding structures, proper sites, storm drainage, and clean surroundings are their characteristics.

### SUMMARY IDEAS

1. Upon reading the 25 Pa Code, Chapter 83, Subchapter D. NUTRIENT MANAGEMENT,

my reaction is total frustration that it takes 138 pages to control all the possibilities in dealing with manure. We never realized that animal manure is such a dangerous material. Our reaction is "**WHY FARM !**" We certainly do not want our children or grandchildren to farm. There is not enough financial income to even come close to justify compliance to the proposed restrictions. We might as well sell to a developer, or sign up our farmland in CREP.

2. No animals, no manure--gets the government off our backs-- sure is tempting.

Thank you for your time in hearing our response.

Keith Heimbach

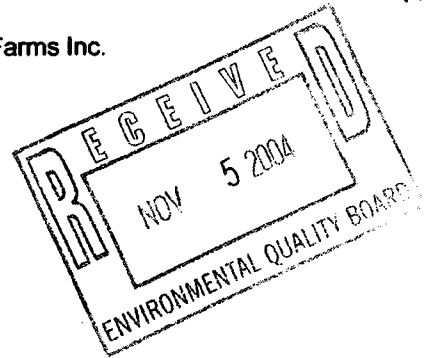
Doug Graybill



Original: 2412  
2413

101  
121

John Sperry, Sperry Farms Inc.  
11420 Sperry Road  
Atlantic, Pa. 16111  
814-382-1860



November 2, 2004

Environmental Quality Board  
P. O. Box 8477  
Harrisburg, Pa. 17105-8477

Dear Sirs:

Sperry Farms has been in business producing eggs since 1945. Over the years we have grown to about 750,000 layers and 150,000 pullets. For the last 3 years we have sold all of the manure at auction. The usual thing, advertise, farmers get together, the auctioneer does his thing. In 2002 the remaining bid was \$5.00 a load, in 2003 it was \$10.00, in 2004 the last bid was \$20.00. This means the farmers etc. who expected a higher return on their manure dollars; bid higher. Then the remaining product was sold. We find the organic farmers and compost makers bid first.

Every day we try to maintain the driest manure possible. That is the key, it has to be hauled with regular trucks and easy to handle with the farm equipment. Over the years we have developed a market larger than the supply.

I ask the Committee for a level field with my competition in the fertilizer business. When a farmer considers a fertilizer source he will buy from the source with the least hassle (cost). The chemical business can be as polluting as the organic. Everyone selling fertilizer should have the same requirements. A farmer is as likely to overestimate needs with chemical as he is organic. And don't forget chicken manure is a time-release source not like nitrates.

I have heard two arguments for regulation on manure. The first is the CAFO exporter has a responsibility for the final use! So should the chemical dealer. The other is a "free" resource will be over-applied. Obviously nothing is really free and my chicken manure is sold at market value. The best use for much of my manure is to recycle it to crops and feed it back to animals.

In conclusion, I have no problem with the required changes. It is possible the state waters have been partly impaired by excessive nutrient on agriculture lands. But the requirements don't go far enough. The goal is to balance nutrient inputs with crop requirements. We should not forget the largest source of Nitrogen and Phosphorus in Pennsylvania, chemical fertilizer.

Thank you,

A handwritten signature in cursive script that reads "John L. Sperry".

John Sperry

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2004 NOV 10 PM 3:44  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
REVIEW COMMISSION

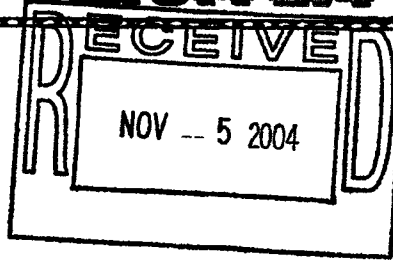




**Potter County Conservation District**  
**107 Market Street**  
**Conowingo, PA 19015**  
**610-274-9411 ext. 4**  
**Fax 610-274-9998**

159

Original: 2413



RECEIVED  
 2004 NOV 16 AM 9:05  
 STATE CONSERVATION COMMISSION  
 REVIEW COMMISSION

State Conservation Commission  
 2301 North Cameron Street  
 Suite 405  
 Harrisburg, PA 17110-9408

November 2, 2004

Dear Commission,

The Board of Directors of the Potter County Conservation District would like to offer the following comments on the proposed Pennsylvania Nutrient Management Act 6 Regulations:

**Exported Manure: Signed Agreements, Nutrient Balance Sheets, Application Setbacks, and Recordkeeping:** "The plan shall include signed agreements, in a form acceptable to the commission, between the CAO and each importing operator agreeing to accept the manure." In order to simplify this requirement and create uniformity throughout the state, the commission must provide a sample of this signed agreement.

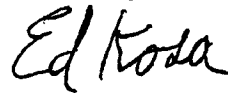
**Soil Testing Requirements and Recordkeeping:** The reviewer of a nutrient management plan never sees the actual results of soil tests. Ultimately having current and actual soil test results incorporated into the nutrient management plan would give the producer a better overall picture of the operation's nutrient needs and would further validate the implementation of that plan.

**Verification of an Erosion and Sediment Control Plan:** Requiring a current conservation plan could call for operators to implement additional BMPs; thereby adding extra expenditures. Let us keep in mind that farming operations can not set the cost of the product they produce and have no chance to recoup the costly expense of meeting the proposed regulations.

Potter County Conservation District Act 6 Proposed Revisions Comments  
November 2, 2004  
Page 2

We thank you for the opportunity to comment on the proposed regulations and when considering the implementation of these regulations we ask that you remember: farmers are known stewards of the land and water resources they realize the importance of protecting and conserving those resources that sustain their ability as well as those of the next generation.

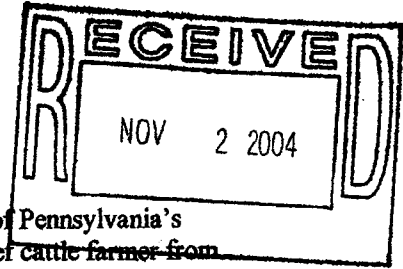
Sincerely,

A handwritten signature in black ink that reads "Ed Kosa". The signature is written in a cursive style with a large, prominent "E" and "K".

Ed Kosa  
District Chairman

Original: 2412 188

Original: 2413 132



Dear State Conservation Commission,

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2004 NOV 15 PM 2:44  
I am writing to express my concern over the proposed new revision of Pennsylvania's nutrient management regulations. I am a sixth generation grain, hay, and beef cattle farmer from Union county. I fear the new regulations may have a severely negative impact on our local and state farm economy if some important details are not considered.

It has become clear the past several years that changes would need to be made to our current regulations to address the issue of overapplication of phosphorous from manure spreading. However, with the proposed phosphorous indexing system, some farmland that was historically used for manure application will no longer be eligible, thereby forcing producers to ship manure farther away or go out of business. Another problem that will greatly reduce the amount of land available for manure application is the requirement of wide setbacks of 100 to 150 feet from "water bodies". These "water bodies" may be defined as areas as small as a township road ditch. On some properties this could result in half or more of the land that was previously applied with manure becoming ineligible.

I think it is important that we take a more common sense approach to setback requirements, as runoff near a stream or water body can be greatly affected by the management practices used on that land. I know on my own farm that I have seen much less runoff from cropland after it was converted to "no-till" management and where cover crops have been used. I think it would be sensible to allow narrower setbacks where runoff controlling practices such as these are used.

Another issue is the requirement that when developing a nutrient balance to consider the removal of nutrients for only one crop year. We have traditionally applied manure to our fields once every three to four years, but put an amount on adequate to supply crop needs of phosphorous over that time. This is an excellent system since the first year's corn crop can use all of the available nitrogen, but allows phosphorous for the soybean and wheat crops to follow. This is also necessary since when using poultry manure for instance, it may not be possible to apply a rate as low as one ton per acre, as needed by some crops during a one year period.

I also would like to ask why several of the proposed regulations are addressed specifically at CAO's or CAFO's? Our farm is not in either category at this time, but I do not understand why you have chosen to specifically target these larger operations with more stringent regulations. The manure produced by a large operation is comparable in nutrient content with that produced by myself or any smaller operation. There are both poor and excellent operators in any size of farming enterprise, and I think this needs to be remembered.

In conclusion, I hope the commission remembers the financial cost they may be imposing on our state's producers. We need to have adequate time to change and implement any new regulations that may be enacted. Please remember that agriculture is Pennsylvania's #1 industry and supplies the state with many jobs beyond the farm gate. Farming is a tough business to start with, and unnecessarily difficult regulations could push more farms over the edge to extinction at a time when good jobs are something our nation desperately needs.

Thank you for your consideration,

Michael Platt  
125 Platt Ln.  
New Columbia, PA 17856

State Conservation Commission  
Agriculture Building, Room 405  
2301 North Cameron Street, Harrisburg, PA 17110

November 2, 2004

Please transfer appropriate questions and recommendations to the appropriate sections for VAO plans.

1. The definition of Concentrated Water Flow Area (83.201) includes "ditches". Does this definition include State or Township road ditches?
2. The first sentence of the Nutrient Balance Sheet (83.201) definition would curl the toes of the average English teacher. The sentence should be broken into several discreet sentences. The same comment applies for the definition of Temporary Manure Stacking Area.
3. Does definition of Surface Water (83.201) include seasonal high water tables or road ditches?
4. In reference to 83.291 (b-3) Testing manure. Will there be a protocol for sampling manure from pastured animals? Stored manure tends to be relatively homogeneous in nutrient content. Manure deposited in pastures could differ greatly in nutrient content based on time since deposition.
5. In reference to 83.301 (b-3) nutrient balance sheets and manure brokers. If the broker simply delivers manure to a site and does not apply it, is the broker still responsible for completing the nutrient balance sheets?

Respectfully submitted,

Dr. Robert Mikesell  
Senior Extension Associate  
Department of Dairy and Animal Science  
324 Henning Building  
University Park, PA 16802

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2004 NOV 10 PM 3:43  
STATE CONSERVATION COMMISSION



**PENNSYLVANIA  
ASSOCIATION  
OF  
CONSERVATION  
DISTRICTS, INC.**

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Harrisburg, PA 17101

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(717) 238-7201 FAX

Website: [www.PACD.org](http://www.PACD.org)  
e-mail: [PACD@PACD.org](mailto:PACD@PACD.org)

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Original: 2412  
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November 2, 2004

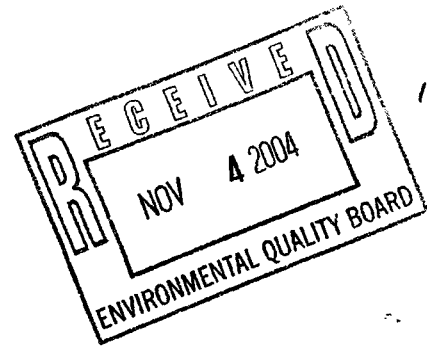
Environmental Quality Board  
PO Box 8477  
Harrisburg, PA 17105-8477

Dear Sir or Madam:

Enclosed are the Pennsylvania Association of Conservation District's comments on the proposed revisions to the CAFO and Act 6 regulations. Please feel free to contact me with any questions at (717) 238-7223 or [susan-marquart@pacd.org](mailto:susan-marquart@pacd.org).

Sincerely,

Susan Marquart  
Executive Director



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INDUSTRIAL DEVELOPMENT  
REVIEW COMMISSION

**Pennsylvania Association of Conservation Districts  
Comments on Proposed Act 6 Regulation Changes**

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HOUSE OF REPRESENTATIVES  
LEGISLATIVE SERVICES DIVISION  
REVIEW COMMISSION

1. 83.201 Definitions:  
*Nutrient Balance Sheet* – refers only to N. Will there be any need for one balanced on P?  
*Pastures* – manure nutrient deposits by animals alone may not exceed amounts utilized by the crop if soil residual values are not included. Including pasture soil residual values as well as manure nutrients may render pastures unusable.
2. 83.272 (Consistency of NMP BMPs with an approved Conservation Plan management practices) A complete Conservation Plan may have wildlife, woodlot management, or other practices or BMPs that have no relation to nutrient management. Section should be more specific. Also, not all Districts approve conservation plans, will they now be required to or can someone else approve plans?
3. 83.281 (b) (Maps and aerial photographs) Why are topo maps being required? To be of any use they would need to be overlaid onto aerial photographs with field boundaries shown. Present topo map scales are not accurate enough (too small) unless they can be related to a photograph.
4. 83.281 (d) (Agreements with importers and brokers) Will sample balance sheet forms for manure importers be designed and provided by SCC? This would simplify the process for everyone involved.
5. 83.291 (a) (Addresses of each type of nutrient sources) Permitted biosolids sources often include multiple treatment plants and some years farm operators have no idea in advance if they will receive applications or from what plant(s) they will come.
6. 83.291 (b)(3)(ii) (Testing nutrient content of manure) Proposed regulations allow manure analysis from other similar operations for new plans without actual analyses. What is the definition of a “similar” operation? We can see this working for dry poultry operations but liquid systems can vary too much.
7. 83.291 (b)(3)(iii) Annual manure tests will be a large expense for growers with multiple manure types. Since analysis from a liquid pit are usually taken when pit is agitated at unloading the results would not be available for the current application. Some pits under buildings are not impacted by rain fall amounts and, along with dry poultry manures, are more consistent. Can less expensive requirements be considered?
8. 83.291 (e) (Soil Tests) Soil tests are not required to be submitted with the plan. P Index worksheet will note the P level from the test but the reviewer has no verification unless soil tests are checked during the site visit. Test results should be submitted or required to be verified.
9. 83.293 (b)(i) (Phosphorus Index) Apply phosphorus index on all areas where nutrients will be applied. Does applied and “deposited by livestock” mean the same thing? Does this apply to pastures and animal concentration areas?
10. 83.301 (5) New plans are required to list the commercial hauler to be used. Since the first manure may not be hauled from a new operation for over a year from the time the plan is

submitted, naming a hauler at the time the plan is written could be difficult and impractical. Plan could instead state that a certified hauler from the approved list will be used.

11. 83.311(a) (Direct discharges to surface waters) Writers and reviewers should not ignore discharges to road ditches or other conveyances that flow readily to surface waters, even though they may be some distance away.
12. 83.311 (f) (Manure storage specifications in Plan) Nutrient management planners and reviewers are not all trained or proficient at designing and locating manure storages nor should they decide what type of storage should be used. DEP Manure Manual requires a PE to design and supervise construction. Nutrient management plans can be used to assist in sizing storages and a planner may indicate a desired length of storage but that should be their limit. Cost of plans to provide this kind of information accurately will skyrocket and could force a farmer to build a type of structure he does not want or need or fail to take in consideration future expansion.
13. 83.312 (c) (Emergency response plan) A site specific emergency response plan must be verified by plan writer that it exists. What type of information is to be included in this plan and who develops it? Plan writers and farmers need some guidance on these plans. Are these the same as contingency plans?
14. 83.342 (b)(4) (Crop yield record keeping) How are pasture yields estimated? Another question related to pastures – Do we use book values or will samples of manure need to be taken from what is dropped by animals and analyzed?
15. 83.362 (3 year plan review and confirmation of compliance) The annual status review conducted by the conservation district should be confirming compliance every year, this does not need to be done by the planner. Planner should continue to do any plan amendments necessary.
16. 83.404 (f)(ii) (100' setbacks from wells) Does this refer to existing wells as well as those drilled after a plan is written? If so, doesn't that constitute a form of "taking of land"?

#### **ADDITIONAL CONCERNS:**

1. Once final regulations are approved, Districts need accurate clarification as to exactly which parts of the plan and plan file are public information. A checklist or fact sheet is needed to define what is or is not public (for our use and so general public is clear).
2. Districts have been hearing comments from CAOs and others questioning why all farmers do not have to have NMPs. They see smaller operations with cattle in streams, barnyard runoff, no conservation etc. not being regulated while large operations with clean operations and nothing getting into the streams having to follow all the rules and still compete economically. When will the push start to include smaller operations?
3. Since District personnel will be verifying the consistency of the conservation plan and NMP, what are they expected to do when a farm is out of compliance with Chapter 102 by not having a plan or following their plan?
4. What are dairy farmers who depend on their pastures supposed to do if a P Index shows that no manure can be applied?
5. There is a lack of trained and certified conservation planners and a backlog of farms waiting to be planned in many counties.
6. New conservation plans are going to call for more BMPs to be installed. Act 6 and other funding sources are not adequate to meet current demands for BMPs.

7. The original NM Advisory Board felt that anything that hindered moving excess manure to farms that needed more nutrients was to be avoided. What options will a CAO have if he can find no one to take his manure because of increased burdens on importers?
8. Additional resources (staff and funding) will be needed to support increased workload for Districts administering the Act 6 program and supporting activities such as BMP design and installation, conservation planning, and possible compliance assistance.
9. Turnover of nutrient management technicians across the state should be of concern to the SCC. The time to train and get new technicians certified slow down the process to meet deadlines and to effectively administer the program. Adding the complexity of the P-Index will only magnify this problem. Cross-training in the Districts is a solution for those with personnel to do so but many are short staffed as it is.
10. As District staff are being called on to administer more and more regulatory type programs, their relationship and trust with the farming community, built over years of "friendly" assistance, is being strained in many counties. DEP has never enjoyed a real positive relationship with the farming community. Has any thought been given to using PDA staff, who have developed a good reputation of dealing with agricultural regulatory issues for decades, being the frontline field presence in Act 6 compliance?
11. A concentrated effort to focus on having every farm implement an approved conservation plan would go much further than a P-Index to address phosphorus concerns and meet Bay nutrient reduction goals.



**Pennsylvania Association of Conservation Districts  
Comments on Proposed CAFO Regulation Changes**

91.1 Definitions:

Manure Storage Facility: (and Waste Storage Structures) – do these include constructed stacking areas for semi-solid, dry or bedded pack short-term storage of manure (usually broiler litter for 2-3 months)? These usually have concrete floors, 3-5 foot high wood or concrete sides on three sides to contain and to push against while loading and may or may not be covered with a roof. If they are included, do these structures need PE design and certification? We feel they should not (unless cost-shared) because added cost provides little added environmental protection when correctly sited on an approved nutrient management plan.

Setback: Should read “conduits to surface *or groundwater*” (to include setbacks from wells or sinkholes) (also found in 92.1)

Vegetated buffer: Why do all buffers have to be on the contour? This requirement may exclude thousands of feet of adequately buffer protected streams. Should also have minimum width standards included either here or in 91.36 (b) (2).

91.35 Wastewater Impoundments. Guidance is needed to know what satisfies the requirement to protect against unauthorized acts of third parties. Is a chain link fence adequate?

91.36 (b)(2) Define standards of an appropriate vegetative buffer.

92.5 (c) (Referencing new or existing operations becoming a CAFO due to loss of land suitable for manure application) Since CAFOs designations are not intensity determined (i.e. AEU/A), what does this mean?

92.5 (d) (1) (Referencing agreements with brokers and required nutrient balance sheets or nutrient management plans on importing farms) Plan writers for CAFO farms using brokers may not know who the importing farms will be or if manure will be land applied.

92.5 (d) (2) (Referencing erosion control plans for plowing and tilling operations) it should be assumed in this statement that no-till operations are included since some no-till operations can exceed Chapter 102 E&S requirements. This is not made clear as worded in proposed regs.

92.5 (d) (4) (Referencing PPC plans for pollutants related to CAFO operations) Are agricultural pesticides included in this? If not, Act 6 already includes requirement for contingency plans.

**GENERAL COMMENTS:**

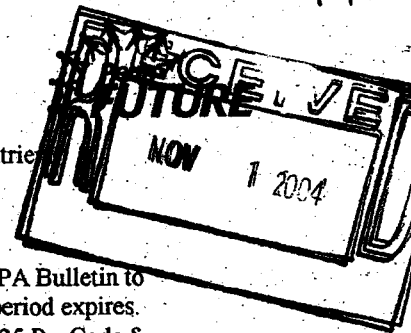
1. There are concerns/questions about the 100 foot setbacks or buffers. Wasn't the P index developed to address manure applications near the stream? Buffers and setbacks should be the same/consistent for any approved nutrient plan regardless of the program. This type of regulation makes things harder for field level people (both DEP and District) and creates confusion for farmers, manure haulers, plan writers and the general public.
2. If the regulations do require some type of setback for manure application it needs to be clearly defined how determined. Tech Guide standards are okay but does not clearly define parameters for width or length of buffer. Are we to assume they will be using

Filter Area standard (393)? Need to keep this from being a gray area for everyone involved.

3. Since 100 foot setbacks from surface waters for manure applications do not apply to commercial fertilizers (which are more highly soluble), what have we gained in nutrient control except more expense and trouble for the farmer?
4. The regulations state that a CAFO must have an approved nutrient management plan that meets Act 6 standards. If the farm is not a CAO does it automatically become classified a VAO or does the farmer have the option of not being under Act 6 program oversight. Our thoughts are the farmer should have the option.
5. Following on number 4. If the operation would not be a CAO or VAO, who performs the status reviews of the nutrient management plan? DEP should handle this. If they want Districts to do it, there needs to be a plan to reimburse them, not just add it as another responsibility in the Act 6 delegation agreement.

Original: 2413

Citizens for Pennsylvania's Future (PennFuture) Summary of Comments on Proposed Nutrient Management Regulations



**Public Notice and Records**

- Conservation District Nutrient Management Plan approvals should be published in the PA Bulletin to give the public adequate opportunity to review approved plans before the 30-day appeal period expires.
- Manure application records should be submitted quarterly to the conservation district. (25 Pa. Code § 83.342(b))
- Manure application records should be available to the public. (25 Pa. Code § 83.342(b))
- Exported manure records should be submitted quarterly to the conservation district. (25 Pa. Code § 83.343(a)(4))

**Closing the Manure Export Loophole**

- PennFuture supports the proposed requirement for signed agreements between exporters and importers of manure. (25 Pa. Code § 83.301)
- PennFuture supports the proposal to assign responsibility for proper handling and disposal of manure to manure exporter if exporter or its employee applies manure at the import site. (25 Pa. Code § 83.301(a)(3))
- PennFuture supports the proposed requirement for manure importers to either comply with manure spreading setbacks or develop nutrient management plans. However, compliance with setbacks alone cannot be used to adequately control phosphorus pollution. (25 Pa. Code §§ 83.301(e)(3) and 83.301(g)(1) and (2))
- The Nutrient Management Plans of livestock facilities exporting manure must include nutrient balance sheets for importing fields for both nitrogen and phosphorus. (25 Pa. Code § 83.201; 25 Pa. Code §§ 83.301(a)(2) and (4); 25 Pa. Code § 83.301(b)(3); 25 Pa. Code § 83.301(e)(3))

**Controlling Phosphorus Pollution**

- The proposed phosphorus index does not provide adequate protection for water resources because it does not consider proximity to impaired watersheds, flooding potential, or leaching potential when determining whether or not fields can safely be used to spread manure without causing phosphorus pollution.
- The proposed phosphorus index does not impose adequate restrictions on applying phosphorus to fields that already contain too much phosphorus - restrictions will apply only to those fields with extremely high levels.

**Manure Storage and Disposal**

- Spreading manure on frozen or snow-covered ground should be prohibited. (25 Pa. Code § 83.294(g))
- Dry manure should not be allowed to be stockpiled uncovered in fields for more than 2 weeks. (25 Pa. Code § 83.201 and 25 Pa. Code § 83.294(h))
- The potential of liquid manure to pollute streams and ground water must be evaluated regardless of whether it is spread by irrigation or truck. (25 Pa. Code § 83.294(e))

**Setbacks for Manure Spreading**

- To be consistent with federal regulations, Pennsylvania's nutrient management regulations must require a setback of 100 feet from sinkholes for manure spreading regardless of whether or not the manure is incorporated into the soil. (25 Pa. Code § 83.294(f)(i))
- Neither the SCC nor the conservation districts should be able to waive setback requirements. (25 Pa. Codes § 83.351(a)(2)(vii))

**Accountability**

- Nutrient Management Plans should be required to be signed by the farm owner and the facility operator (25 Pa. Code § 83.261(6) and (7))
- PennFuture supports the proposal to require a facility that the SCC or a conservation district has determined needs a Nutrient Management Plan to address management or environmental problems to meet all the requirements of the Nutrient Management Act. Such a facility should not qualify for volunteer status. (25 Pa. Code § 83.202(1))

**Protecting and Restoring Streams**

- Nutrient Management Plans must delineate measures to be taken to protect water quality in high quality, exceptional value and impaired watersheds with pollution loading restrictions.

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NEW JERSEY  
COMMISSION

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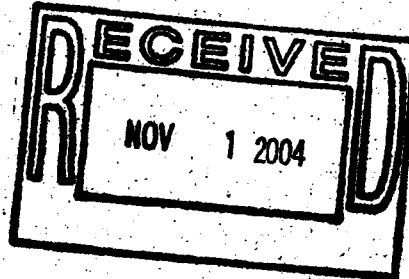
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November 1, 2004

via hand delivery

STATE CONSERVATION COMMISSION  
NUTRIENT MANAGEMENT REVIEW COMMISSION

State Conservation Commission  
Agricultural Building, Room 405  
2301 Cameron Street  
Harrisburg, PA 17110



To whom it may concern,

Citizens for Pennsylvania's Future (PennFuture) hereby submits for your consideration the following comments concerning the proposed rulemaking regarding 25 Pa. Code § 83 as published in 34 Pa. Bull. 4361.

**I. AS PROPOSED, NUTRIENT MANAGEMENT PLANS UNDER THE NUTRIENT MANAGEMENT ACT FAIL TO ACCOUNT FOR ALL PHOSPHORUS APPLIED TO ALL FIELDS.**

Nutrient Management Plans ("NMPs") are the backbone of the State Conservation Commission's ("SCC") nutrient control program. NMPs are required for Concentrated Animal Operations ("CAOs") under the Nutrient Management Act. 3 P.S. § 1706(B). The proposed regulations define CAOs as, "[a]gricultural operations with eight or more animal equivalent units where the animal density exceeds two AEUs per acre on an annualized basis." Proposed 25 Pa. Code § 83.201. The Nutrient Management Regulations are being revised in accordance with a mandate in the Nutrient Management Act. 3 P.S. § 1704(3).

Until recently, Pennsylvania's Nutrient Management Program took the position that nitrogen was the nutrient of primary concern and was the only nutrient that had to be accounted for when land applying manure. The Act, however, specifically mandates that procedures be established "to determine proper application rates of *nutrients* to be applied to land based on conditions of soil and levels of existing nutrients in the soil and the type of agricultural, horticultural or floricultural production to be conducted on the land." 3 P.S. § 1704(1)(ii) (emphasis added). From the outset, opponents of the nitrogen-only approach have pointed to phosphorus as a nutrient of additional concern given the fact that it can result in severe environmental damage if allowed to accumulate, unchecked, on the land or enter streams in excessive amounts.

Phosphorus has been used in the last half century to increase crop yields and maintain soil fertility. However, excessive phosphorus in surface water can cause algae and aquatic plants to grow at accelerated rates. This then causes decreased oxygen levels in the water, which can in turn lead to fish populations and other aquatic organisms dying

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from a lack of oxygen. It is recognized that the threat of eutrophication is most attributable to soluble phosphorus in fresh water.

The SCC recently recognized the threat that phosphorus poses to the environment due to runoff. During the statutorily mandated regulatory revision of the nutrient management program, the SCC proposed consideration of phosphorus in certain limited situations to prevent potentially mobile sources of phosphorus from reaching surface waters. Proposed 25 Pa. Code 83.281(c). On May 12, 2004, the Environmental Hearing Board held that “[t]he Nutrient Management Act does require the Commission to establish procedures to determine proper application rates for plant nutrients other than nitrogen, such as phosphorus.” Adam v. Commonwealth of Pennsylvania, No. 2002-189 MG (Pennsylvania Environmental Hearing Board May 12, 2004). One of the major changes to the Nutrient Management Program being proposed is the inclusion of a Phosphorus Index (“P-Index”). PennFuture explains below why the proposed P-Index does not satisfy the Act’s requirement “to determine proper application rates” for phosphorus.

The SCC proposes utilizing a P-Index to determine the potential for phosphorus in land applied manure to reach surface waters. If conditions exist where phosphorus could be transported to surface waters, then phosphorus must be managed on that specific farm field. “The P index accounts for and ranks [phosphorus] sources (soil P, applied P type, rate, and application method) and transport factors (runoff, erosion, and contributing distance to water) that control potential [phosphorus] loss to the environment. Two screening parameters are used to determine if a full accounting of P source and transport factors (i.e., full running of P-Index) for a field is required: 1) Is soil test (Mehlich 3) P > 200 ppm? Or 2) is the field within 150 feet of a stream.” Kogelmann et al., p. 3 (July 8, 2002). It is important to understand that the P-Index *may* trigger management of phosphorus on individual fields, not individual farms.

The SCC’s omission of the details of the P-Index and an omission of a reference to a Penn State agricultural extension fact sheet on the P-Index is a fatal flaw in the Proposed Regulations. The Proposed Regulations merely define the P-Index as, “[t]he field evaluation tool developed specifically for this Commonwealth and approved by the Commission, which combines indicators of phosphorus sources and phosphorus transport, to identify areas that have a high vulnerability or risk of phosphorus loss to surface waters, and provides direction on the land application of phosphorus-containing nutrient sources to protect water quality.” Proposed 25 Pa. Code § 83.201. The P-Index is referenced numerous times throughout the Proposed Regulations, but none of these references provide specific information on the source and transport factors to be evaluated by the P-Index. Even more importantly, the Proposed Regulations do not detail how nitrogen and phosphorus applications may be restricted under the P-Index. Thus, the Proposed Regulations are completely void of any guidance regarding the “proper application rates of nutrients,” as required under the Nutrient Management Act. 3 P.S. § 1704(1)(ii) (emphasis added).

The SCC believes that the use of the P-Index accounts for conditions that contribute to surface and groundwater pollution by nutrients, specifically nitrogen and phosphorus. The Proposed Regulations do not describe how the P-Index will account for source and transport factors and do not detail if and how manure applications must be restricted. PennFuture vigorously objects to the lack of detail contained in the Proposed Regulations regarding the P-Index. Additionally, PennFuture disputes that the P-Index fully and accurately identifies the source and transport factors and will explain below why it thinks the P-Index, as detailed in other resources, is deficient.

- A. Because non-mobile phosphorus poses a significant threat to farm productivity and the surrounding environment, manure applications on all farm fields should be balanced for phosphorus.

The proposed phosphorus index is an improvement over the existing nutrient management program, which generally has failed to address phosphorus. But, it is not sufficient to meet the requirement of the Act to determine land application rates for *nutrients*. This requires something more than a phosphorus index, because a P-Index does not account for nutrients on all fields. It only addresses some of the nutrients in the manure for some of the fields.

U.S. Department of Agriculture scientist Andrew Sharpley notes that intensification of animal farming has created regional and local imbalances of phosphorus. Andrew N. Sharpley, et al., Agricultural Phosphorus and Eutrophication, USDA-ARS Report 149, p. 2 U.S. Gov't Printing Office, Washington, D.C. 1999. "The potential for [phosphorus] surplus at the farm scale can increase when farming systems change from cropping to intensive animal production, since [phosphorus] inputs become dominated by feed rather than fertilizer." *Id.* at 3. "Specialization and intensification of farm operations has resulted in imbalances in farm nutrient inputs and outputs. Community, national, and international agribusiness infrastructures have dictated, by default, regions of net nutrient accumulation, or nutrient sinks. The Chesapeake Bay watershed is a phosphorus sink." Frank Coale, *The Science of Phosphorus From Agriculture and Other Sources Entering the Chesapeake Bay* (visited 4/29/2004), <<http://www.arec.umd.edu/Policycenter/Pfiesteria/coale/coale.htm>>.

Sharpley states that soil phosphorus levels have built up and often exceed crop needs. Sharpley at 4. Kogelmann et al. assert that the optimum range of phosphorus for agronomic crops is 30 – 50 parts per million. Wilhelm J. Kogelmann et al., A Statewide Assessment of the Impacts of P-Index Implementation in Pennsylvania. Phase I Report, p. 9 (July 8, 2002) (submitted to the Pennsylvania State Conservation Commission and Pennsylvania Department of Agriculture). They estimate that 48% of the soil samples they took statewide had soil test phosphorus values of 50 parts per million or more. *Id.* "High soil nutrient levels not only represent an economic loss, but they also may indicate potential crop, animal, or environmental problems." The Agronomy Guide 2002, 28 (Eston Martz ed., 2001). Sharpley states that it is common to supplement poultry and hog feed with mineral forms of phosphorus because of the low digestibility of the major phosphorus compound in grain. Sharpley at 16. He further states that this

supplementation contributes to the phosphorus enrichment of animal manures and litters. Id.

Phosphorus exists in the soil in both soluble and sediment-bound forms. Soluble phosphorus is that which is available for plant uptake and use. Sediment-bound phosphorus is a mineral form of phosphorus that is not available for plant uptake and use. Phosphorus converts quickly from soluble phosphorus to sediment-bound phosphorus; however, it does not convert quickly from sediment-bound phosphorus to soluble phosphorus. High levels of sediment-bound phosphorus in the soil "may lead to crop production or feed quality problems." The Agronomy Guide 2002, 28 (Eston Martz ed., 2001).

It is well recognized that applying manure to meet a plants' nitrogen needs, results in overapplication of phosphorus. Sharpley 1994; The Agronomy Guide 2002 at 23 and 28. Since the P-Index only requires an accounting of phosphorus on fields where erosion and runoff are highly likely, phosphorus will continue to be overapplied on most fields in Pennsylvania. Because phosphorus is also a nutrient of concern in Pennsylvania, the goal of the nutrient management program should be to apply manure to meet maximum nutrient efficiency of nitrogen and phosphorus on all farm fields.

Studies indicate that when phosphorus exists in soils at certain levels it can negatively impact crop production. Christenson et al. found that for most crop fields grown on mineral soil, there is little chance that phosphorus that is applied in bands (an application method) will increase crop yields when soil test phosphorus level is above 60 pounds per acre. D.R. Christenson et al., Michigan State University, Extension Bulletin E-550A, Cooperative Extension Service, Fertilizer Recommendations for Field Crops in Michigan, 1992. Another study found that a 69 pound per acre or greater phosphorus rate resulted in above-optimum soil-test P values. Anthonio Mallarino and David Rueber, Iowa State University, Northern Research and Demonstration Farm, ISRF02-22, Long-term Evaluation of Nitrogen, Phosphorus, Potassium, and Lime Requirements of Continuous Corn. "The results for [phosphorus] fertilization are interesting in showing that the highest [phosphorus] rate, which increased soil-test [phosphorus] to levels seven times higher than the optimum level compared with the check, decreased corn yield slightly. The yield reduction was smaller when optimum rates of [potassium] fertilizer were applied." Id. The report concluded that producers should use all available information to avoid applying "either deficient or excessive nutrient amounts for crop production." Id. To achieve maximum yield, the studies indicate that phosphorus should not be applied in excess of crop needs.

Rates of manure application need to be based on the nutrient present at the highest level in terms of crop needs. In most cases this is phosphorus. The Agronomy Guide 2002 states that once the optimum level of phosphorus and potassium is obtained in the soil, "the recommendation is to maintain that level by applying P and K to offset the amount that is removed by the harvested crop." The Agronomy Guide 2002 at 28. The Agronomy Guide 2002 states that "management action should be taken to limit applications in excess of crop needs." Id. at 29. Therefore, manure should be applied at

a rate which will meet the crop's requirement for phosphorus. Because it is true that applying manure to meet a crop's nitrogen needs results in over-applying phosphorus, the converse is also true. Applying manure to meet a crop's phosphorus needs will result in not meeting the crop's nitrogen needs. However, additional nitrogen and potassium can be supplied with commercial fertilizers. This strategy is least likely to cause undesirable environmental effects, and makes the most efficient use of all nutrients in manure.

In addition to decreasing crop yields, excess phosphorus in the soil has the potential to cause environmental harm. Although the P-Index accounts for the potential loss of phosphorus via erosion and runoff, it does not account for the other risks posed to the environment from having excess phosphorus in manure, and in turn in the soil. Another path for phosphorus to escape the farm is through "subsurface lateral flow along the gradients of internal drainage." Coale, *The Science of Phosphorus From Agriculture and Other Sources Entering the Chesapeake Bay*. Subsurface pathways are of particular concern in Pennsylvania given the large number of tile drainage systems in place. Many of these systems are undocumented, so farmers may not know the exact location of tile drainage systems on their property. Because the placement of these systems is unknown, setbacks and balancing phosphorus on some, but not all, fields is not likely to accomplish the goal of limiting the possibility of phosphorus movement by way of subsurface lateral flow. Thus, additional control mechanisms, such as balancing for phosphorus on all fields, must be put into the nutrient management regulatory structure to ensure that phosphorus is not allowed to move along subsurface paths and into groundwater or surface water.

The Act requires Pennsylvania CAOs to develop "procedures to determine proper application rates for nutrients to be applied to land based on conditions of soil and levels of existing nutrients in the soil and the type of agricultural, horticultural or floricultural production to be conducted on the land." 3 P.S. § 1704(1)(ii). To satisfy the mandate of the Act, application rates for both nitrogen and phosphorus must be identified. To properly examine a nutrient application rate, one must know the amount of nutrients available (from both the soil and the manure or other fertilizer) and the amount of nutrients needed for crop growth. *Id.* As explained above, in order to properly analyze the application rates for nutrients, these amounts must be balanced for phosphorus.

The Proposed Regulations require an analysis of the nutrient content of the manure, Proposed 25 Pa. Code § 83.291(a)(3), and the soil, Proposed 25 Pa. Code § 83.292(e).<sup>1</sup> Both nitrogen and phosphorus availability in the manure and soil are required under a NMP. This appears to fulfill the amount of nutrients available requirement of the Act. Then, one must determine the amount of nutrients needed for crop production. The Proposed Regulations require an analysis of the amount of nitrogen and phosphorus needed for realistic crop yields. 25 Pa. Code §§ 83.292(f) and 83.293(d). However, the Proposed Regulations then allow CAOs to ignore the balanced rates for nutrients (both

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<sup>1</sup> PennFuture supports the SCC's proposal to require actual manure content analysis for an existing facility. Proposed 25 Pa. Code § 83.291(b)(3)(i). PennFuture supports the extension of this concept to requiring analysis of manure at an existing operation to the three year update of CAO NMPs. Proposed 25 Pa. Code § 83.291(b)(3)(iii).



nitrogen and phosphorus) and proceed forward with application rates based solely upon nitrogen. Under the Proposed Regulations, CAOs are permitted to apply manure in accordance with only the nitrogen needs of a crop unless a farm field has a high or very high rating under the P-Index. Proposed 25 Pa. Code § 83.293(b). This leaves a majority of the farm fields in Pennsylvania having manure applied with consideration of only one nutrient, as opposed to the “nutrients” that must be considered under the Act. Additionally, the Act does not state that “proper application rates of nutrients” must be determined for only *some* fields, but instead for all “land” to which manure will be applied.

Distinguished researchers and well respected agricultural organizations have also supported the proposition that manure applications should be balanced for phosphorus on *all* fields. To reduce phosphorus losses from agriculture, Sharpley recommends balancing phosphorus in the soil. Sharpley et al. at 14. The Technical Manual, one of Pennsylvania’s two main guidance documents on nutrient management, also “strongly recommends” that the farmer calculate a balanced manure application rate based on net nitrogen, phosphorus and potassium needs of the crops so that the farmer will manage the application of manure most efficiently. Pennsylvania’s Nutrient Management Act Program Technical Manual, p. 40. Additionally, during regulatory hearings on the nutrient management program, PennAg Industries testified that it was not opposed to balancing nutrients for phosphorus.

The P-Index is inadequate to meet the mandate of the Act. The Act requires a determination of proper application rates for nutrients. The EHB ruled that this meant that both nitrogen and phosphorus application rates must be examined. The P-Index fails to account for phosphorus in application rates for a majority of the farm fields in Pennsylvania.

In addition to being required by the Act, balancing for phosphorus makes sense. The most efficient utilization of the manure, as discussed above, comes when the manure is applied based upon the phosphorus content of the manure. The best crop yields also occur at an application rate based upon the phosphorus needs of the crop. Additional environmental risks can be avoided when phosphorus is not over-applied to crops. In order to decrease the risk for environmental pollution, provide the most efficient crop yield for farmers, and, most important, satisfy the requirements of the Act, the Proposed Regulations must require NMPs to balance for phosphorus.

B. Pennsylvania's proposed Nutrient Management Program does not ensure appropriate utilization of all manure nutrients because the P-Index fails to account for factors that can greatly effect phosphorus movement and water quality.

1. The proposed P-Index utilized in the Nutrient Management Program is inadequate because it fails to account for impaired waters in the calculation.

The state designates uses for streams after studying them and determining what aquatic life they can support. The stream designations are based upon the physical, chemical and biological conditions needed to sustain particular aquatic communities. When a stream fails to meet the conditions necessary to attain its designated uses, it is listed as "impaired" for its aquatic life use in a report to the U.S. Environmental Protection Agency. Recognition of such impairment is necessary to return these streams to their designated uses.

Streams that are designated as "impaired" are placed on a schedule to have a Total Maximum Daily Load (hereinafter "TMDL") established. "TMDLs can be considered to be a watershed budget for pollutants, representing the total amount of pollutants that can be assimilated by a stream without causing water quality standards to be exceeded." Pennsylvania Department of Environmental Protection, Bureau of Water Supply and Wastewater Management, *Pennsylvania DEP's Six-Year Plan for TMDL Development*, (updated March 2004) (hereinafter "*Six-Year Plan*"). A TMDL determines the maximum amount of a particular pollutant that may be released into a stream, stream segment, or water body each day while still allowing the stream to meet water quality standards, and allocates that maximum daily load among the point and nonpoint sources of the pollutant in the watershed. Once a TMDL is established for a stream or water body, pollution control measures should be put in place within five years. A TMDL may allocate a portion of the maximum allowed load to new sources or growth of existing sources, but such an allocation for "future growth" must be offset by greater load reductions from existing sources in order to meet the fixed, overall maximum load. Thus, if a CAFO begins operations in a watershed with a TMDL, the maximum daily load figure for a pollutant such as nitrogen or phosphorus will not be increased because of the new activity.

The Pennsylvania Department of Environmental Protection reports that 57,217 stream miles (84 % of the assessed miles) support the designated fish and aquatic life use and 10,762 miles (16%) are impaired. Commonwealth of Pennsylvania, Department of Environmental Protection, *2004 Pennsylvania Integrated Water Quality Monitoring and Assessment Report: Clean Water Act Section 305(b) Report and 303(d) List* (hereinafter "*Pennsylvania Integrated Report*"). However, the state is nowhere near having a TMDL developed for all of these impaired waterways. In fact, only 29% of the stream segments needing a TMDL have one approved. U.S. Environmental Protection Agency, *2002 Section 303(d) List Fact Sheet for PENNSYLVANIA* (visited September 28, 2004) [http://oaspub.epa.gov/waters/state\\_rept.control?p\\_state=PA](http://oaspub.epa.gov/waters/state_rept.control?p_state=PA). Thus, Pennsylvania is far

from developing a complete index of TMDLs. Pennsylvania must complete TMDLs for all watersheds that were listed as impaired in 1996 by 2009, according to an agreement with EPA. *Six-Year Plan*. Additionally, once a TMDL is developed, it must be implemented within five years.

Agriculture is a large contributor to the impairment of Pennsylvania's streams and waterways. Agricultural activities make up a large portion of the nonpoint source allocation in a TMDL. For 3,876 stream miles (22%) listed as impaired in Pennsylvania, agriculture is identified as the source of the impairment. *Pennsylvania Integrated Report*. Agricultural pollution of waterways is generally attributable to siltation and excess nutrients. According to the Department, siltation has caused the impairment of 5,604 stream miles (28%) and nutrients have caused the impairment of 2,347 stream miles (12%). *Pennsylvania Integrated Report*.

"In Watershed 7-G [Chickies Creek] in Lancaster County and where many streams are impaired by nutrient pollution, there is a total of at least 43,718,572 gallons of permitted or pending liquid manure storage, and 22,822 tons of dry manure storage. A rough, very conservative estimate of the nitrogen content of liquid and dry manure being generated and stored each year in the Conestoga River watershed is about 5.34 million pounds per year." Citizens for Pennsylvania's Future, *Factory Farm Pollution in Pennsylvania: Watersheds and Communities at Risk*, p. 6 (October 2003). At the time of our review of NPDES CAFO permits there were also permits pending in impaired watersheds to allow an additional 35,933,165 gallons of liquid manure storage. *Id.* at 6-7. "Absent a mechanism in the permitting system to account for and control the new nutrients generated by new and expanding livestock operations, additional nutrient loadings in some watersheds will overwhelm the ability of conservation practices and restoration projects to reduce nutrient pollution." *Id.* at 7.

PennFuture's review of NMPs and CAFO permits in the Octoraro Watershed reveals that "[h]alf of the livestock facilities in this review are located in watersheds where the entire streams or significant stream segments do not meet water quality standards because of agricultural runoff and nutrient pollution. These 32 facilities generate a total of almost 43 million gallons of liquid manure and more than 20,000 tons of dry manure. This manure contains 1.25 million pounds of nitrogen. About a quarter of the manure is exported, but since the manure with the highest concentration of nitrogen is more likely to be exported, 44 percent of the nitrogen in the impaired watersheds is being exported to fields not covered by an approved nutrient management plan." Citizens for Pennsylvania's Future, *A Barrel Full of Holes: A Case Study of Pennsylvania Regulations on High Density Livestock Farm Pollution*, p. 13 (July 2004).

It is critical for Pennsylvania to take the impaired status and any developed TMDLs for waters of the Commonwealth into consideration in the permitting and planning processes it oversees so that these waters can be restored to health. Agriculture has a significant impact on the health of Pennsylvania's waterways and accounts for most of the nonpoint source pollution. Additionally, massive quantities of nutrients are

currently stored and land applied in watersheds with impaired waters. Consideration of these factors would help restore Pennsylvania's waterways in a timely manner.

The proposed P-Index utilizes source and transport factors to determine if phosphorus applications may be restricted. Impaired waters status is a critical indicator of the sensitivity of a stream and is not integrated into the proposed P-Index. Pennsylvania's P-Index, as proposed, does not consider whether impaired waters are located in close proximity to the farm field being evaluated. Alabama, Delaware and Maryland all have P-Indexes that take into consideration whether impaired waters are located in the proximity of the farm fields being evaluated. Alabama includes impaired waters in a category separate from source and transport factors and weights it heavily. Delaware and Maryland include impaired waters as part of their site and transport characteristics (the remaining considerations are classified as source and management characteristics).

Pennsylvania should consider impaired waters, for all of the above stated reasons, in its P-Index transport factors, or as a separate factor in the P-Index. Inclusion of impaired waters as a factor in the P-Index would result in farm fields located in close proximity to an impaired watershed as being more likely to have to restrict phosphorus applications. This is a rational result given the environmental harms phosphorus presents to already fragile waters. In the alternative, PennFuture recommends that inclusion of a farm field in an impaired waterway should be added as another screening parameter used to determine if a full accounting of source and transport factors. Thus, location of a farm field in an impaired waterway would require the agricultural operation to run a complete P-Index for that specific field, and any others located in impaired waters.

2. The proposed P-Index utilized in the Nutrient Management Program fails to account for exceptional value and high quality waters in the calculation.

The federal Clean Water Act Section 305(b) requires states to biennially evaluate the water quality of surface waters for High Quality (hereinafter "HQ") and Exceptional Value (hereinafter "EV") waters. 33 U.S.C.A. § 1315(b)(1). These two designations are reserved for the most pristine streams in Pennsylvania. The EV or HQ designated uses of these streams can become impaired if their water quality declines even slightly.

Pennsylvania has 83,161 miles of streams and rivers. Pennsylvania Department of Environmental Protection, *2002 Pennsylvania Water Quality Assessment 305(b) Report*, p. 8 (visited September 29, 2004) [http://www.dep.state.pa.us/dep/deputate/watermgt/Wqp/WQStandards/305\\_wq2002\\_narr.pdf](http://www.dep.state.pa.us/dep/deputate/watermgt/Wqp/WQStandards/305_wq2002_narr.pdf). 1,716 miles of these streams are designated as EV. Pennsylvania Department of Environmental Protection, *Protecting the Commonwealth's Waters* (visited October 15, 2004) <http://www.dep.state.pa.us/dep/deputate/watermgt/Wqp/WQStandards/antideg/LT-AntidegTstmy1.htm>. EV streams and rivers represent 2% of the total stream miles in Pennsylvania. 19,274 miles are designated as HQ. *Id.* HQ streams represent 23% of the total stream miles in Pennsylvania.

An examination of the NMPs in the Octoraro Watershed revealed that “27 livestock facilities, or 42% of the operations [in that watershed], [are] located in high quality watersheds. These facilities generate more than 50 million gallons of liquid manure and more than 21,000 tons of dry manure. This manure contains about 1.5 million pounds of nitrogen and about 34% of that is exported.” *A Barrel Full of Holes*, p. 13-14. Additionally, 14 of the HQ streams located in the Octoraro Watershed contain segments impaired by agricultural runoff. *Id.* at 14.

PennFuture’s statewide analysis of NMPs in the Octoraro Watershed indicates that special protection watersheds are facing an ever increasing risk of degradation from agricultural pollution. The Proposed Regulations undertake no analysis of whether an agricultural operation is located in a HQ or EV watershed. A NMP merely requires a listing of a HQ or EV stream in the farm description section of the plan. The real analysis under a NMP comes in the manure application rates section. The proposed Nutrient Management regulations will now require an agricultural operation to run a P-Index to determine if phosphorus is being over-applied on farm fields or whether conditions are such where manure nutrients could move from farm fields to waters of the Commonwealth.

Pennsylvania’s P-Index, as proposed, does not consider whether special protection waters are located in close proximity to the farm field being evaluated. Alabama, Delaware and Maryland all have P-Indexes that take into consideration whether special protection waters are located in the proximity of the farm fields being evaluated. Alabama includes special protection waters in a category separate from source and transport factors and weights it heavily. Delaware and Maryland include special protection waters as part of their site and transport characteristics (the remaining considerations are classified as source and management characteristics).

Pennsylvania should integrate a special protection waters factor, for all of the above stated reasons, into its P-Index transport factors. Inclusion of special protection waters as a factor in the P-Index would result in farm fields located in close proximity to these waters as being more likely to have to restrict phosphorus applications. This is a rational result given the environmental harms phosphorus presents to these pristine waters. In the alternative, PennFuture recommends that inclusion of a farm field in a special protection waterway should be added as another screening parameter used to determine if a full accounting of source and transport factors. Thus, location of a farm field in a special protection waterway would require the agricultural operation to run a complete P-Index for that specific field, and any others located in HQ or EV waters.

3. The proposed P-Index utilized in the Nutrient Management Program fails to account for the flooding potential of fields or the precipitation amounts for a given area in the calculation.

Pennsylvania, like much of the east coast, has experienced significant amounts of rainfall over the past few months, resulting in serious flooding of streams and rivers.

Farmers are keenly aware of the damage that this, and other, flooding has caused. Many farmers suffered crop losses or were unable to harvest due to water-logged fields. Fortunately, these flooding events did not occur when farmers were applying manure to the fields. Flooding after manure applications, much like the spreading of manure on frozen or snow-covered fields, would result in significant nutrient losses.

The potential for flooding to occur during the times of year when manure is applied is high. The past three years have been some of the wettest on record. According to the National Oceanic and Atmospheric Administration (hereinafter "NOAA"), the period from March to August 2004 was the wettest on record, with 28.95 inches of rainfall. National Oceanic and Atmospheric Administration, *Climate at a Glance: Most Recent 6-Month Period (Mar-Aug) Precipitation Pennsylvania* (visited October 1, 2004) <http://climvis.ncdc.noaa.gov/cgi-bin/cag3/hr-display3.pl>. 2003 was the seventh wettest March to August six month period, with 27.85 inches. *Id.*

Given the particularly wet weather over the past few years, the SCC should include consideration of rainfall and flooding in the P-Index. Arkansas and Western Oregon and Washington all take the flooding potential of the fields into consideration in their respective P-Indexes as transport factors. Additionally, Arkansas considers precipitation amounts in its P-Index as a category separate from source and transport factors. Pennsylvania should follow the lead of these various states and integrate rainfall and flooding potential into the transport factors of its P-Index.

- C. The Act requires the management of nitrogen and phosphorus on each farm field; however, phosphorus content is not accounted for in manure that is exported from the farm where it was generated and land applied at an importing farm.

Under the proposed regulations, a farmer using manure exported from another site will not have to account for its phosphorus content before applying it. Manure exported to a known landowner and land applied is completely exempt from phosphorus evaluation under the proposed Nutrient Management Regulations. The proposed Nutrient Management Regulations only require manure applications at importing farms to be balanced for nitrogen and to comply with a 150 foot setback from surface waters. Proposed 25 Pa. Code § 83.201 regarding definition of "nutrient balance sheet;" Proposed 25 Pa. Code §83.301(a)(2); and, Proposed 25 Pa. Code §83.301(g)(1). The use of a setback to control for phosphorus is inappropriate. The P-Index takes into account both source and transport factors. Use of a setback to control phosphorus only accounts for the transport factors but fails to address source factors, such as phosphorus levels in the soil. This is one of the criteria specifically mentioned in the Act. Because a manure application setback at importing farms fails to account for source factors specifically mentioned in the Act, a setback is inadequate to meet the mandate of the Act.

According to the State Conservation Commission, 1,643,791,920 gallons of manure are generated by CAOs in Pennsylvania. State Conservation Commission, Nutrient Management Act Program Data CAOs. Of this amount, 466,497,360 gallons are

exported from CAOs. *Id.* This amounts to 28% of CAO manure being exported. All of this exported manure escapes a phosphorus content examination. Additionally, nutrients are exported off the farm in varied levels given the nutrient content of the manure. Thus, merely because 28% of CAO manure is exported does not mean that 28% of the nutrients were exported. In the Octoraro Watershed, an examination of CAOs revealed that 24,673,329 gallons of liquid manure (32% of the total liquid manure generated) and 14,060 tons of dry manure (23% of the total) is sent off the farm. *A Barrel Full of Holes*, p. 5. However, almost 50% of the nitrogen, 1,403,326 pounds, is exported. *Id.* (The study did not examine the amount of phosphorus exported.) Manures with higher nutrient content are those most likely to be exported. It is therefore important that exported manure be examined for its nitrogen and phosphorus content before it is land applied.

The Act requires NMPs to include a phosphorus analysis for manure generated by a CAO no matter where it is applied. The proposed Nutrient Management regulations do not require sites importing manure to undertake a phosphorus analysis, limiting nutrient balance sheets to a nitrogen analysis and coupling this with a 150 foot setback from surface waters. The current nutrient management program and that proposed in the draft regulations fail to meet the mandate of the Act to establish proper application rates for nutrients.

## **II. THE SCC MUST FURTHER REVISE MANURE APPLICATION PRACTICES, SUCH AS SETBACKS, WINTER SPREADING AND LIQUID MANURE SPREADING, TO PROTECT WATER QUALITY.**

### **A. Manure application setbacks are integral to protecting water quality; certain setback provisions in the Proposed Regulations should be expanded to better protect water quality.**

Setbacks have traditionally been used in the Nutrient Management Program to keep nitrogen, and arguably phosphorus, from entering surface waters. The Nutrient Management Program ensures that plans are written, but with only one inspection every three years, the program can hardly ensure that setbacks are followed when the manure is actually land applied. Keeping manure applications a reasonable distance from surface waters is one means of preventing nutrients from reaching streams and other surface waters. Large and small farms alike have the potential to pollute a stream when manure is land applied directly adjacent to a waterway. For this reason, all farmers should limit their manure applications in such sensitive areas.

1. Manure application setbacks from concentrated water flow areas, streams, lakes, ponds, wetland and intakes to agricultural drainage systems should be applicable regardless of whether the ground is frozen, snow-covered or saturated.

The Proposed Regulations restrict manure applications from concentrated water flow areas, streams, lakes, ponds, and intakes to agricultural drainage systems only when

the soil is frozen, snow-covered or saturated. Proposed 25 Pa. Code §§ 83.294(f)(v), (vii), and (viii). However, the possibility of manure runoff, and resultant water contamination, in these areas is present throughout the year given the close proximity of the manure application to these surface waters.

The Proposed Regulations have an increased, but still insufficient, recognition of the potential impacts nitrogen and phosphorus can have on waters of the Commonwealth. The proposed P-Index is triggered if manure is applied within 150 feet of a body of water. Although this threshold does not impose a manure application restriction, it does, however, recognize that the proximity of manure application to waters increases the risk of contamination.

Exported manure may not be land applied at importing farms within 150 feet of surface water. Proposed 25 Pa. Code § 83.301(g). This land application restriction is not limited to times of the year when the ground is frozen, snow-covered or saturated. Nor should it be. However, this same restriction does not apply unconditionally at the home site. Seventy-two percent of the manure generated at CAOs stays on the home farm. State Conservation Commission, Nutrient Management Act Program Data CAOs. Most of the risk of pollution associated with manure generated at CAOs exists at the home farm. It would, therefore, be logical to make the manure application restrictions at least as restrictive for home farm manure application as they are for farms importing CAO manure. Additionally, the federal CAFO regulations prohibit manure, litter, and process wastewater from being applied closer than 100 feet to any down-gradient surface waters, open tile line intake structures, sinkholes, agricultural well heads, or other conduits to surface waters. 40 C.F.R. § 412.4(c)(5).

The SCC should revise Proposed 25 Pa. Code §§ 83.294(f)(v) to restrict manure applications “[w]ithin 150 feet of concentrated water flow areas, such as intermittent streams, ditches, waterways, gullies and swales.” Proposed Section 83.294(f)(vii) and (viii) should be combined and revised by the SCC to restrict manure applications “[w]ithin 150 feet of streams, springs, lakes, ponds, wetlands and intakes to agricultural drainage systems (such as in-field catch basins, and pipe outlet terraces), or other types of surface water conveyance.”

2. The SCC should revise the Proposed Regulations to include manure application and manure storage setbacks from intermittent streams and wetlands.

The SCC has given much consideration to other conduits to surface waters and has shied away from intermittent streams and wetlands because of the difficulty in defining them. Many state and federal programs define intermittent streams and wetlands. The SCC should integrate the definition of intermittent stream from Chapter 87<sup>2</sup> and the definition of wetland from Chapter 105<sup>3</sup> into Section 83.201.

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<sup>2</sup> 25 Pa. Code § 87.1 defines intermittent stream as, “[a] body of water flowing in a channel or bed composed primarily of substrates associated with flowing water, which, during periods of the year, is below the local water table and obtains its flow from both surface runoff and groundwater discharges.”



- a. Manure application setbacks for intermittent streams should be revised by the SCC to be consistent with setbacks for exported manure regardless of vegetated cover or soil saturation.

Small intermittent streams are critical to the maintenance of water quality in Pennsylvania. More than 50% of the stream miles in Pennsylvania flow only seasonally. These intermittent streams make up 85% of the total drainage network in any given watershed, and when they are flowing, provide direct conduits to larger streams and rivers.

As referenced above, the Proposed Regulations currently allow manure to be spread in concentrated flow areas (e.g. intermittent stream beds or drainage swales) if there is vegetation and the ground is not frozen, snow-covered and saturated. Proposed 25 Pa. Code § 83.294(f)(v). The Proposed Regulations also restrict manure applications in concentrated flow areas that are without a vegetated cover. Proposed 25 Pa. Code § 83.294(f)(vi).

PennFuture has already suggested that Section 83.294(f)(v) is inappropriate as drafted given the inconsistency between the manure application setbacks for manure applied at the generating farm and that which is exported. PennFuture reiterates that only restricting manure applications at the home farm when the ground is frozen, snow-covered or saturated is illogical since the pollution potential for surface waters is significant given the proximity of the manure application area to a conduit to surface waters or surface waters themselves.

Neither Section 83.294(f)(v) nor Section 83.294(f)(vi) as drafted contains a distance setback. The manure application is merely restricted within the concentrated flow area itself. This is inappropriate given the very nature of a concentrated flow area. The flow area would channel any material that reaches it to waters downstream. Spreading right to the bank's edge creates a situation that makes manure flowing into the concentrated flow area much more likely. For this reason, manure applications should be restricted to at least 150 feet from a concentrated flow area, regardless of whether there is a vegetated cover or whether the soil is frozen, snow-covered or saturated. Because there should be no differentiation on the basis of the ground being frozen, snow-covered or saturated, Proposed Sections 83.294(f)(v) and 83.294(f)(vi) could be combined into one setback regulation which would state that manure may not be applied "[w]ithin 150 feet of concentrated water flow areas, such as intermittent streams, ditches, waterways, gullies and swales."

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<sup>3</sup> 25 Pa. Code § 105.1 defines a wetlands as, "[a]reas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions, including swamps, marshes, bogs and similar areas."

- b. The SCC should include wetlands in the list of natural features protected from manure applications by a setback.

The Proposed Regulations for manure application make no mention of setbacks from wetlands. Wetlands "are lands that are permanently or regularly flooded or remain saturated for extended periods of time during the growing season." Commonwealth of Pennsylvania, Department of Environmental Protection, *Wetland and Riparian Stewardship in Pennsylvania: A Guide to Voluntary Options for Landowners, Local Governments and Organizations*. Wetlands aid in filtering pollutants by "trapping sediment, fertilizers, bacterial and viral pathogens, chemicals, and heavy metals before they reach the nearest waterway." *Id.* They also help control floodwaters and recharge groundwater. *Id.* "In 1780, Pennsylvania had over 1,000,000 acres of wetlands. Today, less than 404,000 wetland acres remain, covering less than 2 percent of the state's total land area." Although wetlands are a natural filter, these features should not be willfully overloaded with nutrients. Overloading wetlands with nutrients is of particular concern because they are a direct means of recharging groundwater.

As drafted, Sections 83.294(f)(vii) and (viii) both contain manure application restrictions from surface waters under certain conditions. As suggested above Proposed Section 83.294(f)(vii) and (viii) should be combined and revised by the SCC to restrict manure applications "[w]ithin 150 feet of streams, springs, lakes, ponds, wetlands and intakes to agricultural drainage systems (such as in-field catch basins, and pipe outlet terraces), or other types of surface water conveyance." The revision of these sections into one new regulation would allow sufficient protection of wetlands so that they are not overloaded with nutrients at agricultural operations.

- c. The SCC should amend the manure storage setbacks in Proposed 25 Pa. Code §§ 83.351(a)(2)(v)(A) and 83.351(a)(2)(vi)(A) to include setbacks from intermittent streams and wetlands.

Because manure has the potential to pollute water given its nitrogen and phosphorus content, manure should be kept from coming into contact with surface waters and other conduits to surface and groundwater. However, the Proposed Regulations currently do not contain a manure storage setback from intermittent streams or wetlands. Intermittent streams are by their very definition streams. They carry water, sometimes large volumes of water, to other surface waters and recharge groundwater. Intermittent streams generally flow during wet times of the year, when manure is likely to be in storage. Wetlands are by their very definition wet land. Although they are natural filters, they are also direct links to groundwater.

The SCC must then recognize the hazard presented by constructing manure storage facilities near intermittent streams and wetlands. Both intermittent streams and wetlands are likely to contain surface waters during the spring time when manure storage facilities would be at their fullest. The slightest fissure in the foundation of a manure storage facility would be catastrophic at this time of year, polluting surface waters and

groundwater. The SCC should revise the language of the manure storage setbacks at Proposed 25 Pa. Code §§ 83.351(a)(2)(v)(A) and 83.351(a)(2)(vi)(A) to prohibit location “[w]ithin 100 feet of a perennial stream, intermittent stream, river, spring, lake, pond, reservoir or wetland.”

3. Proposed Section 83.294(f)(i) should be amended to require a 100 foot manure application setback from sinkholes regardless of whether the manure is mechanically incorporated within 24 hours of application.

Proposed Section 83.294(f)(i) states that manure applications should be restricted “[w]ithin 100 feet of an open sinkhole *where surface water flow is toward the sinkhole, unless the manure is mechanically incorporated within 24 hours of application.*” However, the federal CAFO regulations prohibit manure, litter, and process wastewater from being applied closer than 100 feet to any down-gradient surface waters, open tile line intake structures, sinkholes, agricultural well heads, or other conduits to surface waters. 40 C.F.R. § 412.4(c)(5). The federal regulations do not remove the manure application prohibition if the manure is mechanically incorporated in a given time period. Almost all CAFOs are CAOs. Additionally, the CAFO program relies heavily upon the Nutrient Management Program to protect waters of the Commonwealth from pollution. The NM Program regulations should be in line with the federal regulations given that virtually all CAFOs are CAOs and regulated under both programs.

4. The SCC or a county conservation district with a delegation agreement should not be allowed to waive manure storage setbacks as related to private wells.

Manure storage setbacks are put in place to protect the waters of the Commonwealth from pollution. The regulations contain manure storage setbacks of 100 feet to protect public and private wells. Proposed 25 Pa. Code §§ 83.351(a)(2)(v)(B) and (C) and Proposed 25 Pa. Code §§ 83.351(a)(2)(vi)(B) and (C). However, the SCC has included provisions in the Proposed Regulations that allow the Commission and delegated conservation districts to waive these distance restrictions for private wells, but not those protecting public drinking water wells. Proposed 25 Pa. Code § 83.351(a)(2)(vii)(D). Additionally, the Commission allows waiver of manure storage setbacks for existing agricultural operations, but not for new agricultural operations.

Bacteria can be passed through contaminated water supplies and cause campylobacter, Escherichia coli, leptospirosis, listeria, salmonella and yersinia. Parasites such as cryptosporidium and giardia may also move through a drinking water supply that has been contaminated by manure. Water polluted by manure presents many health risks: bacterial, viral, and parasitic. Additionally, the manure storage setback provided for under the Proposed Regulations is only 100 feet, which is modest given the human health risks presented. The Commission should recognize the risk that a manure storage facility poses to any drinking water source and protect *all* drinking water sources from potential manure pollution, not just public ones and ones at new agricultural operations. The SCC

should revise Section 83.351(a)(2)(vii) to exclude waiver of manure storage facility setbacks related to private wells by deleting the reference to (v)(B) and subparagraph (D). The revised regulation should read:

The Commission or a delegated conservation district may waive the distance restrictions in subparagraphs (v)(A) and (F), if the following can be demonstrated to the satisfaction of the Commission or a delegated conservation district:

- (A) The siting restrictions contained in subparagraph (v) would make the placement economically unreasonable or physically impractical.
- (B) A site investigation – including consultation with affected landowners – has been conducted which demonstrates that the proposed system will protect water quality and protect against offsite migration of nutrients.
- (C) The type, design and contingency plan developed for the facilities meet additional criteria the Commission or delegated conservation district, in consultation with the NRCS, may require to protect water quality, and protect against offsite migration of nutrients.

B. The SCC should prohibit winter manure spreading because it is not a practice used to provide nutrients to crops, but rather a means for disposing of excess animal sewage.

Proposed Section 83.294(a) states that, “[n]utrients shall be uniformly applied to fields during times and conditions that will hold the nutrients in place for crop growth. . . .” The Proposed Regulations require the NMP to detail winter manure spreading procedures if the application is planned. Proposed 25 Pa. Code § 83.294(g). “The plan shall list all crop management units where winter application is anticipated or restricted, planned ground cover on the application site, and what procedures shall be utilized for each crop management unit to protect the quality of surface water and groundwater.” Id.

However, winter spreading is not likely to result in nutrients being held in place for crop growth. The Agronomy Guide indicates that winter spreading is defined as “when it is so cold that there is no plant growth or microbial activity.” The Agronomy Guide 2002, p. 37, table 1.2-14 (Eston Martz ed., 2001). Thus, nutrients applied in the winter are not being held for crop growth during the winter itself. Additionally, nutrients are scantily held for crop growth in the following spring and summer. The Agronomy Guide indicates that manure applied in the winter will have *at best* a 50% nitrogen availability factor if utilized in the spring. Id. At worst, only 15% of the nitrogen will be available for crop growth if utilized in the summer. Id. When at least half of the manure’s nutrients will be wasted, the application does not come close to satisfying the standard of holding the nutrients in place for crop growth.

Winter spreading of manure has caused serious environmental problems in the recent past. "During the winter, the Chester County Water Authority frequently must pump in water from the Susquehanna River to dilute the Octoraro reservoir water in order to reduce the nitrate levels sufficiently to meet drinking water standards." Citizen for Pennsylvania's Future, *A Barrel Full of Holes: A Case Study of Pennsylvania Regulations on High Density Livestock Farm Pollution*, p. 14 (July 2004) (footnote omitted). Additionally, winter spreading occurred at the Hillendale Gettysburg Farm in Adams County on snow-covered fields which were already saturated, at a time when heavy rains were forecast for the next forty-eight hours. According to the National Weather Service, over two inches of rain fell during the forty-eight hours after the manure application. Hillendale was fined by the SCC for spreading manure in violation of its NMP. This sort of winter spreading is an aberration. A drive around Lancaster County in the winter reveals many fields colored chocolate brown from being heavily loaded with manure.

Winter manure spreading should be prohibited because the nutrients are not sufficiently utilized for crop growth, as no plant growth happens during the winter season. Additionally, winter manure spreading causes pollution to surface waters such as the Octoraro reservoir. The SCC should revise Proposed Section 83.294(a) to read that "[w]inter spreading of manure on soil that is frozen, snow-covered or saturated is prohibited."

Farmers have rationalized winter spreading in the past by claiming that they had unanticipated manure storage issues during the winter months and must spread manure in order to avoid over-topping their manure storage facility. In effect, the farmers are asking for permission to shift a potential pollution event from an over-topped manure storage structure to a potential pollution event from runoff associated with manure applications to frozen, snow-covered or saturated fields. Such situations should be prevented by better nutrient management planning and, if necessary, an increase in storage capacity. Winter spreading presents too much risk of pollution to waters of the Commonwealth and too little nutrient retention to be of significant benefit to crop growth. The SCC should prohibit this sewage disposal practice in the Proposed Regulations.

- C. The SCC should consider the infiltration capabilities of the soil and the water holding capacity within the root zone for any liquid manure application.

The Proposed Regulations outlining nutrient application procedures only require consideration of the infiltration capabilities of the soil and the water holding capacity within the root zone for irrigated liquid manure. Proposed 25 Pa. Code § 83.294(d)(1). However, the spreading of liquid manure by other means also presents environmental risks by loading the soils beyond their capability to absorb the manure.

Manures, with the exception of poultry and some dairy, are generally handled in a liquid state. Swine manure has the lowest percentage of dry matter, ranging between 2% and 7%. *The Agronomy Guide*, p. 36, table 1.2-13. Dairy manure handled in a liquid form has less than 5% dry matter. *Id.* Traveling guns can spray irrigate manure with up to 8% dry matter. Albert R. Jarrett and Robert E. Graves, *Irrigation of Liquid Manures With a Traveling Gun*, F 255, The Pennsylvania State University, College of Agricultural Science, Agricultural and Biological Engineering. Manure spread by non-irrigation techniques does not have a percentage dry matter limitation. Thus, all manure that is spray irrigated can also be spread by non-irrigation means.

Depending upon the liquid content of the manure, manure has the potential to be applied at a rate in excess of that which the soil can soak up the liquid. Applying liquid manure at a rate beyond the infiltration rate of the soil results in manure runoff. Albert R. Jarrett and Robert E. Graves, *Irrigation of Liquid Manures*, F 254, The Pennsylvania State University, College of Agricultural Science, Agricultural and Biological Engineering. Water holding capacity is the amount of water in the soil that can be absorbed by plant roots of most crops. Liquid manure has the possibility of being applied in excess of the water holding capacity, also resulting in runoff.

As detailed above, manures with the same percentage dry matter are spread by both irrigation and non-irrigation means. However, only the nutrient application rates for manure that is spray irrigated must consider the infiltration capabilities of the soil and the water holding capacity within the root zone. Both irrigated and non-irrigated manure can be applied in excess of infiltration capabilities and water holding capacity. The SCC should revise Proposed 25 Pa. Code § 83.294(d)(1) to read, “[a]pplication rates for liquid manure shall be based on the lesser of the following.”

**III. PENNFUTURE SUPPORTS THE SCC’S EFFORTS TO REQUIRE DESIGNATED CAOS TO REMAIN REGULATED AT THE HIGHER REGULATORY THRESHOLD AND TO REQUIRE CAOS TO MAINTAIN RESPONSIBILITY FOR MANURE EXPORTED TO KNOWN LANDOWNERS.**

- A. PennFuture supports the SCC’s Proposed Regulation to hold designated CAOs to the higher standards in the regulations and not allow facilities that present real water quality threats be regulated merely as VAOs.

The Proposed Regulations state that “CAOs required under the act, or other operations directed by the Commission or the Department to submit and implement a plan shall comply with the following sections: §§ 83.261 and 83.271-83.381.” Proposed 25 Pa. Code § 83.204(a). In the past it had been unclear whether agricultural operations required to comply with the Act at the direction of the Commission or the Department were to follow the regulations applicable to CAOs or Volunteers (now VAOs). The addition of this language clarifies that those agricultural operations must follow the regulations applicable to CAOs.

PennFuture fully supports the inclusion of this language. Generally, agricultural operations are required to comply with the mandates of the Act because of a pollution event. PennFuture believes that agricultural operations that have had a history of pollution should be more heavily regulated and inspected. This can only happen by requiring agricultural operations that have polluted to comply with the more stringent CAO regulations.

- B. PennFuture also supports the SCC's Proposed Regulation to require a CAO that is exporting and land applying manure at a known farm to maintain responsibility for the handling and application of that manure.

The Proposed Regulations state that a "CAO exporting manure shall also be responsible for the handling and application of the manure if the CAO, or its employees or contractor of the CAO, applies manure at the importing operations." Proposed 25 Pa. Code § 83.301(a)(3). PennFuture supports inclusion of this provision. Historically, agricultural operations have networked between family and neighbors to dispose of all the manure accumulated at a particular operation. If the importing land owner did not spread the manure obtained from a neighboring agricultural operation, he may not be familiar with exactly how it was land applied to his fields. The manure may have been applied too heavily in a certain area and run off into a stream.

This proposed provision recognizes the role of community networks while maintaining environmental liability for the responsible party. It is logical for the SCC to require the CAO to retain environmental liability for the manure it applies on neighboring farms. The CAO owner, operator and contract hauler all should be keenly aware of the nutrient content of the manure and the rates at which it can be safely applied. They would have this knowledge from their experiences on their owned or rented land where manure had been land applied. They would also know whether manure was applied in accordance with acceptable standards, since they were the ones who either applied the manure or had control and authority over those who did. PennFuture supports the SCC's efforts to require environmental liability for CAOs who export and land apply their manure.

#### **IV. THE NUTRIENT MANAGEMENT PROGRAM'S ALLOWANCE OF IN-FIELD MANURE STACKING WILL SEND MANY POULTRY FARMERS, UNKNOWINGLY, INTO THE FEDERAL CAFO REGULATORY STRUCTURE.**

The practice of stacking manure in-field may present a conflict between the Nutrient Management regulations and the federal CAFO regulations. The proposed Nutrient Management regulations allow for dry manure to be stacked in-field if the manure is spread by the beginning of the next growing season. Proposed 25 Pa. Code § 83.294(h). However, the manure does not have to be covered when it is stacked in-field. Because the manure does not have to be covered, it takes on various amounts of moisture and presents the possibility of leaching contaminants into the ground. "Stockpiling litter uncovered on the soil can result in a fivefold reduction in the nitrogen content of the

manure. The nitrogen lost from the manure can be carried by water to surface streams or ditches and into the groundwater." R. A. Bucklin et al., *Storage of Broiler Litter*, Dairy and Poultry Sciences Department, Florida Cooperative Extension Service, Institute of Food and Agricultural Sciences, University of Florida, Factsheet PS-15 (May 2004) <http://edis.ifas.ufl.edu/PS003>.

EPA has taken the position that manure should only be stacked in-field for less than 2 weeks if uncovered. EPA states that after this amount of time, the manure becomes liquid manure and is subject to different obligations under the CAFO regulations. Thus, a chicken facility that stacks manure in-field for more than 14 days would become a large CAFO under the federal regulations if it has more than 30,000 birds. Final Rule 40 C.F.R. § 122.23(b)(4)(ix). The facility would then have the obligation to obtain a CAFO permit within 90 days from being designated a CAFO. Final Rule 40 C.F.R. § 122.23(g)(5).

To prevent poultry operations from unknowingly making themselves subject to the CAFO regulatory scheme by engaging in a practice allowed by the Nutrient Management regulations, Section 83.294(h) should either require that manure be covered if it is to be stacked in the field for more than two weeks or alert operators that they may be classified as a large CAFO under 40 C.F.R. § 122.23(b)(4)(ix) for handling the litter as a liquid.

**V. ADEQUATE RECORD KEEPING AND A MEANINGFUL REVIEW OF RECORDS IS CRITICAL TO THE SUCCESS OF THE NUTRIENT MANAGEMENT PROGRAM BECAUSE IT IS THE ONLY WAY TO ENSURE THAT FARMERS ARE COMPLYING WITH THE APPLICATION RATES ESTABLISHED IN NUTRIENT MANAGEMENT PLANS.**

PennFuture recently completed a review of Nutrient Management Plans in the Octoraro/Pequea/Conowingo Watershed (Watershed 7-K of the State Water Plan). In this review, PennFuture found that NMPs were not being implemented at the majority of CAOs.

County Conservation District staffs have no authority to enforce the Nutrient Management Program or cite the operators for being in violation of nutrient management plans. Operators in chronic violation of their plans must be referred to the State Conservation Commission, which has only three employees to handle enforcement for the entire state and has taken only ten enforcement actions over the history of administering the program. In addition, the Commission is under the purview of both the Department of Agriculture and the Department of Environmental Protection, with the Chair switching between the two. Consistent enforcement of regulations is nearly impossible under this bifurcated system.

The role of the conservation districts is to provide assistance to livestock operators in an effort to bring them into full compliance with the



provisions of the nutrient management plans. Indeed, our review showed that there has been a significant effort on the part of the Lancaster County Conservation District to gain full implementation of the nutrient management plans. For instance, the conservation districts are charged with reviewing nutrient plans every three years to evaluate the implementation of the plan and to inspect the operation to see if it has changed enough to warrant revisions to the plan. The Lancaster County Conservation District conducted timely reviews on all 46 of the nutrient management plans that reached the three-year deadline. In Chester County, conservation district staff had reviewed only three of nine operations, but all but two of them were due for their three year review.

However, despite the significant effort to ensure implementation of the nutrient management plans, 38 of the 64 operations reviewed – 59 percent – had not fully implemented their nutrient management plans, or had not kept important records that would allow the conservation district staff to determine that manure was being properly handled. Of the operators that exported manure, 46 percent of them were missing the manure transfer sheets that would at least identify the fields or manure brokers who had received their manure. Therefore, approximately 23 percent of the liquid manure and 32 percent of the dry manure was largely unaccounted for.

Very often, manure disposal in this watershed is handled informally among neighbors and extended family networks. Many of the operators are members of plain sects, and record-keeping is not their forte. When records are available, they indicate that manure is frequently sent to farms not listed in the nutrient management plans. The notes in the review files indicate that conservation district staff provides ongoing assistance to livestock operators in an attempt to bring them into full compliance with their plans. As a result, many operations fall in and out of compliance during the course of the review cycle.

While record-keeping violations may seem trivial, the lack of complete records completely undermines the goals of the Nutrient Management Program – to ensure that no more nutrients are put on fields than crops can use and to reduce nutrient pollution of local streams and larger water bodies like the Chesapeake Bay. The heart of the program consists of planning and management, and record-keeping is the primary regulatory requirement.

Citizen for Pennsylvania's Future, *A Barrel Full of Holes*, p. 11-12.

- A. The SCC should require manure application records to be sent to the Conservation District where they should be available for public inspection.

The Proposed Regulations require CAOs to maintain manure application records and make them available for inspection by conservation district staff. Proposed 25 Pa. Code § 83.342(b)(3). These records are supposed to be reviewed at the scheduled

triennial evaluation of the farm by the conservation district staff. The records are the main mechanism for ensuring that manure is being applied in conformity with NMPs.

PennFuture's review of the NMPs in the Octoraro Watershed in Chester County showed that conservation district staff had reviewed less than half of the plans that were due for their three year review. The SCC must recognize that conservation districts are not adequately overseeing CAOs to ensure that manure is being applied at agronomic rates. Therefore, while maintaining the obligation for the conservation district staff to review the implementation of NMPs, the SCC must allow other interested parties to review documents and records that would reveal compliance with NMPs.

Requiring manure application records to be sent to the conservation district on a quarterly basis would allow the district staff the opportunity to carefully compare the manure application rates detailed in the NMP with the actual manure application rates listed in the records. If manure application rates were out of line with each other, then the district staff could take the time to correct this before the next growing season commenced, rather than as many as three years in the future. Opening these documents up for review by the public would also placate concerns of those that live in the vicinity of a CAO. It would reveal which CAOs are complying with their plans and which are not. The ones that are not complying with their plans would be faced with more frequent scrutiny and likely better enforcement. The end result would be more a more trusting relationship between farmers and the local community and a cleaner, safer environment.

PennFuture urges the SCC to add a sub-section (c) to Section 83.341 that reads, "[t]he operator of a CAO shall submit on a quarterly basis to the Commission or delegated conservation district accurate records of the land application of nutrients. Records of land application of nutrients are public records."

- B. The SCC should require alternative manure utilization records to be sent to the conservation district where they should be available for public inspection.

Many agricultural operations export manure to known landowners or through use of a manure broker. These alternative manure uses are allowed but must be detailed in the NMP.<sup>4</sup> The Proposed Regulations require alternative manure utilization records to be maintained, but not submitted to the conservation district. Proposed 25 Pa. Code § 83.343(a)(4). Under Proposed Section 83.343(a)(4)(ii), the exporting CAO must maintain the alternative manure utilization records if the CAO or its employee apply the manure to the land. If the manure is exported through a broker, Proposed Section 83.343(a)(4)(iii) requires the broker to maintain the alternative manure utilization records and supply the importing site with the information for their records.

PennFuture's review of the NMPs in the Octoraro Watershed revealed that 46% of the operators that exported manure failed to maintain manure transfer sheets. This

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<sup>4</sup> PennFuture supports the SCC's proposal to require signed agreements between a CAO and each operator agreeing to accept the manure from the exporting operation. Proposed 25 Pa. Code § 83.301(a)(1).

resulted in the nutrients from roughly one quarter to one third of the manure going unaccounted for. PennFuture's review of the NMPs also revealed that when records were available for manure transfers, the manure was often exported to farms not listed in the alternative manure utilization section of the NMP.

PennFuture recognizes that the information required in the Proposed Regulations on alternative manure utilization sheets is more detailed than is currently required. However, a large percentage of facilities are not maintaining the required records. The main opportunity to discover a lack of record keeping is the three-year review by conservation district staff. Alternative manure utilization records are the main vehicle for ensuring that manure is not over-applied to non-CAO fields. This is virtually the only check on the remaining farms that are supposed to follow the mandates of the Manure Management Manual.

Requiring alternative manure utilization records to be sent to the conservation district on a quarterly basis would allow the district staff the opportunity to examine whether manure is being properly utilized on non-CAO fields. If manure utilization was out of line with the mandates of the Manure Management Manual, the conservation district staff would have the opportunity to correct this improper manure use before the next growing season rather than three years in the future. It would also allow conservation districts an opportunity to calculate the amount of nutrients in various watersheds and to identify and assist farms needing better nutrient management in order to better meet the state's obligations under The Chesapeake 2000 Agreement. Opening these documents up for review by the public would show that CAO generated manure is being properly utilized for crop growth. Again, review by the public would placate concerns of those in the vicinity of CAOs and their importing farms by removing the mystery of how much manure is used where.

C. The SCC should retain the requirement for NMPs to be triennially reviewed by a certified nutrient management specialist.

At the October 13, 2004 public hearing on the proposed regulations, the Pennsylvania Association of Conservation Districts suggested that NMPs should not be subject to a triennial review by a certified nutrient management specialist under Section 83.362(c). This suggestion is completely devoid of reason. As detailed above, CAOs are out of compliance with their NMPs at an alarming rate. Review of farm management practices with a certified nutrient management specialist will provide an opportunity for evaluation of current practices. Additionally, it will provide an opportunity for the nutrient management specialist to review any farm management concerns or address problem areas directly. PennFuture is opposed to the elimination of the requirement that plans be reviewed triennially by a certified nutrient management specialist.

- D. The SCC must require landowners to sign NMPs because best management practices are utilized in the plan and the landowner is responsible for some BMPs because of their permanent nature.

A landowner is not required to sign a NMP under the Proposed Regulations. Proposed 25 Pa. Code §§ 83.261(7) and 83.281(a)(3). However, NMPs rely heavily on best management practices ("BMPs") to address nutrient management concerns. These BMPs are construction based and farm management based. Construction based BMPs are permanent in nature, in the sense that they will remain until a barn or manure storage facility is removed from the agricultural operation. Thus, the BMPs offered in an NMP could presumably outlast an operator or specialist who originally signed the plan. Ultimately, the landowner is left with the responsibility for maintaining the construction based BMP. Requiring a landowner to sign an NMP also serves the purpose of confirming that the operator is aware of and has consented to the installation of the BMP on his land. This would help ensure that disputes will not arise that might interfere with the use or effectiveness of a BMP. Because the landowner is the one with ultimate responsibility for the BMP, the landowner should be required to sign the NMP to remain accountable for it.

**VI. THE FEDERAL CAFO REGULATIONS REQUIRE NUTRIENT MANAGEMENT PLANS TO DETAIL CERTAIN PRACTICES THAT ARE NOT CURRENTLY REQUIRED IN THE PROPOSED REGULATIONS.**

The federal regulations require CAFOs to develop and implement a nutrient management plan. 40 C.F.R. § 122.42(e)(1). Pennsylvania's NPDES CAFO program, which is under revision itself, already contained this requirement. PennFuture's comments on the proposed regulatory revisions to the NPDES CAFO program are attached hereto. However, the federal regulations require NMPs to contain certain elements that are not included in the pre-existing or proposed Nutrient Management Program, such as mortality management, chemical handling, and testing of litter and process waste water. *Id.* The state CAFO program does not detail what must be contained in a NMP, but rather states that plans must comply with the requirements of Chapter 83. Proposed 25 Pa. Code § 92.5a(d)(1).

PennFuture recognizes that the SCC may be reluctant to include these provisions for CAFOs as mandatory elements for CAOs. However, the Proposed Regulations should include, at a minimum, a section that details these requirements for CAFOs only. This will aid in decreasing confusion among agricultural operators and those drafting the plans for them. To satisfy the minimum federal requirements for issuing a CAFO permit, the Department must require NMPs to contain the required elements as detailed in the federal regulations. However, the existing and proposed state CAFO regulations do not detail these requirements and only reference compliance with the Nutrient Management Regulations which, as proposed, do not include the three specific elements mentioned above.

NMPs are given a secondary review when an agricultural operation applies for an NPDES CAFO permit with the Department of Environmental Protection. To maintain state delegation, the state CAFO program must be approved by the federal Environmental Protection Agency ("EPA"). For EPA to delegate the CAFO program to Pennsylvania, the program must integrate the federal requirements while sufficiently dealing with any state nuances. Since the state CAFO regulations merely reference the Proposed Regulations with respect to the requirements of an NMP, the Proposed Regulations must contain a section requiring all of the federally-mandated NMP elements for CAFOs.

- A. The federal regulations require NMPs to include mortality management; however, the Proposed Regulations do not require CAOs to include mortality management in their plans.

The federal CAFO regulations state that a nutrient management plan must "[e]nsure proper management of mortalities (i.e. dead animals) to ensure that they are not disposed of in a liquid manure, storm water, or process wastewater storage or treatment system that is not specifically designed to treat animal mortalities." 40 C.F.R. § 122.42(e)(1)(ii). Nothing in the Proposed Regulations details how mortalities shall be handled. Therefore, NMPs under the Proposed Regulations fail to meet the requirements of NMPs as detailed in the federal regulations.

The SCC must add a section to the Proposed Regulations applicable to CAFOs. The added section must require the NMPs of CAFOs to detail mortality management to ensure isolation from liquid manure, storm water or process wastewater storage or treatment. PennFuture suggests that Section 83.271, which details the contents of plans, would be a logical place to make this addition.

- B. The federal regulations require NMPs to include proper chemical handling procedures; however, the Proposed Regulations do not require information regarding chemical handling procedures.

Under the federal CAFO regulations, an NMP must "[e]nsure that chemicals and other contaminants handled on-site are not disposed of in any manure, litter, process wastewater, or storm water storage or treatment system unless specifically designed to treat such chemicals and other contaminants." 40 C.F.R. § 122.42(e)(1)(v). The Proposed Regulations do not require chemical handling procedures to be detailed. NMPs under the Proposed Regulations therefore fail to meet the requirements of the federal CAFO regulations.

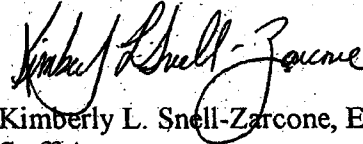
As recommended above, the SCC must add a section to the Proposed Regulations applicable to CAFOs. The added section must require the NMPs of CAFOs to detail chemical handling procedures to ensure isolation from liquid manure, storm water or process wastewater storage or treatment. PennFuture suggests that Section 83.271, which details the contents of plans, would be a logical place to make this addition.

C. The Proposed Regulations do not require testing of litter and process wastewater in NMPs as mandated under the federal CAFO regulations.

The Proposed Regulations do not require the testing of litter and process wastewater. The federal CAFO regulations require a NMP to “[i]dentify protocols for appropriate testing of . . . litter [and] process wastewater. . . .” 40 C.F.R. § 122.42(e)(1)(vii). Therefore, NMPs under the Proposed Regulations fail to meet the requirements for NMPs under the federal CAFO regulations.

The SCC must add a section to the Proposed Regulations applicable to CAFOs, as recommended above. The added section must require the NMPs of CAFOs to detail litter and process wastewater testing. PennFuture suggests that Section 83.271, which details the contents of plans, would be a logical place to make this addition. Further details would be appropriate under Section 83.291(b)(3), which regulates manure nutrient content.

Respectfully submitted,



Kimberly L. Snell-Zarcone, Esquire  
Staff Attorney

Attachment

# Attachment



November 1, 2004

*via hand delivery*

Environmental Quality Board  
Rachel Carson State Office Building, 15<sup>th</sup> Floor  
400 Market Street, P.O. Box 8477  
Harrisburg, PA 17105

To whom it may concern,

Citizens for Pennsylvania's Future (PennFuture) hereby submits for your consideration the following comments concerning the proposed rulemaking regarding 25 Pa. Code §§ 91 and 92 as published in 34 Pa. Bull. 4353.

**I. THE PENNSYLVANIA CAFO PROGRAM, AS PROPOSED, IS INADEQUATE BECAUSE IT FAILS TO REGULATE FACILITIES THAT ARE MOST LIKELY TO DISCHARGE AND THOSE THAT HAVE HISTORICALLY DISCHARGED.**

The federal regulations make it clear that their primary concern is large animal operations that pose the greatest environmental risk. However, the federal regulations define CAFOs as large, medium and small. 40 C.F.R. §§122.23(b)(2),(c). A large CAFO is one that meets certain animal thresholds and by sheer animal numbers creates a possibility of environmental impacts. 40 C.F.R. § 122.23(b)(4). Medium CAFOs are defined by the federal regulations as those facilities that meet certain animal thresholds that are less than those in the large category, but still rather significant in sheer number and have the potential to create an environmental risk. 40 C.F.R. § 122.23(b)(6). The small CAFOs may be designated as such based upon their historic impacts to waterways. 40 C.F.R. §§ 122.23(b)(9) and (c). Thus, even though the stated policy focus in the federal regulations is on large animal operations, the definition of a CAFO includes medium and small facilities.

**A. Pennsylvania's CAFO program fails to capture facilities that have a discharge as outlined in the federal regulations.**

The state regulations must require any facility that has had a pollution event involving manure or wastewater to obtain a CAFO permit. The federal regulations require agricultural operations to obtain a CAFO permit where either 1) "[p]ollutants are discharged into waters of the United States through a man-made ditch, flushing system, or other similar man-made device" or 2) "[p]ollutants are discharged directly into waters of the United States which originate outside of and

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pass over, across, or through the facility or otherwise come into direct contact with animals confined in the operation." 40 C.F.R. §§ 122.23(b)(6) and (c).

As drafted, the proposed state regulations do not generally include a definitional category for agricultural operations with a discharge. The proposed regulations do, however, define CAFOs with "a discharge to surface waters that is *authorized* by Department permit limits and conditions." Proposed 25 Pa. Code § 92.1. By specifically defining CAFOs as those agricultural operations with an authorized discharge, the EQB, by implication, has excluded from the definition those agricultural operations with an unauthorized discharge. PennFuture acknowledges that the proposed state definition of CAFO also includes a catchall provision. However, by explicitly excluding facilities with an unauthorized discharge from one piece of the definition (i.e. those agricultural operations with an authorized discharge), the EQB has implicitly excluded facilities with an unauthorized discharge from the catchall provision also.

Facilities with an "unauthorized" discharge are those targeted by the federal regulations and defined as small and medium CAFOs. If the EQB is going to define CAFOs with "authorized" discharges, it must also outline and specifically define facilities as CAFOs if they have a history of polluting waters of the Commonwealth with "unauthorized" discharges as specifically contemplated in the federal regulations. The state regulations define "authorized" discharges; however, the federal regulations indicate that facilities with "unauthorized" discharges must be designated as CAFOs. Therefore, the EQB must define a facility as a CAFO if it pollutes waters of the Commonwealth with manure or wastewater. PennFuture recognizes that this requirement in the federal regulations may place strain on small and medium sized farms to keep their livestock out of waters of the Commonwealth. PennFuture also recognizes that the Clean Streams Law, under which the state NPDES CAFO regulations are promulgated, prohibits an administrative agency from requiring "any person to erect a fence along a stream in a pasture or other field used for grazing of farm livestock for the purpose of keeping farm livestock out of the stream." 35 P.S. §691.702. However, an integration of the federal regulation into the proposed state regulations would not result in a mandate to construct stream bank fencing.

There are policy reasons for specifically stating that those facilities with a discharge to waters of the Commonwealth be classified as a CAFO. First and foremost, EPA noted during the CAFO workgroup meetings that smaller facilities were singled out in the regulation because of a history of water quality violations at these types of facilities. EPA revised the NPDES CAFO regulations to address water quality problems. Additionally, specifically requiring agricultural operations that have had a water quality impact to get a CAFO permit would remove some discretion from the Department, which clearly it has not been using. The CAFO definition in the regulations has given the Department the discretion to designate a facility as a CAFO because of water quality impacts since the regulations were first created, but the Department has never actually utilized this discretion to make such a designation. However, there have been a number of pollution events involving farms in the past few years. Most notably, the Hillandale Gettysburg facility repeatedly polluted waters of Commonwealth with both manure and

egg washwater. These pollution events warranted fines and penalties from Pennsylvania Fish & Boat Commission, the State Conservation Commission, and the Department. Although the facility houses well over the number needed to be designated a CAFO under existing regulations, the Department failed to require Hillandale-Gettysburg to acquire NPDES CAFO permits.

The Department has historically taken the position that a facility is not "discharging" if it mitigates the pollution problem. The Department has also taken the position that it should only require a CAFO permit if and when the agricultural polluter fails to mitigate the pollution. This reasoning is defective for two reasons. First, and most importantly, the federal regulations state that CAFO permits are required when an agricultural operation impacts water quality, not when it fails to remediate a pollution problem. And second, if a facility is forced to get a CAFO permit because it fails to remediate a discharge, that facility would be violating its permit as soon as it was issued since NPDES CAFO permits are non-discharge permits. Discharges to waterways at agricultural operations generally happen because of improper management. Thorough scrutiny of the agricultural operation while undergoing the permitting process is likely to assist the facility in pinpointing other operational problems. Additionally, the Department has more oversight of a facility if it is in the CAFO permitting system. The Department is therefore more likely to catch management issues before a pollution event occurs again in the future. For all of the above reasons, the EQB must integrate the federal definition for small and medium CAFOs into the state regulations for agricultural operations that discharge pollutants to waterways.

- B. Any agricultural operation with an "authorized discharge" must be required to obtain a permit, such as an industrial waste permit, above and beyond an NPDES CAFO permit for the discharge.

The definition of a CAFO includes a category of agricultural operations with a "discharge to surface waters that is authorized by Department permit limits and conditions." Proposed 25 Pa. Code § 92.1. The EQB has specifically asked for comment on this proposal. The EQB sees use of this term as encouraging technologies that use manure for energy production, some of which include a treated water discharge.

Current digester technologies are generally closed loop, meaning that any water byproduct is utilized on site. However, the EQB is including such language in the event that an agricultural operation would some day discharge water byproducts. CAFO permits are by definition non-discharge permits. The only discharge allowed from a CAFO under the federal regulations is a stormwater discharge. 44 C.F.R. §122.23(e). The inclusion of this exception by the EQB is counter to the federal regulations. The discharges proposed by the EQB are neither the result of a storm event nor in accordance with a Nutrient Management Plan. Thus, a digester discharge would not qualify as a stormwater discharge under the federal regulations. PennFuture supports the use of digesters at agricultural operations, but any planned, direct discharge of effluent from a digester or other manure processing system or device must be permitted separately from the CAFO operation.

The CAFO permit is a non-discharge permit. However, the proposed regulatory change has been offered for a technology that will have an actual discharge to waters of the Commonwealth. This is directly counter to the effluent limitation guidelines in the federal regulations. 44 C.F.R. § 412.1 *et seq.* The federal regulations state that “[t]here shall be no discharge of process waste water pollutants to navigable waters.” 40 C.F.R. §§ 412.12(a), 412.13(a), 412.15(a), 412.25(a), 412.26(a), 412.31(a), 412.32(a), 412.33(a), 412.35(a), 412.43(a), 412.44(a), 412.45(a), and 412.46(a).

The EQB has offered this exemption for the reason of encouraging technologies that use manure for energy production. However, many other state programs exist for the purpose of encouraging energy production. The Department recently awarded an energy harvest grant for a digester project in Lancaster County. Additionally, if the Renewable Portfolio Standard legislation passes there will undoubtedly be incentives from the state and private industry to place digesters at agricultural operations. The Department should not fail to permit a discharge to waters of the Commonwealth merely because it wants to encourage this technology at agricultural operations. Additionally, the NPDES CAFO program is the wrong program under which to permit this technology because it results in an actual discharge in violation of the main principle of the federal CAFO program, one of non-discharge. CAFOs wishing to utilize a digester and discharge effluent to waters of the Commonwealth must be required to obtain an industrial waste discharge permit from the Department.

C. Discretionary designation by the Department should require consideration of site specific factors.

Certain farms currently escape regulation under the CAFO program because they do not meet the required density trigger or animal equivalent unit threshold. However, some of these farms may still pose a significant risk to the watershed given the amount of manure that they store. The EQB has retained the right of the Department to deem these facilities a CAFO given certain factors. Proposed 25 Pa. Code § 92.1. However, in this analysis, the EQB does not require consideration of a number of critical factors to determine if the agricultural operation will have an adverse impact upon the waters of the Commonwealth. Id.

The proposed state regulations allow the Department to designate an operation a CAFO based upon the threat the facility represents to the waters of the Commonwealth. Proposed 25 Pa. Code § 92.1. The regulation states that the Department must consider the size, location and management plan of the operation to determine if it should be designated as a CAFO. Id. However, consideration of these factors alone is insufficient to determine potential environmental impacts by an agricultural operation.

The regulations also allow the Department to designate an agricultural operation as needing a water quality management permit for manure storage. Proposed 25 Pa. Code § 91.36(a)(7). When designating an agricultural operation as needing a water quality management permit, the Department must consider factors such as “proximity to Special Protection waters or impaired waters under Chapter 93, or the risk of pollution.”

Id. Again, consideration of these factors alone is insufficient to determine if the manure storage facility could have environmental impacts.

Additional factors must be required to be considered by the Department when designating an agricultural operation a CAFO or as needing a water quality management permit. These factors are: cumulative impact of farms in the geographic region, whether the proposed facility is located in a High Quality or Exceptional Value watershed, whether the watershed is listed as impaired on Pennsylvania's Integrated Water Quality Monitoring and Assessment Report, whether a Total Maximum Daily Load (TMDL) has been developed for the watershed, and whether the watershed consists of limestone or karst geology.

1. Discretionary designations by the Department must include consideration of the cumulative impacts of farming operations in the same geographic region.

The Department must examine the cumulative effects of agricultural operations when designating CAFOs and the need for a water quality permit. The Clean Streams Law recognizes that in order to protect the state's waters, "water quality management and pollution control in the watershed as a whole" should be considered when the Environmental Quality Board adopts rules and regulations. 35 P.S. § 691.5(a)(1). The NPDES CAFO regulations are promulgated under the Clean Streams Law and should contain a meaningful analysis of the impacts to the local watershed.

It is well recognized that animal production is becoming more concentrated than in years past. "In 1991, 47 percent of hog operations in Pennsylvania had 1,000 or more head. By 1993, only two years later, large operations had increased their share by 11 percent, and 58 percent of hog farms had 1,000 or more head. A decade later, large operations constitute 76 percent of all hog operations. A similar consolidation happened in the poultry industry." Citizens for Pennsylvania's Future, *Factory Farm Pollution in Pennsylvania: Watersheds and Communities at Risk*, p. 1 (2003).

The concentration of farming to fewer, larger farms has also led to geographic concentrations of farming operations. Attachment A shows the geographic concentration of farming operations as of February 2003. The southcentral and southeastern portions of the state are areas where most CAFOs are permitted. Lancaster and Chester counties have the densest concentrations of CAFOs. *Factory Farm Pollution in Pennsylvania*, p. 6. There are 12 watersheds in Pennsylvania in which five or more CAFOs are located. Id. The Chickies Creek Watershed, 7-G on the State Water Plan, in Lancaster County has the most CAFOs – 19. Id. The Pequea-Octoraro Watershed, 7-K on the State Water Plan, located in Lancaster and Chester counties has the second highest concentration of CAFOs with 12. Id.

"The aim of the nutrient management planning process is to ensure that the nutrients contained in the manure that is spread on crops is balanced against the needs of the crops that will be grown there. This is supposed to ensure that the nutrients are taken

up by the crops and will not find their way into the nearest stream or the groundwater. However, when a significant number of the livestock facilities in a particular area operate under contracts that require them to import feed rather than use crops grown locally, the connection between numbers of animals and cropland is broken. In this circumstance, [] more nutrients are imported into the watershed in the form of feed, and ultimately processed by the animals into manure, than can be used by the crops grown there." Citizens for Pennsylvania's Future, *A Barrel Full of Holes*, p. 8-9 (footnote omitted). Therefore, there is a very significant net importation of nutrients. This adds to the potential for water pollution by having more nutrients in the watershed than can be utilized by crops grown there.

CAFOs often keep the animals confined at all times. Manure is therefore collected in large quantities and must be disposed of in some manner. Because of the intensive nature of confined farming, more animals are grown on the farm than the farmland itself can support. Manure is often exported to neighboring areas. PennFuture conducted a survey of Watershed 7-K of the State Water Plan (Pequea, Conowingo and Little Conowingo, Octoraro, and Big Elk Creek) to further analyze the impacts of agricultural operations on a specific watershed. "According to the nutrient management plans, 76,972,254 gallons of liquid swine and cow manure are generated in the watershed each year. In addition, chickens and dairy operations generate 58,624 tons of dry manure yearly. Combined, the liquid and dry manure contains 2,815,115 pounds of nitrogen." *A Barrel Full of Holes*, p. 8.

In areas of high concentrations of farming operations, excess farmland is needed to spread the manure upon because many farmers export manure. In its study of Watershed 7-K, PennFuture found that "[f]ully 89% of the livestock operators in the watershed export some manure. Our review of the nutrient management plans shows that 35% of the liquid manure and 23% of the solid manure is being exported to fields not covered by approved nutrient management plans. In addition, the manure with the highest concentration of nitrogen, swine and chicken manure, is more likely to be exported. As a result 50% of the nitrogen generated in the watershed is exported." *Id.* at 9. It is recognized that the State Conservation Commission's proposed nutrient management regulations would require manure exported off the home farm to account for the nutrient content and application rates given the crop to be grown. This is to be accomplished through nutrient balance sheets. It should, however, be noted that this balancing does not account for phosphorus.

The result of the geographic concentration of animal production is that the waters of the Commonwealth are degraded. "Agricultural pollution is one of the two primary causes of water quality degradation in Pennsylvania. Erosion of sediment into waterways and over-application of fertilizer to fields severely damages almost 3,000 miles of Pennsylvania streams." *A Barrel Full of Holes*, p. 6. "[M]any of the streams in [Lancaster and Chester counties] are [] polluted by nutrients to the point where they do not meet water quality standards." *Factory Farm Pollution in Pennsylvania*, p. 6.

The EQB must require an analysis of the cumulative effects of agricultural operations under the Clean Streams Law. The NPDES CAFO and water quality management regulations are promulgated under the Clean Streams Law and do not currently require an analysis of cumulative impacts. Such consideration when designating CAFOs and determining the need for a water quality management permit could help improve water quality in heavily agricultural areas where individual farms may not be of the size needed to trigger a CAFO classification or water quality management permit, but the cumulative impact of the farms in the area is significant.

2. The Department must consider a facility's location in a High Quality or Exceptional Value watershed when making the discretionary designation that the facility needs a CAFO permit.

Pennsylvania's water quality standards require the establishment, maintenance and protection of designated uses for surface waters across the Commonwealth, including designated uses for aquatic life. 25 Pa. Code §§ 93.3 and 93.9. The highest level of designated uses for aquatic life requiring the highest degree of protection ("special protection") are known as High Quality ("HQ") and Exceptional Value ("EV"). 25 Pa. Code §§ 93.3 and 93.4a-93.4c. Although HQ and EV streams need excellent water quality and habitat to support their designated aquatic life uses, such streams can and do become impaired as sources of pollution lower water quality and degrade instream habitat.

Pennsylvania has 83,161 miles of streams and rivers. Pennsylvania Department of Environmental Protection, *2002 Pennsylvania Water Quality Assessment 305(b) Report*, p. 8 (visited September 29, 2004) [http://www.dep.state.pa.us/dep/deputate/watermgmt/Wqp/WQStandards/305\\_wq2002\\_narr.pdf](http://www.dep.state.pa.us/dep/deputate/watermgmt/Wqp/WQStandards/305_wq2002_narr.pdf). 1,716 miles of these streams are designated as EV. Pennsylvania Department of Environmental Protection, *Protecting the Commonwealth's Waters* (visited October 15, 2004) <http://www.dep.state.pa.us/dep/deputate/watermgmt/Wqp/WQStandards/antideg/LT-AntidegTstmy1.htm>. EV streams and rivers represent 2% of the total stream miles in Pennsylvania. 19,274 miles are designated as HQ. *Id.* HQ streams represent 23% of the total stream miles in Pennsylvania.

At the time of PennFuture's survey of NPDES CAFO permits, there were 25 CAFOs permitted in Pennsylvania in HQ watersheds and one in an EV watershed. *Factory Farm Pollution in Pennsylvania*, p. 6. These CAFOs were permitted to store 81,875,200 gallons of liquid manure and 473 tons of dry manure. *Id.* There were also permits pending for storage of 25,504,842 gallons of liquid manure and 1,721 tons of dry storage in high quality and exceptional value watersheds. *Id.*

HQ and EV watersheds are designated as our healthiest and most pristine in the state. Therefore, special consideration should be given to operations existing in or attempting to site in these watersheds. Special examination should be given to agricultural operations in these areas especially if the water quality of the stream appears to be eroding. "Seven of the streams in [Watershed 7-K, Pequea-Octoraro Creeks.] are

designated as high quality, but three of those have been classified as impaired by nutrients." Id. In the Pequea-Octoraro Watershed alone there were permits approved for 6 million gallons of liquid manure storage in high quality watersheds at the time of PennFuture's review of NPDES CAFO permits in 2003. Id. However, there were four permits pending in the watersheds of high quality streams in the Octoraro watershed that will more than double the permitted liquid storage to 14,168,242 gallons, most of it in impaired high quality watersheds. Id.

An examination of the NMPs in the Octoraro Watershed revealed that "27 livestock facilities, or 42% of the operations [in that watershed], [are] located in high quality watersheds. These facilities generate more than 50 million gallons of liquid manure and more than 21,000 tons of dry manure. This manure contains about 1.5 million pounds of nitrogen and about 34% of that is exported." *A Barrel Full of Holes*, p. 13-14. Additionally, 14 of the HQ streams located in the Octoraro Watershed contain segments impaired by agricultural runoff. Id. at 14.

Examination of two watersheds in Pennsylvania reveals that there are a significant number of HQ and EV streams that could be impacted from massive quantities of manure stored in the same watersheds. In order to preserve the state's most pristine waters, the Department must be required to consider whether the facility is located in an HQ or EV watershed during its CAFO and water quality management permitting processes.

PennFuture's statewide analysis of NPDES CAFO permits and its analysis of NMPs in the Octoraro Watershed indicate that special protection watersheds are facing an ever increasing risk of degradation from agricultural pollution. The EQB has expressly recognized the importance of considering proximity to a special protection stream when determining that an agricultural operation needs a water quality management permit. The EQB should extend this consideration to the analysis of whether an agricultural operation needs a CAFO permit.

The EQB has recognized that certain facilities may escape regulation, but actually present a significant potential to pollute. For this reason, the EQB has maintained discretion for the Department to require these facilities to obtain an NPDES CAFO permit. Part of the risk that a facility presents is based upon the quality of the waters in the surrounding area. As discussed above, special protection waters can become degraded and reach an impaired status. For this very reason, special protection waters should receive just that, special protection. In areas where HQ and EV waters are threatened by the possibility of pollution from farms with either a large number of animals or a large quantity of manure, the Department should consider designating those agricultural operations as CAFOs. Thus, the discretionary CAFO designation language should require consideration of special protection watershed status.

3. Impacts upon impaired watersheds and any corresponding Total Maximum Daily Load allocations must also be considered when the Department designates an agricultural operation as a CAFO or as needing a water quality management permit.

The described uses of streams throughout the Commonwealth are established based upon the physical, chemical and biological conditions needed to sustain particular aquatic communities. When a stream fails to meet the conditions necessary to attain its designated uses, it is listed as "impaired" for its aquatic life use in a report to the U.S. Environmental Protection Agency. Recognition of such impairment is necessary to return these streams to their designated uses.

Streams that are designated as "impaired" are placed on a schedule to have a Total Maximum Daily Load (hereinafter "TMDL") established. "TMDLs can be considered to be a watershed budget for pollutants, representing the total amount of pollutants that can be assimilated by a stream without causing water quality standards to be exceeded." Pennsylvania Department of Environmental Protection, Bureau of Water Supply and Wastewater Management, *Pennsylvania DEP's Six-Year Plan for TMDL Development*, (updated March 2004) (hereinafter "*Six-Year Plan*"). A TMDL determines the maximum amount of a particular pollutant that may be released into a stream, stream segment, or water body each day while still allowing the stream to meet water quality standards, and allocates that maximum daily load among the point and nonpoint sources of the pollutant in the watershed. Once a TMDL is established for a stream or water body, pollution control measures should be put in place within five years. A TMDL may allocate a portion of the maximum allowed load to new sources or growth of existing sources, but such an allocation for "future growth" must be offset by greater load reductions from existing sources in order to meet the fixed, overall maximum load. Thus, if a CAFO begins operations in a watershed with a TMDL for nutrients, the maximum daily load figure for a pollutant such as nitrogen or phosphorus will not be increased because of the new activity.

The Pennsylvania Department of Environmental Protection reports that 57,217 stream miles (84 % of the assessed miles) support their designated uses for aquatic life. Commonwealth of Pennsylvania, Department of Environmental Protection, 2004 *Pennsylvania Integrated Water Quality Monitoring and Assessment Report: Clean Water Act Section 305(b) Report and 303(d) List* (hereinafter "*Pennsylvania Integrated Report*"). The same report states that 10,762 miles (16%) of the assessed miles for aquatic life are impaired. *Pennsylvania Integrated Report*. However, the state is nowhere near having a TMDL developed for all of these waterways. In fact, only 29% of the stream segments needing a TMDL have one approved. U.S. Environmental Protection Agency, 2002 *Section 303(d) List Fact Sheet for PENNSYLVANIA* (visited September 28, 2004) [http://oaspub.epa.gov/waters/state\\_rept.control?p\\_state=PA](http://oaspub.epa.gov/waters/state_rept.control?p_state=PA). Thus, Pennsylvania is far from completing its development of all TMDLs for all impaired streams in the Commonwealth. Pennsylvania must complete TMDLs for all watersheds that were listed as impaired in 1996 by 2009, according to an agreement with EPA. *Six-*



*Year Plan.* Additionally, once a TMDL is developed, it must be implemented within five years.

Agriculture is a large contributor to the impairment of Pennsylvania's streams and waterways. Agricultural activities make up a large portion of the nonpoint source allocation in a TMDL. Of the Pennsylvania streams supporting aquatic life use, 3,876 stream miles (22%) attribute agriculture as the source of the impairment. *Pennsylvania Integrated Report.* Agricultural pollution of waterways is generally attributable to siltation and excess nutrients. According to the Department, siltation has caused the impairment of 5,604 stream miles (28%) supporting aquatic life and nutrients have caused the impairment of 2,347 stream miles (12%) supporting aquatic life. *Pennsylvania Integrated Report.*

"In Watershed 7-G [Chickies Creek] in Lancaster County and where many streams are impaired by nutrient pollution, there is a total of at least 43,718,572 gallons of permitted or pending liquid manure storage, and 22,822 tons of dry manure storage. A rough, very conservative estimate of the nitrogen content of liquid and dry manure being generated and stored each year in the Conestoga River watershed is about 5.34 million pounds per year." Citizens for Pennsylvania's Future, *Factory Farm Pollution in Pennsylvania: Watersheds and Communities at Risk*, p. 6 (October 2003). At the time of our review of NPDES CAFO permits there were also permits pending in impaired watersheds to allow an additional 35,933,165 gallons of liquid manure storage. *Id.* at 6-7. "Absent a mechanism in the permitting system to account for and control the new nutrients generated by new and expanding livestock operations, additional nutrient loadings in some watersheds will overwhelm the ability of conservation practices and restoration projects to reduce nutrient pollution." *Id.* at 7.

PennFuture's review of NMPs and CAFO permits in the Octoraro Watershed reveals that "[h]alf of the livestock facilities in this review are located in watersheds where the entire streams or significant stream segments do not meet water quality standards because of agricultural runoff and nutrient pollution. These 32 facilities generate a total of almost 43 million gallons of liquid manure and more than 20,000 tons of dry manure. This manure contains 1.25 million pounds of nitrogen. About a quarter of the manure is exported, but since the manure with the highest concentration of nitrogen is more likely to be exported, 44 percent of the nitrogen in the impaired watersheds is being exported to fields not covered by an approved nutrient management plan." Citizens for Pennsylvania's Future, *A Barrel Full of Holes: A Case Study of Pennsylvania Regulations on High Density Livestock Farm Pollution*, p. 13 (July 2004).

It is critical for Pennsylvania to take the impaired status and any developed TMDLs for waters of the Commonwealth into consideration in the permitting processes it oversees so that these waters can be restored to health. The EQB can not ignore the impacts of nonpoint source pollution in DEP's permitting processes, particularly those related to agriculture. Agriculture has a significant impact on the health of Pennsylvania's waterways and accounts for most of the nonpoint source pollution. Additionally, massive quantities of nutrients are currently stored and land applied in

watersheds with impaired waters. Consideration of these factors would help restore Pennsylvania's waterways in a timely manner.

The proposed regulations would require the Department to consider the proximity of a manure storage structure to impaired waters when exercising its discretionary authority to require the operator to obtain a Water Quality Management Permit. Proposed 25 Pa. Code § 91.36(a)(7). However, the regulations giving the Department discretion to designate facilities as CAFOs still does not require the Department to consider this factor. Pennsylvania's regulations includes, as part of the CAFO definition, "any other agricultural operation designated as a CAFO by the Department based on risk of pollution of surface waters using relevant criteria such as the size, location and management plan of the operation." Proposed 25 Pa. Code § 92.1. Neither discretionary designation requires the EQB to consider TMDL allocations. Proposed 25 Pa. Code § 91.36(a)(7) and proposed 25 Pa. Code § 92.1.

The purpose of the CAFO program is to protect water quality. Impaired watershed designations are an indicator of poor water quality. Failure to consider actual water quality in the designation criteria for a program that is supposed to protect water quality is nonsensical. The Department must be given the discretion to consider the present status of water quality of receiving streams when designating agricultural operations as a CAFO. Consideration of such information is critical to determining if a specific agricultural operation must be required to meet the heightened requirements of the CAFO program.

TMDLs are another means to monitor and regulate activity that impact stream health. TMDL restrictions must be a key factor in the determination of whether or not a livestock facility must obtain a CAFO permit or water quality management permit because TMDLs are indicators that pollutant levels over a certain amount are unhealthy for the stream. The CAFO program's purpose is to protect and preserve water quality. Consideration of the maximum amount of nutrients a stream can accommodate before becoming impaired is an important factor that should be examined by the Department when deciding if an agricultural operation should be designated as a CAFO.

Knowledge and oversight of sources, both point and nonpoint, in an impaired watershed is needed to determine the total amount of pollutants being discharged and establish the load and wasteload allocations required by the TMDL. A major criticism of the impaired waters/TMDL program is that there is lack of oversight and implementation, especially with regard to nonpoint sources.

Because agricultural operations make up such a large portion of the nonpoint source category, the EQB has a real opportunity to give teeth to two programs, the CAFO program and the impaired waters/TMDL program. The coordination of the CAFO program and the TMDL program would help achieve the goals of both programs by utilizing the tools of the other program. The impaired waters/TMDL program sets pollutant allocations for watersheds in an attempt to preserve water quality, but lacks a means of implementation because load reduction mechanisms are not specified

particularly with respect to nonpoint sources. The CAFO program seeks to protect water quality, but fails to look at the total impact to a watershed. By integrating the two programs, the Department will be able to better analyze impacts upon a watershed and implement necessary protections.

The impacts to a watershed that has been impaired by agriculture and for which a TMDL may have been developed are primarily, as discussed above, nutrients and sedimentation. The CAFO program has the authority to analyze both of these factors. As the backbone of the CAFO regulatory structure, NMPs are required under the CAFO program to control the escape of nutrients from the farm fields. Additionally, erosion and sediment control plans are required to prevent the soil from leaving the farmland. DEP and county conservation districts are a repository for these plans. Therefore, DEP has the information needed to evaluate how agricultural nonpoint source pollution should be allocated in a watershed.

The EQB should require the Department to analyze whether unpermitted facilities are impacting water quality attributable to barn construction or land application practices. The Department should also be required to generate information regarding the amount of permitted land application of manure in watersheds or stream segments. This information can then be compared to the TMDL for an area. If more of a listed pollutant is reaching a waterway than allowed under the TMDL, the Department can require the agricultural operation to delineate measures to control pollution under the NPDES programs. During the permitting process for those facilities required to obtain either a CAFO or WQM permit, DEP can also utilize this information to ensure that the pollutant load does not exceed that permitted under the TMDL. Integration of the two systems would allow for real protection of watersheds with a TMDL because the load allocation would actually be implemented and enforced.

The Clean Streams Law declares that "[i]t is the objective of the [ ] Law not only to prevent further pollution of the waters of the Commonwealth, but also to reclaim and restore to a clean, unpolluted condition every stream in Pennsylvania that is presently polluted." 35 P.S. §691.4(3). The Law further states that DEP has the "power and its duty shall be: (2) [to] establish policies for effective water quality control and water quality management in the Commonwealth of Pennsylvania and be responsible for the development and implementation of comprehensive . . . water quality plans." DEP can only properly meet the mandate of the Clean Streams Law to protect Pennsylvania's water quality by implementing programs that protect watersheds as a whole. A proper avenue through which DEP has regulatory authority to utilize for achieving this goal is the NPDES program. Proposed 25 Pa. Code § 91.36(a)(7) should be amended to include consideration of "relevant criteria such as proximity to Special Protection waters, the assessment of waters as impaired as required by Section 303 of the federal Clean Water Act, 33 U.S.C. § 1313, the establishment of Total Maximum Daily Loads ("TMDLs") for the watershed in which the facility is located, and the risk of pollution," in addition to other factors discussed herein. Additionally, the definition of a CAFO in Proposed 25 Pa. Code § 92.1 should be amended to include consideration of "risk of pollution of surface waters using criteria such as the size, location, management plan of the operation,

proximity to Special Protection waters and establishment of Total Maximum Daily Loads," in addition to other factors discussed herein, when designating a facility as a CAFO. Therefore, the EQB should amend the proposed regulations to require DEP to consider whether waters are impaired and whether TMDLs have been established when designating an agricultural operation as a CAFO or as needing a Water Quality Management Permit.

4. One of the factors that must be considered by the Department when designating an agricultural operation as a CAFO or as needing a water quality management permit is the geological composition of the area.

Neither discretionary designation requires the Department to consider the geological composition of the land beneath an agricultural operation. Attachment B shows that much of the land under traditionally agricultural areas in Pennsylvania is composed of carbonate rocks, such as limestone and dolomite. Carbonate rocks are known to have "solution cavities and bedrock irregularities in the subsurface and sinkholes at the surface." Commonwealth of Pennsylvania, Department of Conservation and Natural Resources, Bureau of Topographic and Geologic Survey, Limestone and Dolomite Distribution in Pennsylvania (visited June 16, 2004) <http://www.dcnr.state.pa.us/topogeo/maps/map15.pdf>. Because of the potential for sinkholes, subsurface investigations are critical when construction activities are planned in areas known to have carbonate rock geology. *Id.* "These investigations should include local geologic mapping, test borings, and possibly geographical surveys to establish subsurface conditions. . . ." *Id.*

"The permeable nature of the carbonate rocks also makes them natural conduits for conveying solid and liquid wastes. Using these conduits, contaminants can rapidly enter the groundwater system and travel long distances underground over a relatively short period of time. Therefore, it is important to be particularly careful in conducting industrial, agricultural, or construction activities in limestone-dolomite areas to prevent the contamination of valuable groundwater resources." *Id.*

Many of the traditionally agricultural areas in Pennsylvania are in those same areas with extensive carbonate rock geology. Carbonate rock formations allow material spread on the land surface to freely flow to the groundwater. Thus, carbonate rock geology poses significant water quality concerns in agricultural areas. Because the CAFO program is designed to protect water quality, the Department should consider geological composition and the potential for water quality degradation attributable to it when designating agricultural operations as CAFOs.

**II. AS PROPOSED, NUTRIENT MANAGEMENT PLANS UNDER THE PENNSYLVANIA STATE DELEGATED NPDES CAFO PROGRAM FAIL TO ACCOUNT FOR ALL PHOSPHORUS APPLIED TO ALL FIELDS.**

Nutrient Management Plans ("NMPs") are the backbone of the NPDES CAFO permitting structure. NMPs are a required element of a CAFO permit application under Proposed 25 Pa. Code § 92.5a(d)(1). The provision states that the application must include:

A nutrient management plan meeting the requirements of Chapter 83 (relating to State Conservation Commission), Subchapter D and approved by the county conservation district or the State Conservation Commission. The plan must include written agreements with importers or brokers related to the land application of manure; and nutrient balance sheets or a nutrient management plan for the importing farms.

Although Pennsylvania's program has contained a requirement to have a NMP since its inception, this is a new requirement in the federal regulation, 40 C.F.R. § 122.42(e), which the state program is implementing. Thus, it is critical to determine if the state nutrient management program is sufficient, as is, to meet the requirements mandated in the federal regulations.

In addition to requiring development and implementation of a NMP, the federal regulation states that the NMP must, "[e]stablish protocols to land apply manure, litter or process wastewater in accordance with site specific nutrient management practices that ensure appropriate agricultural utilization of the nutrients in the manure, litter or process wastewater." 40 C.F.R. § 122.42(e)(1)(viii). Under this language, a one plan fits all approach is unacceptable because site specific considerations are critical. Additionally, the federal regulations require that the NMP ensure proper utilization of all nutrients that are critical to plant growth and development. PennFuture's comments regarding the Nutrient Management regulatory revisions are attached hereto as Attachment C.

Until recently, Pennsylvania's nutrient management program took the position that nitrogen was the nutrient of primary concern and was the only nutrient that had to be accounted for when land applying manure. From the outset, opponents of the nitrogen-only approach have pointed to phosphorus as a nutrient of additional concern given the fact that it can result in severe environmental damage if allowed to accumulate unchecked on the land.

Phosphorus has been used in the last half century to increase crop yields and maintain soil fertility. However, excessive phosphorus in surface water can cause algae and aquatic plants to grow at accelerated rates. This then causes decreased oxygen levels in the water, which can in turn lead to fish and other aquatic organisms dying from a lack of oxygen. It is recognized that the threat of eutrophication in fresh water is most attributable to excess soluble phosphorus.

The State Conservation Commission recently recognized the threat that phosphorus poses to the environment due to runoff. During the statutorily mandated regulatory revision of the nutrient management program, the State Conservation Commission proposed consideration of phosphorus in certain limited situations to prevent potentially mobile sources of phosphorus from reaching surface waters. Proposed 25 Pa. Code 83.281(c). On May 12, 2004, the Environmental Hearing Board also held that "[t]he Nutrient Management Act does require the Commission to establish procedures to determine proper application rates for plant nutrients other than nitrogen, such as phosphorus." Adam v. Commonwealth of Pennsylvania, No. 2002-189 MG (Pennsylvania Environmental Hearing Board May 12, 2004). One of the major changes to the Nutrient Management Program being proposed is the inclusion of a Phosphorus Index ("P-Index"). PennFuture explains below why the proposed P-Index does not satisfy the federal regulation's mandate to "ensure appropriate agricultural utilization of the nutrients."

The State Conservation Commission proposes utilizing a P-Index to determine the potential for phosphorus in land applied manure to reach surface waters. If conditions exist where phosphorus could be transported to surface waters, then phosphorus must be managed on that specific farm field. "The P index accounts for and ranks [phosphorus] sources (soil P, applied P type, rate, and application method) and transport factors (runoff, erosion, and contributing distance to water) that control potential [phosphorus] loss to the environment. Two screening parameters are used to determine if a full accounting of P source and transport factors (i.e., full running of P-Index) for a field is required: 1) Is soil test (Mehlich 3) P > 200 ppm? Or 2) is the field within 150 feet of a stream." Kogelmann et al., p. 3 (July 8, 2002). It is important to understand that the P-Index triggers management of phosphorus on individual fields, not on whole farm operations.

It is a fatal flaw that the SCC did not include these details of the P-Index in the Proposed Regulations, nor did they include reference to a Penn State agricultural extension fact sheet on the P-Index. The Proposed Regulations merely define the P-Index as, "[t]he field evaluation tool developed specifically for this Commonwealth and approved by the Commission, which combines indicators of phosphorus sources and phosphorus transport, to identify areas that have a high vulnerability or risk of phosphorus loss to surface waters, and provides direction on the land application of phosphorus-containing nutrient sources to protect water quality." Proposed 25 Pa. Code § 83.201. The P-Index is referenced numerous times throughout the Proposed Regulations, but none of these references provide specific information on the source and transport factors to be evaluated by the P-Index. Even more importantly, the Proposed Regulations do not detail how nitrogen and phosphorus applications may be restricted under the P-Index. Thus, the Proposed Regulations are completely void of any guidance regarding the "proper application rates of nutrients," as required under the Nutrient Management Act. 3 P.S. § 1704(1)(ii) (emphasis added).

The SCC believes that the use of the P-Index accounts for conditions that contribute to surface and groundwater pollution by nutrients, specifically nitrogen and

phosphorus. The Proposed Regulations do not describe how the P-Index will account for source and transport factors and do not detail if and how manure applications must be restricted. PennFuture vigorously objects to the lack of detail contained in the Proposed Regulations regarding the P-Index. Additionally, PennFuture disputes that the P-Index fully and accurately identifies the source and transport factors and will explain below why it thinks the P-Index, as detailed in other resources, is deficient.

A. Because non-mobile phosphorus poses a significant threat to farm productivity and the surrounding environment, manure applications on all farm fields should be balanced for phosphorus.

The proposed phosphorus index is an improvement over the existing nutrient management program, which generally has failed to address phosphorus. But is it not sufficient to meet the federal requirement that a nutrient management plan “[e]stablish protocols to land apply manure, litter or process wastewater in accordance with site specific nutrient management practices that ensure appropriate agricultural utilization of the nutrients in the manure, litter or process wastewater.” 40 C.F.R. 122.42(e)(1)(viii). This requires something more than a phosphorus index, because a P-Index does not account for the utilization of the nutrients in the manure. It only addresses some of the nutrients in the manure for some of the fields.

U.S. Department of Agriculture scientist Andrew Sharpley notes that intensification of animal farming has created regional and local imbalances of phosphorus. Andrew N. Sharpley, et al., Agricultural Phosphorus and Eutrophication, USDA-ARS Report 149, p. 2 U.S. Gov’t Printing Office, Washington, D.C. 1999. “The potential for [phosphorus] surplus at the farm scale can increase when farming systems change from cropping to intensive animal production, since [phosphorus] inputs become dominated by feed rather than fertilizer.” *Id.* at 3. “Specialization and intensification of farm operations has resulted in imbalances in farm nutrient inputs and outputs. Community, national, and international agribusiness infrastructures have dictated, by default, regions of net nutrient accumulation, or nutrient sinks. The Chesapeake Bay watershed is a phosphorus sink.” Frank Coale, *The Science of Phosphorus From Agriculture and Other Sources Entering the Chesapeake Bay* (visited 4/29/2004), <<http://www.aren.umd.edu/Policycenter/Pfiesteria/coale/coale.htm>>.

Sharpley states that soil phosphorus levels have built up and often exceed crop needs. Sharpley at 4. Kogelmann et al. assert that the optimum range of phosphorus for agronomic crops is 30 – 50 parts per million. Wilhelm J. Kogelmann et al., A Statewide Assessment of the Impacts of P-Index Implementation in Pennsylvania: Phase I Report, p. 9 (July 8, 2002) (submitted to the Pennsylvania State Conservation Commission and Pennsylvania Department of Agriculture). They estimate that 48% of the soil samples they took statewide had soil test phosphorus values of 50 parts per million or more. *Id.* “High soil nutrient levels not only represent an economic loss, but they also may indicate potential crop, animal, or environmental problems.” The Agronomy Guide 2002, 28 (Eston Martz ed., 2001). Sharpley states that it is common to supplement poultry and hog feed with mineral forms of phosphorus because of the low digestibility of the major

phosphorus compound in grain. Sharpley at 16. He further states that this supplementation contributes to the phosphorus enrichment of animal manures and litters. Id.

Phosphorus exists in the soil in both soluble and sediment-bound forms. Soluble phosphorus is that which is available for plant uptake and use. Sediment-bound phosphorus is a mineral form of phosphorus that is not available for plant uptake and use. Phosphorus converts quickly from soluble phosphorus to sediment-bound phosphorus; however, it does not convert quickly from sediment-bound phosphorus to soluble phosphorus. High levels of sediment-bound phosphorus in the soil "may lead to crop production or feed quality problems." The Agronomy Guide 2002, 28 (Eston Martz ed., 2001).

It is well recognized that applying manure to meet a plants' nitrogen needs, results in overapplication of phosphorus. Sharpley 1994; The Agronomy Guide 2002 at 23 and 28. Since the P-Index only requires an accounting of phosphorus on fields where erosion and runoff are highly likely, phosphorus will continue to be overapplied on most fields in Pennsylvania. Because phosphorus is also a nutrient of concern in Pennsylvania, the goal of the nutrient management program should be to apply manure to meet maximum nutrient efficiency of nitrogen and phosphorus.

Studies indicate that when phosphorus exists in soils at certain levels it can negatively impact crop production. Christenson et al. found that for most crop fields grown on mineral soil, there is little chance that phosphorus that is applied in bands (an application method) will increase crop yields when soil test phosphorus level is above 60 pounds per acre. D.R. Christenson et al., Michigan State University, Extension Bulletin E-550A, Cooperative Extension Service, Fertilizer Recommendations for Field Crops in Michigan, 1992. Another study found that a 69 pound per acre or greater phosphorus rate resulted in above-optimum soil-test P values. Antonio Mallarino and David Rueber, Iowa State University, Northern Research and Demonstration Farm, ISRF02-22, Long-term Evaluation of Nitrogen, Phosphorus, Potassium, and Lime Requirements of Continuous Corn. "The results for [phosphorus] fertilization are interesting in showing that the highest [phosphorus] rate, which increased soil-test [phosphorus] to levels seven times higher than the optimum level compared with the check, decreased corn yield slightly. The yield reduction was smaller when optimum rates of [potassium] fertilizer were applied." Id. The report concluded that producers should use all available information to avoid applying "either deficient or excessive nutrient amounts for crop production." Id. To achieve maximum yield, the studies indicate that phosphorus should not be applied in excess of crop needs.

Rates of manure application need to be based on the nutrient present at the highest level in terms of crop needs. In most cases this is phosphorus. The Agronomy Guide 2002 states that once the optimum level of phosphorus and potassium is obtained in the soil, "the recommendation is to maintain that level by applying P and K to offset the amount that is removed by the harvested crop." The Agronomy Guide 2002 at 28. The Agronomy Guide 2002 states that "management action should be taken to limit



applications in excess of crop needs." *Id.* at 29. Therefore, manure should be applied at a rate which will meet the crop's requirement for phosphorus. Because it is true that applying manure to meet a crop's nitrogen needs results in over-applying phosphorus, the converse is also true. Applying manure to meet a crop's phosphorus needs will result in not meeting the crop's nitrogen needs. However, additional nitrogen and potassium can be supplied with commercial fertilizers. This strategy is least likely to cause undesirable environmental effects, and makes the most efficient use of all nutrients in manure.

In addition to decreasing crop yields, excess phosphorus in the soil has the potential to cause environmental harm. Although the P-Index accounts for the potential loss of phosphorus via erosion and runoff, it does not account for the other risks posed to the environment from having excess phosphorus in manure, and in turn in the soil. Another path for phosphorus to escape the farm is through "subsurface lateral flow along the gradients of internal drainage." Coale, *The Science of Phosphorus From Agriculture and Other Sources Entering the Chesapeake Bay*. Subsurface pathways are of particular concern in Pennsylvania given the large number of tile drainage systems in place. Many of these systems are undocumented, so farmers may not know the exact location of tile drainage systems on their property. Because the placement of these systems is unknown, setbacks and balancing phosphorus on some, but not all, fields is not likely to accomplish the goal of limiting the possibility of phosphorus movement by way of subsurface lateral flow. Thus, additional control mechanisms, such as balancing for phosphorus on all fields, must be put into the nutrient management regulatory structure to ensure that phosphorus is not allowed to move along subsurface paths and into groundwater or surface water.

The federal regulations require Pennsylvania farmers applying for an NPDES CAFO permit to develop "site specific nutrient management practices that *ensure agricultural utilization of the nutrients* in the manure." Final Rule, 40 C.F.R. §122.42(e)(1)(viii) (emphasis added). To satisfy the mandate of the federal regulation, both nitrogen and phosphorus must be utilized. The most efficient utilization of the manure, as discussed above, comes when the manure is applied based upon the phosphorus content of the manure. The best crop yields also occur at an application rate based upon the phosphorus needs of the crop. Additional environmental risks can be avoided when phosphorus is not over-applied to crops.

Distinguished researchers and well respected agricultural organizations have also supported the proposition that manure applications should be balanced for phosphorus on all fields. To reduce phosphorus losses from agriculture, Sharpley recommends balancing phosphorus in the soil. Sharpley et al. at 14. The Technical Manual, one of Pennsylvania's two main guidance documents on nutrient management, also "strongly recommends" that the farmer calculate a balanced manure application rate based on net nitrogen, phosphorus and potassium needs of the crops so that the farmer will manage the application of manure most efficiently. Pennsylvania's Nutrient Management Act Program Technical Manual, p. 40. Additionally, during regulatory hearings on the nutrient management program, PennAg Industries testified that it was not opposed to balancing nutrients for phosphorus. In sum, the state delegated NPDES CAFO program

must require nutrient management plans that balance for phosphorus in order to decrease the risk for environmental pollution, provide the most efficient crop yield for farmers, and, most important, satisfy the requirements of the federal regulations.

B. Pennsylvania's proposed Nutrient Management Program does not ensure appropriate utilization of all manure nutrients because the P-Index fails to account for factors that can greatly effect phosphorus movement and water quality.

1. The proposed P-Index utilized in the Nutrient Management Program is inadequate because it fails to account for impaired waters in the calculation.

The federal regulation regarding nutrient management plans states that site specific nutrient management practices should be considered. Final Rule, 40 C.F.R. § 122.42(e)(1)(viii). A critical site specific consideration is whether local waterways are impaired by agricultural runoff. Another site specific consideration is whether an agricultural operation's practices will impact the already impaired waters. Pennsylvania's P-Index, as proposed, does not consider whether impaired waters are located in close proximity to the farm field being evaluated.

Alabama, Delaware and Maryland all have P-Indexes that take into consideration whether impaired waters are located in the proximity of the farm fields being evaluated. Alabama includes impaired waters in a category separate from source and transport factors and weights it heavily. Delaware and Maryland include impaired waters as part of their site and transport characteristics (the remaining considerations are classified as source and management characteristics).

Pennsylvania should consider impaired waters, for all of the above stated reasons, in its P-Index transport factors, or as a separate factor in the P-Index. Inclusion of impaired waters as a factor in the P-Index would result in farm fields located in close proximity to an impaired watershed as being more likely to have to restrict phosphorus applications. This is a rational result given the environmental harms phosphorus presents to already fragile waters. In the alternative, PennFuture recommends that inclusion of a farm field in an impaired waterway should be added as another screening parameter used to determine if a full accounting of source and transport factors. Thus, location of a farm field in an impaired waterway would require the agricultural operation to run a complete P-Index for that specific field, and any others located in impaired waters.

2. The proposed P-Index utilized in the Nutrient Management Program fails to account for exceptional value and high quality waters in the calculation.

The CAFO program relies heavily upon the Nutrient Management Program to achieve water quality protection. However, NMPs undertake no analysis of whether an agricultural operation is located in a HQ or EV watershed. A NMP merely requires a

listing of a HQ or EV stream in the farm description section of the plan. The real analysis under a NMP come in the manure application rates section. The proposed Nutrient Management regulations will now require an agricultural operation to run a P-Index to determine if phosphorus is being over-applied on farm fields or whether conditions are such where manure nutrients could move from farm fields to waters of the Commonwealth.

Pennsylvania's P-Index, as proposed, does not consider whether special protection waters are located in close proximity to the farm field being evaluated. Alabama, Delaware and Maryland all have P-Indexes that take into consideration whether special protection waters are located in the proximity of the farm fields being evaluated. Alabama includes special protection waters in a category separate from source and transport factors and weights it heavily. Delaware and Maryland include special protection waters as part of their site and transport characteristics (the remaining considerations are classified as source and management characteristics).

Pennsylvania should integrate a special protection waters factor, for all of the above stated reasons, into its P-Index transport factors. Inclusion of special protection waters as a factor in the P-Index would result in farm fields located in close proximity to these waters as being more likely to have to restrict phosphorus applications. This is a rational result given the environmental harms phosphorus presents to these pristine waters. In the alternative, PennFuture recommends that inclusion of a farm field in a special protection waterway should be added as another screening parameter used to determine if a full accounting of source and transport factors. Thus, location of a farm field in a special protection waterway would require the agricultural operation to run a complete P-Index for that specific field, and any others located in impaired waters.

3. The proposed P-Index utilized in the Nutrient Management Program fails to account for the flooding potential of fields or the precipitation amounts for a given area in the calculation.

Pennsylvania, like much of the east coast, has experienced significant amounts of rainfall over the past few months, resulting in serious flooding of streams and rivers. Farmers are keenly aware of the damage that this, and other, flooding has caused. Many farmers suffered crop losses or were unable to harvest due to water-logged fields. Fortunately, these flooding events did not occur when farmers were applying manure to the fields. Flooding after manure applications, much like the spreading of manure on frozen or snow-covered fields, would result in significant nutrient losses.

The potential for flooding to occur during the times of year when manure is applied is high. The past three years have been some of the wettest on record. According to the National Oceanic and Atmospheric Administration (hereinafter "NOAA"), the period from March to August 2004 was the wettest on record, with 28.95 inches of rainfall. National Oceanic and Atmospheric Administration, *Climate at a Glance: Most Recent 6-Month Period (Mar-Aug) Precipitation Pennsylvania* (visited October 1, 2004)

<http://climvis.ncdc.noaa.gov/cgi-bin/cag3/hr-display3.pl>. 2003 was the seventh wettest March to August six month period, with 27.85 inches. Id.

Given the particularly wet weather over the past few years, the EQB should include consideration of rainfall and flooding in the P-Index. Arkansas and Western Oregon and Washington all take the flooding potential of the fields into consideration in their respective P-Indexes as transport factors. Additionally, Arkansas considers precipitation amounts in its P-Index as a category separate from source and transport factors. Pennsylvania should follow the lead of these various states and integrate rainfall and flooding potential into the transport factors of its P-Index.

- C. The federal regulations require the management of nitrogen and phosphorus on each farm field; however, phosphorus content is not accounted for in manure that is exported from the farm where it was generated and land applied at an importing farm.

Under the proposed regulations, a farmer using manure exported from another site will not have to account for its phosphorus content before applying it. Manure exported to a known landowner and land applied is completely exempt from phosphorus evaluation under the proposed Nutrient Management Regulations. The proposed Nutrient Management Regulations only require manure applications at importing farms to be balanced for nitrogen and to comply with a 150 foot setback from surface waters. Proposed 25 Pa. Code §83.301(a)(4); Proposed 25 Pa. Code §83.301(g)(1). The use of a setback to control for phosphorus is inappropriate. The P-Index takes into account both source and transport factors. Use of a setback to control phosphorus only accounts for the transport factors but fails to address source factors, such as phosphorus level in the soil.

The federal CAFO regulations require something more. The effluent limitations require development of field specific NMPs that evaluate the transport of nitrogen and phosphorus on "each field." 40 C.F.R. 412.4(c)(1). The federal regulations do not state that the phosphorus analysis should be limited to fields at the farm which generated the manure. Thus, farms that import manure generated at a CAFO are bound to evaluate the transport potential of both nitrogen and phosphorus.

According to the State Conservation Commission, 1,643,791,920 gallons of manure are generated by CAOs in Pennsylvania. State Conservation Commission, Nutrient Management Act Program Data CAOs. Of this amount, 466,497,360 gallons are exported from CAOs. Id. This amounts to 28% of CAO manure being exported and the phosphorus content remaining unexamined. Information regarding the amount of CAFO manure generated and exported was unavailable. However, CAFOs generally export a higher percentage of their manure.

Additionally, nutrients are exported off the farm in varied levels given the nutrient content of the manure. Thus, merely because 28% of CAO manure is exported does not mean that 28% of the nutrients were exported. In the Octoraro Watershed, an

examination of CAOs revealed that 24,673,329 gallons of liquid manure (32% of the total liquid manure generated) and 14,060 tons of dry manure (23% of the total) is sent off the farm. *A Barrel Full of Holes*, p. 5. However, almost 50% of the nitrogen, 1,403,326 pounds, is exported. *Id.* (The study did not examine the amount of phosphorus exported.) Manures with higher nutrient content are those most likely to be exported. It is therefore important that exported manure must be examined for its nitrogen and phosphorus content before it is land applied.

Both the federal regulations and the state Nutrient Management Act require NMPs to include a phosphorus analysis for manure generated by a CAFO no matter where it is applied. The proposed Nutrient Management regulations do not require sites importing manure to undertake a phosphorus analysis, limiting nutrient balance sheets to a nitrogen analysis and coupling this with a 150 foot setback from surface waters. The state CAFO program incorporates many requirements of the Nutrient Management program. However, the current nutrient management program proposed in the draft regulations fail to meet the mandate of the federal CAFO regulations to require a phosphorus analysis on each field where CAFO manure will be applied. To maintain a delegated program, the EQB must require consideration of phosphorus on all fields to which CAFO manure is applied, including fields at "importing" farms.

**III. SETBACKS FOR MANURE APPLICATION SHOULD BE APPLICABLE TO ALL FARMING OPERATIONS AS ALLOWED IN THE CLEAN STREAMS LAW AND THE STATE REGULATIONS SHOULD INCLUDE AN ENUMERATION OF THE CONDUITS TO WHICH THE SETBACKS SHOULD APPLY.**

Setbacks have traditionally been used in the Nutrient Management Program to keep nitrogen, and arguably phosphorus, from entering surface waters. The CAFO program has integrated these setbacks but unlike the Nutrient Management Program requires them regardless of the moisture content of the soil. The CAFO program also offers an alternative of utilizing a vegetative buffer.

**A. The use of setbacks on all farms is appropriate to help prevent nutrients from polluting state waters.**

Keeping manure applications a reasonable distance from surface waters is one means of preventing nutrients from reaching streams and other surface waters. Large and small farms alike have the potential to pollute a stream when manure is land applied directly adjacent to a waterway. For this reason, all farmers should limit their manure applications in such sensitive areas.

All farms are subject to regulation and penalty under the Clean Streams Law for pollution of waters of the Commonwealth. The regulations for which public comment is sought are promulgated under the authority of the Clean Streams Law. Therefore, it is proper for these regulations to place requirements upon all farms.

The setback requirements outlined in the CAFO and water quality management regulations, Proposed 25 Pa. Code §§ 92.5a(d)(1) and 91.36(b)(2), are similar to those already applied in the Nutrient Management Program and in the Manure Management Manual, but provide additional flexibility by allowing for a vegetative buffer in lieu of a setback.

The Manure Management Manual is virtually unknown as a management tool for non-CAO farmers. The Nutrient Management Program ensures that plans are written, but with only one inspection every three years, the program can hardly ensure that setbacks are followed when the manure is actually applied. If waters of the Commonwealth are polluted by a farm covered by a NMP, the Department is charged with the duty of dealing with the waterway pollution, not the State Conservation Commission. So, it is logical to codify the setback and buffer requirements in regulations enforced by DEP.

B. A minimum 50 foot vegetated buffer comprised of non-harvestable vegetation should be required to control nutrient runoff and sediment loss.

Agricultural runoff has the potential to harm streams by placing additional nutrients in the stream and throwing off the natural, and fragile, balance of the stream. Agricultural runoff also harms streams by adding sediment to the waterways. The proposed regulations seek to decrease agricultural runoff to waterways by requiring manure application setbacks or the alternative use of vegetated buffers. The EQB is asking for input regarding whether the regulations should incorporate EPA's buffer concept of either a 100 foot manure application setback or 35 feet of vegetated buffer. The EQB has alternatively offered incorporation of the vegetated buffer allowed under the "Pennsylvania Technical Guide" published by the United States Department of Agriculture, Natural Resources Conservation Service (NRCS). The current NRCS standard for a vegetated buffer is 50 feet.

Vegetated buffers prevent nitrogen overloading of streams by filtering and absorbing the nutrient before it reached the stream. Buffers also removed nitrogen from agricultural runoff by converting nitrogen compounds into nitrogen gas. Buffers help prevent sedimentation of streams by preventing the movement of the sediment to streams and waterways. Blocking the movement of sediment to streams naturally helps stop phosphorus from reaching streams and waterways since phosphorus is carried by soil and other organic material.

The EQB appears to have determined that setting a fixed minimum buffer is preferable to allowing variable buffer widths. The EQB must then determine what buffer width provides the most protection to the environment while simultaneously allowing farmers the best and most productive use of their land. Research regarding vegetated buffers indicates that bigger is better, to a point. Determining when additional width of riparian buffers no longer provides protection to the environment involves analysis of four criteria. "They are the: 1. existing or potential value of the resource to be protected, 2. site, watershed, and buffer characteristics, 3. intensity of adjacent land use, and 4. specific water quality and/or habitat functions desired." Pennsylvania Department of

Environmental Protection Bureau of Watershed Management, ed., *Stream Releaf Technical Training Manual 2001*, p. 6-1.

The 35 foot buffers width option presented by the EQB and required at a minimum by the federal regulations is inadequate by the Department's own findings. PennFuture concurs with the Department in its analysis. The Stream Releaf Technical Manual states, "[b]uffers of less than 50 feet have proven increasingly difficult to maintain as effective filters in the field, except on small, low order drainages." *Id.* at 6-7. Additionally, "very narrow buffer strips of 15 to 25 feet are generally inadequate for sediment or nutrient reductions, except on small, low order streams." *Id.* Only when "conditions for water storage, vegetative uptake, and denitrification are ideal, widths as small as 35 feet may provide substantial removal of the nitrogen passing through the buffer." *Id.* at 6-9. However, very rarely, if ever, will all of those conditions be ideal. The Department has found that "buffers of less than 35 feet cannot sustain long-term protection of aquatic resources." *Id.* at 6-13. "Most studies show buffer widths of 50 to 100 feet for adequate [sediment] removal." *Id.*

The 35 foot buffer width appears inadequate to accomplish the dual goal of capturing nutrients and controlling sediment losses. "The most commonly prescribed minimum buffer widths for use in water quality and habitat maintenance are approximately 75 to 100 feet." *Id.* at 6-13. The recommended width for maximizing nitrogen removal is 35 feet to 100 feet. USDA Forest Service, The Chesapeake Bay Watershed Forestry Program, *Riparian Forest Buffer Widths* (December 2003). Buffers ranging in size from 50 feet to 100 feet are generally adequate for trapping sediment. *Id.* "It should be noted that wide buffers are easier to sustain, as they include less edge area that is likely to be damaged in storms." *Id.* The minimum width the EQB should consider is the 50 foot vegetated buffer suggested by the Pennsylvania Technical Guide.

Concern should be focused not only on the appropriate width of the buffers, but also on the proper maintenance of buffers. "In agricultural areas, researchers found that of the 35 or more grass filter strips inspected after three to five years of use, less than 10 percent continued to be effective because of channelized flow and sediment build-up at the field edge of the filter strip." *Stream Releaf Technical Training Manual 2001*, p. 6-13. To aid the long term health of streams, buffer strips must remain effective over time. Otherwise negative stream impacts may just be delayed. Therefore, the Department must ensure that buffer strips remain a viable mechanism for reducing and controlling nutrient and sediment losses over an extended period of time.

To reach the goal of viable buffers, the EQB must ensure that vegetated buffers are comprised of native, natural vegetation and not crops. Vegetated buffers must contain dense cover and preferably trees, shrubs, bushes, and a thin under layer. If crops were allowed to qualify as a vegetated buffer, they would instead actually be operating as a setback instead of a buffer. The purpose of a vegetated buffer is to keep a dense non-removable zone between the farm fields and the waterway. The dense nature of the barrier offsets the generally shorter width of the buffer, as compared to a setback distance. A harvestable crop would be an improper vegetated buffer because the dense

nature of the barrier would not be maintained when it is harvested back. It is recognized that some appropriate buffer material may need pruning; however, buffers should not contain vegetation that can be harvested. The definition of a vegetated buffer should be amended to ensure that crops and harvestable material are not considered appropriate "perennial vegetation." 25 Pa. Code §§ 91.1 and 92.1.

- C. The definition of setback must be expanded in the CAFO regulations and water quality management regulations to properly capture all conduits to surface waters as defined by the Environmental Protection Agency in the federal regulations.

While it is proper for setbacks to be included in the water quality management and CAFO regulations, the definition of the term setback must be altered to include all conduits to surface waters as defined by the Environmental Protection Agency. The federal regulations state that unless a vegetated buffer or alternative compliance practices are utilized, "manure, litter, and process wastewater may not be applied closer than 100 feet to any down-gradient surface waters, open tile line intake structures, sinkholes, agricultural well heads, or other conduits to surface waters." 40 C.F.R. § 412.4(c)(5). A setback is defined in Proposed 25 Pa. Code §§ 91.1 and 92.1 as "[a] specified distance from surface waters or potential conduits to surface waters where manure, litter, and process wastewater may not be land applied." The state regulations fail to list the specific examples of conduits to which manure applications restrictions apply.

The state regulations integrate the federal regulations' distance setback from surface waters. They also integrate the size of a vegetated buffer. However, the state regulations fail to integrate an enumerated list of conduits from which manure application setbacks should apply. The EPA has recognized the risk to surface and groundwater presented by these conduits. The state must follow suit and also enumerate these conduits in its regulations to ensure that setbacks are established from these potential conduits to surface waters. The EQB must amend Sections 91.1 and 92.1 to define a setback as "[a] specified distance from surface waters or potential conduits to surface waters, including but not limited to open tile line intake structures, sinkholes, and agricultural well heads, where manure, litter, and process wastewater may not be land applied."



**IV. THE WATER QUALITY MANAGEMENT AND CAFO REGULATORY REVISIONS REGARDING MANURE STORAGE ARE INADEQUATE BECAUSE THEY FAIL TO ACCOUNT FOR FACTORS CONTRIBUTING TO ENVIRONMENTAL RISK.**

- A. The manure storage trigger for a water quality management permit should be 1 million gallons because that figure is more in line with the environmental risk created by large CAFOs as defined under EPA's federal regulations.

The current water quality management regulations require any agricultural operation with more than 1,000 AEUs to obtain a water quality management permit. Proposed 25 Pa. Code § 91.36(a)(1). The regulatory revision proposed would require an agricultural operation to obtain a water quality management permit if the facility has a manure storage capacity over 2.5 million gallons. Proposed 25 Pa. Code § 91.36(a)(3)(ii). One might think that this shift from AEUs to gallons of storage capacity was based on a determination that storage capacity provides a better proxy for environmental risk, but that does not appear to have been the rationale.

The Department acknowledged in the CAFO workgroup meetings that the change in the trigger for a water quality management permit from AEUs to gallons of manure was driven by agricultural operations oversizing their manure storage to avoid the need to obtain a permit in a future expansion. So it seems that agricultural operations were consciously oversizing their manure storage facilities when operating at an AEU level less than 1,000 with the expectation of housing over this level of animals at some point in the near future. However, the EQB could have prevented this activity by requiring in the regulations that a manure storage facility be sized to meet the storage needs of an agricultural operation based upon the current number of animals housed.

Although the EQB may have had a legitimate motive for switching from AEUs to gallons of manure generated for the water quality management permit trigger, the total number of gallons set for this threshold is too high. Facilities that have a much smaller manure storage capacity present an adequate environmental risk to be required to have a Department-issued permit. The EQB failed to justify its change in the threshold trigger by linking manure storage capacity to environmental risk. The EQB's proposed 2.5 million gallon trigger is based on an incomplete analysis that utilized a model operation with a single species. In Pennsylvania, blended livestock operations are commonplace and may generate more manure than single species operations.

It is obvious that when determining the new trigger the EQB merely calculated how much manure 1,000 AEUs would generate. It is fairly common for manure storage facilities to be designed for 6 months, or 180 days, of storage. A completely empty manure storage with a capacity of 2.5 million gallons would be completely full (i.e. no freeboard) in 180 days if the daily manure production was 13,888 gallons. According to the average daily manure production in The Agronomy Guide 2002, p. 36, a farm with either 1,068 AEUs of milking cows or 1,262 AEUs of finishing swine would fill a 2.5

million gallon manure storage completely full in 180 days.<sup>1</sup> Thus it appears that the EQB just attempted to figure roughly how much manure 1,000 AEUs would generate to fill a manure storage in 6 months.

The threshold established in the proposed regulations (2.5 million gallons) is not in line with the environmental risks outlined in the federal regulations. A more appropriate threshold for a water quality management permit is 1 million gallons.

The federal regulations place CAFOs in small, medium and large categories. One can assume that the largest facilities have the most manure to store since they generate the most manure. For this reason, the largest CAFOs should be those with which we are most concerned about their manure storage capabilities, all other things being equal. The federal CAFO regulations outline this concern by requiring only the large CAFOs to comply with effluent limitation guidelines. 40 C.F.R. §§ 412.10, 412.20, 412.30, and 412.40. Since the large facilities are those which the federal regulations are most concerned about manure causing pollution, those are the facilities that should be required to obtain a manure storage permit under the water quality management regulations.

The federal CAFO regulations define a large CAFO by animal numbers while the state regulations define the different permitting levels by animal equivalent units. The table below shows how the federal regulations would define a large CAFO and the various AEUs for these animal numbers.

ANIMAL TYPE	NUMBER OF ANIMALS UNDER FEDERAL REGULATIONS	AEUs UNDER STATE REGULATIONS
Mature Dairy Cow	700	910 AEUs
Heifers (0-1)	1,000	375 AEUs
Veal Calves	1,000	250 AEUs
Finishing Swine	2,500	363 AEUs
Sheep	10,000	1,500 AEUs
Lambs	10,000	500 AEUs
Turkeys (toms)	55,000	776 AEUs
Turkeys (hens)	55,000	391 AEUs
Chickens using dry manure storage	125,000	375 AEUs
Hens (layers) using dry manure storage	82,000	285 AEUs
Hens (pullets) using dry manure storage	82,000	116 AEUs
Ducks (layers) using dry manure storage	30,000	210 AEUs
Ducks (growers) using dry manure storage	30,000	107 AEUs

<sup>1</sup> Daily manure production (2.5 million gallons ÷ 180 days) = 13,888 gallons per day  
 Milking cow AEUs generating 2.5 million gallons of manure in 180 days (13,888 gallons per day ÷ 13 gal/AU/day) = 1068 AEUs  
 Swine AEUs generating 2.5 million gallons of manure in 180 days (13,888 gallons per day ÷ 11 gal/AU/day) = 1262 AEUs

The above chart indicates that there is no set AEU figure where a large CAFOs presents an environmental risk, assuming only one animal type and maturity level. The complicating factor for how the EQB interprets this information is that Pennsylvania has a number of blended and mixed animal operations. According to information published in the *Pennsylvania Bulletin* and compiled by PennFuture, of the 130 currently permitted CAFOs approximately 54 of these facilities are mixed animal operations, having more than one animal type at the facility. See CAFO spreadsheet at Attachment D. Approximately 76 are blended animal operations, having at least one animal type at different levels of maturity. *Id.* Thus, the environmental risk of agricultural operations in Pennsylvania is best regulated by considering the different animal types and maturity levels rather than looking at just one specific animal type at one point of maturity.

The issue then becomes how to convert the environmental risk demonstrated by having a single animal type on a farm by animal numbers as calculated in the federal regulations to mixed or blended farms with the environmental risk calculated by AEU's as determined in the state regulations. A logical first choice would be to examine the primary sectors of animal production in Pennsylvania. As far as CAFOs are concerned, most farms have dairy cows, finishing swine and/or chickens of some variety. Chickens are of little impact in this conversation because most litter in Pennsylvania is handled as a dry matter. For the purposes of this conversation, the animals of concern are dairy cows and finishing swine.

According to the EPA, a large dairy operation is 910 AEU's and a large finishing swine operation is 363 AEU's. This dairy figure is close to the 1,000 AEU trigger established in the current state regulations and echoed in the proposed state regulations. However, the swine finishing figure is drastically different from the 1,000 AEU trigger established in the current water quality management regulations. To find some common ground between these two seemingly disparate figures, we turn to an examination of mixed agricultural operations in Pennsylvania that contain swine and dairy. In Pennsylvania, currently permitted CAFOs that contained swine and dairy averaged 645 AEU's, while operations that contained swine and beef cattle averaged 502 AEU's. These farms are generally comprised of one swine finishing house (approximately 300 AEU's) and a healthy dairy herd (approximately 200 AEU's). These numbers seem to find a comfortable middle ground between the two drastically diverse AEU triggers for the individual animals.

Now that a range in the 500 to 600 AEU range has presented itself as a logical starting point, one must determine the amount of manure generated in gallons by a mixed operation containing cows and swine. It would take 427 AEU's of milking cows or 505 AEU's of finishing swine to fill a 1 million gallon manure storage completely full in 180 days.<sup>2</sup> Assuming a mixed facility with one finishing house and a 200 AEU dairy herd, a 1 million gallon manure storage would be slightly more than filled in 180 days.<sup>3</sup>

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<sup>2</sup> Daily manure production (1 million gallons ÷ 180 days) = 5,555 gallons per day  
Milking cow AEU's generating 1 million gallons of manure in 180 days (5,555 gallons per day ÷ 13 gal/AU/day) = 427 AEU's

The 1,000 AEU and 2.5 million gallon triggers for a water quality management permit appear to have no sound basis and are drastically out of line with what the federal government considers an environmental risk, as defined by a large CAFO. However, an examination of the agricultural industry in Pennsylvania shows that a more reasonable and sound threshold trigger for a water quality management permit is 1 million gallons.

B. Manure storage facilities with less than 1 million gallons of storage also present environmental risks and should be required to obtain a water quality management permit.

1. Clay-lined manure storage structures and those located in high quality, exceptional value or impaired watershed should also be required to obtain a water quality management permit.

The proposed regulations establish two sets of facilities that need to obtain a water quality management permit. Proposed 25 Pa. Code § 91.36(a)(3). The proposed first set, discussed above, are facilities with over 2.5 million gallons of manure storage. Proposed 25 Pa. Code § 91.36(a)(3)(ii). As discussed above, PennFuture believes a more proper threshold for this class of facilities is 1 million gallons.

The second set is those facilities that have a storage capacity between 1 million and 2.5 million and meet other conditions. Proposed 25 Pa. Code § 91.36(a)(3)(i). The facilities outlined in the second trigger, those with storages between 1 million and 2.5 million gallons, present an additional environmental risk. The additional conditions that must be met to trigger the need for a water quality management permit at these facilities shows that these facilities must be coupled with another factor to present an environmental risk. A clay-lined storage structure is much more likely to leak than a geotextile lined storage; therefore, storages with clay linings should have a lower threshold for requiring a water quality management permit. Proposed 25 Pa. Code § 91.36(a)(3)(i)(A). Additionally, storages sited near High Quality or Exceptional Value waters should have a lower trigger because they have the potential to pollute pristine waters. Proposed 25 Pa. Code § 91.36(a)(3)(i)(B). Manure storages that are in close proximity to impaired waters also have the potential to add pollution to an already fragile stream. For this reason, manure storages located in impaired watersheds should have a lower trigger for requiring a water quality management permit. Proposed 25 Pa. Code § 91.36(a)(3)(i)(C).

Because the facilities outlined in Proposed 25 Pa. Code § 91.36(a)(3)(i) present a risk of pollution when coupled with an additional factor, the trigger for a water quality

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Swine AEU's generating 1 million gallons of manure in 180 days (5,555 gallons per day ÷ 11 gal/AU/day) = 505 AEU's

<sup>3</sup> 427 AEU's of milking cows or 505 AEU's of finishing swine would completely fill a 1 million gallon manure storage in 180 days. 300 AEU's of finishing swine would fill a 1 million gallon manure storage pit 59% of the way in 180 days. Additionally, a dairy herd of 200 cows would fill a 1 million gallon manure storage pit 46% of the way in 180 days. Therefore, a mixed agricultural operation with one swine finishing barn and a 200 AEU dairy herd would slightly more than fill a 1 million gallon manure storage pit in 180 days.

management permit should be lower on them. As argued above by PennFuture, the trigger for the facilities in Proposed 25 Pa. Code § 91.36(a)(3)(ii) should be 1 million gallons. Therefore, the trigger for the manure storage facilities in Proposed 25 Pa. Code § 91.36(a)(3)(i) should be something less than 1 million gallons.

2. Manure storage facilities near an impaired waterway should automatically trigger the need for a water quality management permit without adding the requirement that the storage structure be located on an agricultural operation that is not implementing an approved Nutrient Management Plan.

The proposed regulation requires a manure storage facility to obtain a water quality management permit if “[t]he nearest downgradient stream that has been assessed and has been determined by the Department to be impaired from nutrients from agricultural activities and the manure storage facility is on an agricultural operation that is not implementing a Nutrient Management Plan approved by the State Conservation Commission under Chapter 83, Subchapter D (relating to nutrient management).” Proposed 25 Pa. Code § 91.36(a)(3)(i)(C). As argued above, serious environmental risk is posed by manure storage facilities located in impaired watersheds. The design, construction and operation of these facilities are of utmost concern because any pollution from them could further degrade the water quality. However, the presence or absence of an approved nutrient management plan for the agricultural operation presents little additional protection from a pollution event because NMPs do not involve engineering review of the design and construction of the manure storage structure. Pre-construction review of the design of manure storage occurs only through the Water Quality Management permitting process. Exemptions for operations with a NMP doesn’t make sense because a NMP does not include review and approval for design, location and other factors considered during the Water Quality Management permitting process. It would be irrational to give a NMP exemption to an operation that has its Water Quality Management permit for its storage structure, because there would be no review of manure content, manure applications and other important factors considered during the nutrient management planning process. The converse is true of giving a WQM permit exemption to facilities that have a NMP. Thus, any facility with a manure storage structure located near an impaired watershed should be required to obtain a water quality management permit.

C. Clarification is needed in the regulations as to how the manure storage capacity is calculated when determining if an agricultural operation needs a water quality management permit under Proposed 25 Pa. Code § 91.36(a)(3).

1. All manure storage structures and impoundments located on a farm should be included in the figure to determine the total manure storage capacity for purposes of issuing a water quality management permit.

The water quality management regulations establish different regulations for facilities with different sizes of manure storage. As written, although objected to above, the proposed regulations require a water quality management permit when the storage capacity is between 1 million and 2.5 million gallons and certain other conditions are met, or if the storage capacity is over 2.5 million gallons. Proposed 25 Pa. Code § 91.36(a)(3). The definition in Proposed 25 Pa. Code 91.1 indicates that a manure storage facility includes "a group of structures or facilities at one agricultural operation." As a result, an agricultural operation would need a water quality management permit if the total manure storage exceeded either of the thresholds listed above.

The storage capacity of under barn pits must be included in this calculation of total manure storage capacity. Although under barn pits are used to transfer manure to an alternate storage location, all under barn manure storage structures can and are used, to at least some extent, as manure storage, if only for a brief period, and should be considered in the calculation of manure storage for triggering the requirement for obtaining a water quality management permit. Additionally, storage facilities that are no longer in use must be included in the calculation of manure storage capacity. The operative concept is the manure storage capacity of the farm, not the amount of storage actually in use. Therefore if a farm has an existing storage structure it should also be considered in the figure to determine manure storage capacity for purposes of triggering the need for a water quality management permit. To clarify these points, PennFuture recommends adding the word "total" before "manure storage capacity" in both Proposed 25 Pa. Code §§ 91.36(a)(3)(i) and (ii).

2. All manure storage structures and impoundments located at multiple farms sites but under the joint operation and control of one farming operator should be included in the figure to determine the total manure storage capacity for purposes of issuing a water quality management permit.

Another clarification in the regulations is needed where a farmer has the farming operation based out of more than one physical location. It is becoming increasingly common for farmers to have their farming operations spread out at over more than one physical location, for example, by having heifers and dry cows at one location and milking cows at another. In this situation the agricultural operation is still operating as a

basic unit, with manure management decisions for all farming locations being made by one operator. Because manure management decisions are being made by the farm operator, the water quality management permit triggers should apply to all of that operator's properties that are being used as a single unit. In the past, the Department has issued CAFO permits for farming operations being run from multiple sites. By extension, the EQB should follow suit and regulate the manure storages at these facilities in a similar manner.

- D. The physical location of a manure storage facility should be considered by the Department before issuing a water quality management permit to the facility.

Location matters, especially when it comes to the siting of manure storage facilities. The Department should also be required to analyze whether the chosen location is an acceptable location measured against geological composition and soil investigation. The geological composition of the earth beneath a manure storage facility can greatly impact its structural integrity. "A soils investigation to determine depth to bedrock, water table, and type of soils at the site is critical when determining site suitability for an earthen manure storage pond." Vernon County, Wisconsin Land & Water Conservation Department, Manure Storage (visited July 29, 2004) <http://www.lwcd.org/manure.htm>. Minnesota and Missouri requires a similar site analysis. See John P. Chastain and Larry D. Jacobson, *Site Selection for Animal Housing and Waste Storage Facilities*, Biosystems and Agricultural Engineering, University of Minnesota Extension Program, AEU-6 (last modified January 16, 2004) <http://www.bae.umn.edu/extens/aeu/aeu6.html>; Donald Pfof and Charles Fulhage, *Selecting a Site for Livestock and Poultry Operations*, Department of Biological and Agricultural Engineering, University of Missouri Extension, EQ378 (Last modified June 5, 2000) <http://muextension.missouri.edu/xplor/envqual/eq0378.htm>. Minnesota requires "the bottom of a waste storage [to] be 2 feet above the seasonally-high water table and 5 feet above normal bedrock if the soil is heavy. If the proposed site has fractured bedrock or very sandy soil then the depth to bedrock should be at least 10 feet." Id.

In addition to assuring the structural integrity of a storage structure, it should be the goal of the Department to keep manure storage facilities a safe distance from certain physical land features, such as wetlands. A manure storage facility sited close to wetlands presents the potential for pollution to the wetlands if the storage facility leaks or is overtopped. Minnesota requires that all manure storage facilities be 300 or more feet from any wetland. John P. Chastain and Larry D. Jacobson, *Site Selection for Animal Housing and Waste Storage Facilities*.

Certain locations upon an agricultural operation may present a more suitable location for a storage facility given the proximity to neighbors. Colorado State University Cooperative Extension states that critical considerations for siting an agricultural operation include: "distance from neighbors (1 mile minimum), wind direction (downwind from neighbors), land base for manure disposal, good soil drainage,

and visibility." J.G. Davis et. al, *Liquid Manure Management*, Colorado State University Cooperative Extension, no. 1.221 (last modified June 09, 2004) <http://www.ext.colostate.edu/pubs/livestk/01221.html>. Minnesota mimics these factors by stating that the following should be evaluated when siting a manure storage facility: "direction of prevailing winds, distance to neighbors and the farm residence, topography, and presence of natural windbreaks." John P. Chastain and Larry D. Jacobson, *Site Selection for Animal Housing and Waste Storage Facilities*. Manure storage structures are recommended to be located so the prevailing winds do not direct odors and particulate matter toward the farm residence or neighbors. Id.

Manure storage facilities should also be a minimum distance from neighboring properties. Different states suggest different separation distances, but anywhere between a quarter of a mile and one mile seems to be the norm. "The topography of the area can also have an effect on the separation distance due to a condition called air drainage. During calm summer evenings the air near the ground begins to cool and drifts down-slope since cool air is heavier than warm air. If a livestock building or waste storage is located uphill from a town or cluster of houses the cool air will flow past the livestock facility, may pick up unpleasant odors, and may create a nuisance around dwellings in its path. As a result, it is best to choose a site that is not up-slope from the residences of neighbors." Id.

The proposed water quality management regulations do not require the Department to analyze site specific factors regarding the location of a manure storage facility. Proposed 25 Pa. Code §§ 91.36(a)(1) and (4). As discussed above, other states have recognized the need to examine whether a location is appropriate for a manure storage facility. In fact, Pennsylvania's proposed Nutrient Management Regulations also establish standards for the "location" of manure storage facilities. Proposed 25 Pa. Code § 83.351. The Nutrient Management regulations state that, "[m]anure storage facilities shall be designed, constructed, **located**, operated maintained, and if no longer used for the storage of manure, removed from service, in a manner that protects surface water and groundwater quality, and prevents the offsite migration of pollution. . . ." Proposed 25 Pa. Code § 83.351(a)(1) (emphasis added). The proposed Nutrient Management regulations continue that, "manure storage facilities shall be designed and **located** in accordance with the following criteria: (i) Facilities shall comply with the applicable criteria in § 91.36 (relating to pollution control and prevention at agricultural operations)." Proposed 25 Pa. Code § 83.351(a)(2) (emphasis added). Thus, the Nutrient Management regulations require an analysis of the manure storage facility location, but the water quality management regulations do not contain such a requirement. Additionally, the Nutrient Management regulations, while discussing the analysis of location criteria, directly reference the water quality management regulations which don't address location criteria. PennFuture suggests that the EQB require an analysis of location criteria in the NPDES CAFO program in the water quality management regulations.



- E. Section 91.36(a)(4) of the water quality management regulations should be revised to clarify the regulatory threshold for manure that is mixed with swine, poultry and/or veal manure.

The water quality management regulations state that manure storage facilities must prevent discharges to surface waters during either a 25-year/24-hour storm or a 100-year/24-hour storm. Proposed 25 Pa. Code § 91.36(a)(4). Agricultural operators generally must prevent a discharge during a 25-year/24-hour storm. Id. However, if the agricultural operation has a new manure storage facility for swine, poultry or veal manure, then the facility must prevent a discharge during a 100-year/24-hour storm event. Id.

The water quality management regulation states:

All manure storage facilities at CAFOs as defined in Chapter 92 (relating to NPDES permitting, monitoring and compliance) shall be designed, constructed, operated and maintained to prevent discharges to surface waters during a storm event up to and including a 25-year/24-hour storm, except for new or expanded *agricultural operations* that are CAFOs, that commenced operations after April 13, 2003, and that include swine, poultry or veal calves. The *facilities* for those swine, poultry or veal calves shall prevent discharges to surface waters during a storm up to and including a 100-year/24-hour storm.

Proposed 25 Pa. Code § 91.36(a)(4) (emphasis added).

Because Pennsylvania has a number of mixed and blended agricultural operations, the intention of the EQB seems to be to require a higher discharge prevention standard at manure storage facilities for swine, poultry or veal. However, the EQB's use of the word "agricultural operation" and then later use of the term "facilities" leaves some ambiguity. The EQB likely only meant to require the higher protection (100-year/24-hour storm) for new or expanded swine, poultry and veal manure storage facilities. Additionally, the EQB likely meant to include any manure storage facilities that contain manure blended with swine, poultry and veal manure.

Many agricultural operations use a centralized manure storage facility. All animal manure gravity flows from the barns or animal concentration areas to a central location, usually a lagoon. Manure is then managed from this centralized location. However, since manure flows from different barns or animal concentration areas, manure from different animal types (i.e. blended and mixed animals) could be combined at the centralized manure storage. For new or expanded CAFOs, the question becomes whether this mixed manure storage facility should be regulated under the threshold for the swine, poultry and veal manure, 100-year/24-hour storm event, or the threshold for all other manure, 25-year/24-hour storm. Proposed 25 Pa. Code § 91.36(a)(4). PennFuture suggests that manure storage facilities holding any manure mixed with swine, poultry and/or veal should be required to prevent a discharge to surface waters during a 100-year/24-hour storm event.

Swine, poultry and veal manure present the greatest risk to waters of the Commonwealth. According to The Agronomy Guide 2002, these types of manure have the highest concentrations of nitrogen and phosphorus. The Agronomy Guide 2002, p. 36. Clearly "diluting" swine, poultry and veal manure with manures of lower nutrient values would decrease the potential for pollution during a major storm event. However, mixing manure would still create manure with a nutrient level somewhere between the swine, poultry and veal nutrient levels and all other manures. But, the nutrient concentration of the mixed manure will be greatly impacted by the quantities of the various manures added to the mixture. The resultant manure will still present an elevated risk to waters of the Commonwealth during a major storm. For this reason, any manure storage facility holding manure that has been mixed with swine, poultry or veal should be required to prevent a discharge during a 100-year/24-hour storm. It is important to note that this requirement would only apply to new or expanded facilities, so the operator would have the chance to make manure handling changes if he or she did not wish to be regulated at the higher standard. Thus, the operator could choose to handle different kinds of manure separately at a new or expanded operation if he or she did not wish to have the 100-year/24-hour regulation apply to mixed manure storage facilities.

The EQB should revise the second sentence of 25 Pa. Code § 91.36(a)(4) to read "At such agricultural operations, all facilities that receive manure from swine, poultry or veal calves shall prevent discharges to surface waters during a storm up to and including a 100-year/24-hour storm."

F. The Nutrient Management Program's allowance of in-field manure stacking will send many poultry farmers, unknowingly, into the federal CAFO regulatory structure.

The practice of stacking manure in-field may present a conflict between the Nutrient Management regulations and the federal CAFO regulations. The proposed Nutrient Management regulations allow for dry manure to be stacked in-field if the manure is spread by the beginning of the next growing season. Proposed 25 Pa. Code § 83.294(h). However, the manure does not have to be covered when it is stacked in-field. Because the manure does not have to be covered, it takes on various amounts of moisture and presents the possibility of leaching contaminants into the ground. "Stockpiling litter uncovered on the soil can result in a fivefold reduction in the nitrogen content of the manure. The nitrogen lost from the manure can be carried by water to surface streams or ditches and into the groundwater." R. A. Bucklin et al., *Storage of Broiler Litter*, Dairy and Poultry Sciences Department, Florida Cooperative Extension Service, Institute of Food and Agricultural Sciences, University of Florida, Factsheet PS-15 (May 2004) <http://edis.ifas.ufl.edu/PS003>.

EPA has taken the position that manure should only be stacked in-field for less than 2 weeks if uncovered. EPA states that after this amount of time, the manure becomes liquid manure and is subject to different obligations under the CAFO regulations. Thus, a chicken facility that stacks manure in-field for more than 14 days would become a large CAFO under the federal regulations if it has more than 30,000

birds. Final Rule 40 C.F.R. § 122.23(b)(4)(ix). The facility would then have the obligation to obtain a CAFO permit within 90 days from being designated a CAFO. Final Rule 40 C.F.R. § 122.23(g)(5).

To prevent poultry operations from unknowingly making themselves subject to the CAFO regulatory scheme by engaging in a practice allowed by the Nutrient Management regulations, Section 83.294(h) should either require that manure be covered if it is to be stacked in the field for more than two weeks or alert operators that they may be classified as a large CAFO under 40 C.F.R. § 122.23(b)(4)(ix) for handling the litter as a liquid.

**V. THE PROPOSED CAFO AND WATER QUALITY REGULATIONS ARE INADEQUATE BECAUSE SURFACE WATER QUALITY IS NOT MAINTAINED AND PROTECTED AS REQUIRED FOR HIGH QUALITY AND EXCEPTIONAL VALUE STREAMS UNDER THE ANTIDEGRADATION REGULATIONS.**

Surface waters are protected by the Department in an attempt to maintain the water quality. An important mechanism in Pennsylvania used to protect the surface waters is the antidegradation program. The antidegradation protections promulgated by the Department are applicable to surface waters. 25 Pa. Code § 93.4a(a). The Department requires existing instream water uses to be maintained and protected. 25 Pa. Code § 93.4a(b). The water quality of High Quality waters must be maintained and protected unless important social or economic justifications can be demonstrated by an applicant for a reduction in water quality. 25 Pa. Code § 93.4a(c). The water quality of Exceptional Value waters must be maintained and protected under the antidegradation policy. 25 Pa. Code § 93.4a(d).

The responsibility to implement the antidegradation regulations is split between point source dischargers and nonpoint source dischargers. The Department has designated agriculture as a nonpoint source activity with respect to the antidegradation implementation. Commonwealth of Pennsylvania, Department of Environmental Protection, Water Quality Antidegradation Implementation Guidance, p. 39, document number 391-0300-002 (November 29, 2003). However, the Clean Water Act specifically classifies CAFOs as point source dischargers. 33 U.S.C. § 1362(14). The regulations promulgated under the Clean Water Act also classify segments of CAFOs as point source dischargers. 40 C.F.R. § 122.23(a). It is recognized that a discharge resulting from a land application area in accordance with an approved Nutrient Management Plan is exempt from classification as a point source under the agricultural stormwater discharge exemption. 40 C.F.R. § 122.23(e). However, there is no exemption for production areas including, but not limited to animal confinement areas, manure storage areas and raw material storage areas. 40 C.F.R. §§ 412.12(a), 412.13(a), 412.15(a), 412.25(a), 412.26(a), 412.31(a), 412.32(a), 412.33(a), 412.35(a), 412.43(a), 412.44(a), 412.45(a), and 412.46(a). Thus, CAFOs actually are a hybrid of point source and nonpoint source elements. Assuming land application in accordance with a Nutrient Management Plan, crop fields are the only nonpoint source element of a CAFO.

Therefore, the Department should require a hybrid antidegradation analysis for CAFO operations. The land application area (i.e. crop fields) should have to meet the standard for nonpoint source dischargers; while the production areas (i.e. animal confinement areas, lagoons and other manure storage structures) should have to meet the standard for point source dischargers. Under this analysis, land application areas receiving manure applications in accordance with a nutrient management plan would have to implement "cost-effective and reasonable best management practices." 25 Pa. Code § 93.4c(b)(2). This standard is currently met by the Department because best management practices are required in nutrient management plans.

However, the Department must require a different standard for the point source elements of a CAFO, such as the production areas. In a HQ and EV water, the Department must require a person proposing a new facility or an expanded facility to evaluate nondischarge alternatives and utilize either an environmentally sound and cost-effective alternative or the best available combination of cost-effective treatment, land disposal, pollution prevention and wastewater reuse technology. 25 Pa. Code § 93.4c(b)(1)(i)(A). Additionally, the Department must require a public hearing if the CAFO production areas are in EV waters. 25 Pa. Code § 93.4c(b)(1)(ii)(A). Finally, the Department may allow a reduction in the water quality of HQ waters only if important economic or social justifications necessitate. 25 Pa. Code § 93.4a(b)(1)(iii). However, the waters must still be able to support existing and designated water uses. *Id.* The Department may not allow a reduction in the water quality of EV waters.

It is problematic that the Department is ignoring the hybrid nature of CAFOs as a combination of point source and nonpoint source elements. CAFO elements are specifically delineated in the federal regulations as point source discharges. The Department must recognize this classification and integrate an antidegradation analysis into the NPDES CAFO program. The EQB should add language to Proposed Section 92.5a(e) requiring compliance with 25 Pa. Code §§ 93.4a through 93.4c.

**VI. ALL RESPONSIBLE PARTIES WITH OPERATIONAL CONTROL AT AN AGRICULTURAL OPERATION MUST BE REQUIRED BY THE EQB TO BE CO-PERMITTED WITH OWNERS AND OPERATORS ON DEPARTMENT ISSUED CAFO AND WATER QUALITY MANAGEMENT PERMITS.**

One object of issuing a permit to an agricultural operation is to make clear who is accountable to the Department for the environmental stewardship of the facility. However, the CAFO regulations do not require all responsible parties with operational control of an agricultural operation to be a Department permittee.

The EQB currently requires, at a maximum, the owner of the farm where the agricultural operation is located and the operator of the agricultural operation to be Department permittees. However, the EQB is missing a key actor at agricultural operations in Pennsylvania. Pennsylvania agricultural operations are heavily contract based, resulting in a vertically integrated structure. Thus, operational directives often

originate with an integrator. Integrators often dictate the specific animals at an agricultural operation; additionally, in many animal sectors the integrator also owns the animals. Integrators also specify how animals are grown, fed and medicated. All of these considerations greatly affect the amount and nutrient content of manure generated. Most importantly, integrators often dictate the type of physical structure in which the animals are housed, possibly even how the manure is handled.

Linking the integrator and the grower by permit would have desirable environmental effects. When the integrator is liable for manure generated at the sites of its growers, less manure is likely to be produced. Tomislav Vukina, *The Relationship between Contracting and Livestock Waste Pollution, Review of Agricultural Economics*, vol. 25, num. 1, pp. 66-88. Additionally, the nutrient content of the manure is also likely to be lowered. Id.

Of the approximately 179 CAFOs currently permitted or with permit applications pending, 33 integrators hold permits or have applied for them in their name. PennFuture applauds these integrators for taking responsibility for the agricultural operations to which they are linked. Most of these permits are, however, held by one integrator – Country View Family Farms. The EQB should require other integrators to assume responsibility for their livestock and contracted agricultural operations by requiring that all persons with a thirty-three percent or greater ownership interest in the animals housed at a facility or with any contractual or other right to control any operations at the facility be listed as co-permittees on the CAFO permit, along with the owner and principal operator.


**VII. THE PENNSYLVANIA TECHNICAL GUIDE SHOULD BE MADE MORE WIDELY AVAILABLE TO THE PUBLIC TO ENSURE THAT MANURE STORAGE FACILITIES ARE DESIGNED, CONSTRUCTED AND OPERATED IN ACCORDANCE WITH THE STANDARDS MANDATED IN THE GUIDE.**

The Pennsylvania Technical Guide is published by the National Resources Conservation Service. This document is relied upon heavily by the proposed CAFO regulations for technical standards, specifically those related to manure storage facilities. Proposed 25 Pa. Code § 91.36. However, this document is not readily available to the public. An interested party would have to go to a county agricultural extension office to review a copy of the Guide. Additionally, an interested party would have to pay to copy material from the Guide.

PennFuture does not object to the reference to the Pennsylvania Technical Guide to develop standards for manure storage. However, such a reference makes it difficult for interested persons to obtain what those standards actually are. If the EQB is going to make such a reliance on the Technical Guide, it must ensure that this reference document

if more accessible to the general public so that they can review permit applications in a meaningful manner.

Respectfully submitted,



Kimberly L. Snell-Zarcone, Esquire  
Staff Attorney

Attachments

RECEIVED

2007 NOV 10 PM 3:43

REVIEW COMMISSION

Original: 2413

**Stephen B. Graham, D.O.***Women's Health Care, Obstetrics, Gynecology, and Gynecologic Surgery  
Diplomate American Board of Osteopathic Obstetricians and Gynecologists*

RECEIVED

2004 NOV 16 AM 9:05

OFFICE OF THE SECRETARY  
REVIEW COMMISSION*J. C. Blair Memorial Hospital  
Medical Office Building - Second Floor  
Huntingdon, PA 16652  
Office: (814) 644-6388  
Home: (814) 542-8317*

November 2, 2004

**Nutrient Management Regulations  
State Conservation Commission  
Agricultural Building, Room 405  
2301 Cameron Street  
Harrisburg, PA 17110****To Whom It May Concern:**

I am commenting on the proposed changes to the Nutrient Management Act Regulations. I write to you today as a single individual. However, I also write to you as one of over 600 individuals from the Wayne Township, Mifflin County area who recently participated in a petition to assert our opposition to a proposed, environmentally-dangerous CAO near the village of Newton Hamilton. I would ask you to view this letter as representative of the views of the larger group.

Based on our personal experience with the current regulations, it is clear that they are inadequate in a number of ways and require improvement. Our specific comments on the proposed changes are included below:

- The public must be informed of any proposed CAO and its Nutrient Management Plan by publishing in the PA Bulletin and a widely read local newspaper in order that the local citizens can comment before the Plan is approved.
- Manure application records must be available to the public-25 PA Code #83.342(b).
- Manure application and exported manure records should be submitted quarterly to the conservation district and must be available to the public-Code #83.343(a)(4).
- There must be signed agreements between exporters and importers-Code #83.301 and the exporter has the responsibility for proper handling and disposal of the manure if the exporter or its employees applies manure at the import site-Code #83.301(a)(3).
- Plans must include nutrient balance sheets for importing fields for both nitrogen and phosphorus-Code #83.201, #83.301(a)(2) and (4), #83.301(b)(3) and #83.301(e)(3).
- Importers must also comply with required setbacks addressing both nitrogen and phosphorus-Code #83.301(g)(1) and (2).
- The setbacks should be consistent with federal regulations whether or not the manure is incorporated into the soil-Code #83.294(f)(i), and there must not be any waivers-Code #83.351(a)(2)(vii). Setbacks should be at least 150 feet from streams, sinkholes, drainage tiles and other features that convey water.
- Special consideration must be given to impaired watersheds, flooding potential, leaching potential, use of sludge, fields that already contain too much phosphorus.
- Prohibit manure spreading on frozen or snow covered ground-Code #83.294(g), .
- Plans must require testing of process wastewater-40 C.F.R. #122.42(e)(1)(vii), a plan for handling chemicals-#122-42.(e)(1)(v), a plan for disposing of dead animals-#122.42(e)(1)(ii) and an evaluation of potential impact of manure disposal in impaired watersheds, streams with TMDL restrictions, and special protection watersheds.

It is our experience that present and proposed CAOs in our area have failed to comply with the current regulations now in place. Furthermore, the response from government agencies to violations is either too late, or the violator is given chance after chance to rectify the problem. Problems have included:

- Manure spilling over from a full lagoon
- residents sprayed by manure trucks in their own yard
- manure application close to streams, which then turns brown, and when residents retrieve samples, they are rebuffed by DEP officials
- hundreds of dead pigs strewn on the ground for any wild animal to eat, and an AG official says that, "We try to work with the violator."

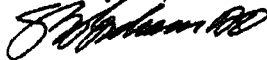
- plans which list importers for manure that have not been verified to see if the importer already has enough manure or is in violation because of improper management
- required inspections not being done
- and, most importantly, proposing these facilities near environmentally sensitive areas such as watersheds, wetlands, and fractured bedrock and KARST geological features, and uphill from private wells.

We believe that the CAO owners and operators know that the government agencies are understaffed and that violations have little consequence. Such fines as there may be are simply part of the cost of doing business. We ask you to set in place effective and enforced regulations that will give real meaning to article 1, section 27 of the Constitution of the Commonwealth of Pennsylvania which states:

The people have the right to clean air, pure water, and to the preservation of the natural, scenic, historic and aesthetic values of the environment. Pennsylvania's public natural resources are the common property of all the people, including generations yet to come. As a trustee of these resources, the Commonwealth shall conserve and maintain them for the benefit of all the people.

Thank you for your attention to this matter.

Grace and peace,



Copy to:

Governor Edward G. Rendell  
State Senator Jake Korman  
State Rep. Larry Sather



112

Original: 2413  
**Hughes, Marjorie**

**From:** amos [amos@jdweb.com]  
**Sent:** Monday, November 01, 2004 8:56 AM  
**To:** regcomments@state.pa.us  
**Subject:** Nutrient Management,CAFO/ALL Farms

Hello

This letter is from: Amos Newswanger  
158 Miller Rd. e-mail: [amos@jdweb.com](mailto:amos@jdweb.com)  
Lewisburg Pa. 17837 Phone (570) 966 9205

Please help use farmers out, if these new PH regulations are passed the way it was proposed it will place server financial hard ship on me, and very possibly put me out of business

I just recently purchased this farm from my parents my first property purchase it has a 2000 head hog finishing barn, I have a total of 74 acres but (only about 18 tillable ) so I depend on local cash croppers to take the manure.

If these Regulations will impose on the importers tough record keeping or other regulations they will tell me they don't need any manure because they can buy chemical fertilizer for a little more money then the cost of hauling manure and have a lot less hassle no Government regulations

Also I'm renting a 2100 head hog barn from my neighbor where I depend on other farmers to take the manure. I believe that the Nutrient Management plan the way it is we do less polluting then there was before there were any big hog finishing barns it has made most farmers aware of better land management practices.

Also I believe we are being discriminated just because we have large animal numbers all animals produce manure if manure is so bad for the environment What about all the small farmers where the barn yarn washes down the stream each time it rains they have absolutely no regulations

What about chemical fertilizer use and golf courses and lawn care company's ????

Way pick on me and other farmers ??

Don't you know were your cheap food comes from Maybe you think imported food is better were you don't have much control how things are done.??

**Just because you don't get much response from Farmers doesn't mean that we are in favor of this**

**Most Farmers are already over worked and under paid**

**Most people pushing for these new Regulations Don't have a clue about farming or where there food comes from**

**Hopefully this will help law makers to understand where I'm coming from**

attached is a letter comments by union county farmers concerns

Thank you

Amos Newswanger

RECEIVED  
2004 NOV 10 PM 3:43  
NUTRIENT MANAGEMENT  
REVIEW COMMISSION



**Comments provided by Union County farmers concerning proposed revisions to Pennsylvania's Nutrient Management Act regulations and CAFO regulations:**

**Nutrient Management Act regulations:**

- We do not necessarily disagree with the State Conservation Commission's decision to more directly address phosphorus loss in nutrient management plans, nor the choice of the Phosphorus Index as an effective and flexible tool in which to address this phosphorus loss, but we are very concerned about the financial impact this initiative will have on our industry. Therefore, we are recommending that the Commission allow for EITHER phosphorus indexing OR phosphorus balancing to be used in nutrient management plans called for under the Act and the CAFO program. This will provide additional flexibility to the agricultural community in its efforts to address phosphorus loss. We are defining "phosphorus balancing" as limiting the amount of phosphorus that will be applied for a given year, to that amount that will be removed by the crop that given year. Also, for situations where the one-year allowable phosphorus application rate is so low (and/or the nutrient content of the manure is so high) that it cannot be practically applied with manure (such as maybe needing less than 2 tons of poultry manure per acre), the Commission should allow a farmer to apply a one time application that will meet the crop needs for up to the next 3 years.
  - If the Commission is not agreeable to also allowing phosphorus balancing for all CAOs and CAFOs, we would recommend that the addition of phosphorus balancing be allowed for existing CAOs and CAFOs only, and not for new operations.
  - Also, we are concerned about how the Commission defines the term "stream or other water body" for its use in the current version of the Phosphorus Index. The identification of streams or other water bodies (as defined for the index) on a farm serves a critical role in the calculation of the Phosphorus Index for a given field.
  - As a footnote, we feel that the Phosphorus Index will space out operations in Pennsylvania due to the increased land base needed to address the index and the inability to economically transport manure long distances. This will address a number of the watershed carrying capacity concerns that the environmental groups have relating to the placement of agricultural operations.
- Possibly require manure exporters to purchase manure application easements from those farms that will be importing their manure. This is ensure that the importing operator will not be able to back out of the arrangement to receive imported manure.
- Fund the transportation of manure from existing farms that are required to, due to the NMA or CAFO programs, export manure from their sites. Do not fund the transportation of manure from new facilities. In this way all required farms have the same requirements but there would be support provided to existing operations in recognition that they developed their business plan based on the old regulations, and not assist proposed new or expanding operations who can determine if a new facility can be cash flowed given the new requirements.

- The Hatfield company representative stated that he would not look to build new facilities in Pennsylvania given the new requirements (both CAO and CAFO requirements combined), and they were looking to build 34 new facilities in Pa.
- Also the Commission should fund community alternative manure treatment facilities or community manure distribution facilities.
- The Commission should house a manure distribution specialist at the conservation district who's responsibility is to find importing sites or distribution centers for excess manure produced on existing CAOs or CAFOs.

CAFO regulations:

- The 100' setback, or 35' buffer for all CAFO manure is extreme and difficult for existing farms to address. Farmers have purchased farm land in order to apply manure to these lands, and to now disallow these applications for existing operations, without due compensation, could put a significant number of farmers into further financial distress.
  - As an overall comment on this requirement, we do not see how CAFO manure is any different from the manure produced on non-CAFO operations so we do not see why these requirements are valid for a CAFO but not other farms. An application of CAFO manure on near-stream areas is no more environmentally sensitive than non-CAFO manure in these same areas so we feel that targeting this requirement on CAFOs is ill conceived.
  - We are concerned about what areas will be identified as requiring this setback. Would this include roadside ditches, waterways, diversions, intermittent streams, wetlands, natural swales, etc? These areas can be very hard to define (open to interpretation), and as this setback area is defined liberally, there could be a very significant amount of land falling within this requirement and therefore a significant impact on the industry's access to land for manure application.
  - We would recommend that this requirement be eliminated because of the extreme financial hardship it is expected to impose on existing operations.
  - We can see how the 100'/35' requirement may be able to be accommodated by new operations, but we do not see how an existing operation, formatted to maintain their operation with their given acreage, could handle this requirement without possible significant financial hardship. Therefore we would recommend as one alternative that the 100'/35' requirement be required of new operations, but not existing operations.
  - Also, as another alternative, we would recommend that this requirement be eliminated for near-stream manure applications that are incorporated within 24 hours of application.
  - As a final alternative, if the DEP insists on imposing this requirement in Pa, we would suggest that it be imposed on all farms in Pa and not just

CAFOs since there is no scientific reason why CAFO manure is more damaging in near-stream areas than is non-CAFO manure.

- Who is proposed to be designated as a CAFO in Pa is problematic. Pa established an industry-accepted definition of a CAFO in Pa several years ago, given the program requirements at that time. Given the proposed revised requirements of CAFOs, the state needs to reevaluate who is relevant to be considered a CAFO. Based on the proposal, DEP is proposing to continue to address the types of operations defined as a CAFO in Pa in the past, as well as include the operations EPA is newly requiring to be a CAFO. We would suggest that if EPA is firmly defining a CAFO under its new regulations, and EPA is firmly requiring DEP to accept this definition of a CAFO for Pa, we would say the DEP should use the EPA CAFO definition and should not add additional farms to that definition, as they had done in the past. We believe that revising the CAFO definition as proposed will impose an unnecessary increased financial hardship on our state's already financially burdened agricultural industry, seeing that EPA is not requiring these other operations (those greater than 1,000 AEUs due to combined animal types, and 301-1,000 AEU CAOs) to be defined as a CAFO requiring an NPDES permit. If DEP could retain the current reasonable program standards that the industry has agreed to follow, than the industry could accept the expanded CAFO definition, but if this new setback/buffer requirement will be imposed on CAFOs (as well as phosphorus planning and new exported manure requirements), we recommend that DEP limit its CAFO definition to only what EPA requires.

As a final note, I want to express that the farm industry does not have the time to attend meetings and hearings to provide comments due to the high workload nature of this occupation. Our lack of attendance at these meetings should not be translated into acceptance of these new program criteria, but should be understood as relating to the lack of time farmers have to attend these meetings.



11-1-04

Original: 2412 193

Original: 2413 137

Hello,

I am sending a copy of the comments made by Union Co. farmers to you, because I believe they are very reasonable & true. I couldn't say it any better.

The only other thing I can say is, if you are going to keep on making new rules & regulations, then be prepared to finance all the costs that will be incurred by the farmer.

Also it appears to me you don't much care where your quality food comes from and you want to stop economic growth and you want to create loss of jobs, because I know there are farmers that will be forced out of business.

Remember agriculture is Pa.'s # 1 industry and we as farmers are the last ones that want to pollute streams.

Sincerely,  
Ray K. Espenshale



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2004 NOV 15 PM 3:44  
REGULATORY  
REVIEW COMMISSION





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  - As a footnote, we feel that the Phosphorus Index will space out operations in Pennsylvania due to the increased land base needed to address the index and the inability to economically transport manure long distances. This will address a number of the watershed carrying capacity concerns that the environmental groups have relating to the placement of agricultural operations.
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As a final note, I want to express that the farm industry does not have the time to attend meetings and hearings to provide comments due to the high workload nature of this occupation. Our lack of attendance at these meetings should not be translated into acceptance of these new program criteria, but should be understood as relating to the lack of time farmers have to attend these meetings. In addition, if these proposed regulations are not changed to be much more farmer friendly, there will be operations in this area that will be forced out of business due to the costs of manure spreading and the lack of land in this area to spread on. Some of these operations not large operations, but simply lack many acres of owned land. Is the goal of these regulations to put farmers out of business?



Ray Espenshade  
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Lewisburg, PA 17837-7556



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17110+9408

