

PA 12-155 Nonpoint Source Phosphorus Workgroup

Meeting notes from January 6, 2014, 1 p.m. meeting, DEEP 2A

Co-Chairpersons:

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Introductions: Chris Malik, Joe Wetteman, Chuck Lee, Cindy Baumann, Bob Scully, Nelson Malwitz, Greg Bugbee, Dave Potts, Amanda Clarke, Lynn McHale on speakerphone, Virgil Lloyd,

Submissions were received and posted on the skydrive site created by Mike Jastremski

No comments on November meeting notes,

Submission of reporting should follow format with

- **Analysis of Problem**
- **Goals and Objectives**
- **Identify Alternative Solutions**
- **Evaluation of Outcome**
- **Discussion of Next Steps**

Discussion of 6 topics: fertilizers,

Number on bag is P_2O_5 multiply by 0.44 to get percent elemental weight basis; further discussion will use elemental P numbers, not P_2O_5 percentages.

P binds to Ca, Al, Fe, Mn, ions in aerobic soil, not much leaching potential, unlike nitrate.

Organic fertilizers contain some P, which is hard to remove. Labels indicate minimum P, Mfrs. cannot overestimate by State law. A bag labeled 0% P could actually contain phosphorus.

Applications of organic lawn fertilizers might apply extra P because fertilizers target N content in application, N and P are typically equal in organic fertilizers.

Runoff from turf is typically low in P. less than 0.9 lbs/acre/year

Application to impervious surfaces, rotary spreaders is a problem, though prohibited by law.

NEIWPCC Regional Clean Water Voluntary Guidelines for Fertilization of Urban Turf, will post to skydrive, <http://neiwpc.org/turffertilizer/turf-docs/finalreport.pdf>

Draft text of recommendations from CT AG Expt. Station is on SkyDrive.

Tests show that many garden soils don't need phosphorus, Applications of high phosphorus for years results in accumulation that persists.

Some phosphorus fertilizers are more soluble than others, as P dissolves, reactions with Ca, Al, Fe, Mn, immobilize it, plant root exudates make it plant available. Rock phosphate not commonly used in agriculture because it releases so slowly. Manure phosphorus can be fairly soluble. Liquid fertilization used in nursery and greenhouse operations can be readily soluble and if it is used on impervious surfaces, loading to surface waters can result. Operations using containers, or sandy soils with lower attenuation capacity can also be sources of nutrients to surface waters.

No-till practices can reduce phosphorus loadings. If P is applied for 10 years to crops, studies show P can be absent from fertilizers for 5 years with no effect on yields. Manure and composted manure applications can lead to overapplication of phosphorus. Tom Morris UConn reference.

Prohibition of manure application on frozen ground or snow covered ground is a consideration, also recommend avoiding manure application to saturated ground or when expecting large storm events. VT has regs. with dates.

CT Manual of Best Management Practices for Agriculture manual 1993, revised 1996, DEP-NRCS

http://www.ct.gov/deep/lib/deep/aquifer_protection/bmps_agriculture.pdf

Animal manure surplus exists. Alternative uses for manure, value added products desirable. Desirable to reduce overapplication in some areas, and better distribute to areas like lawns etc.

P overapplications can possible result in micronutrient deficiencies. P can also bind contaminants like lead.

Proposal to burn wood chips and poultry manure for energy didn't pass financial review

Methane gas digester, solids to cow pots, liquid land applied, liquid has more P, centrifuge removes more than 50-70% of P.

Dairy, Chicken are most prevalent, Beef and Horses lesser: disposal of manure?
Horse not well tracked, only a few permitted facilities for composting.

Reducing P content in animal feed is a consideration, especially in poultry.

Urban Stormwater handout indicates that NPS P export varies with land use types especially Agricultural lands, Livestock production areas may have greater export.

Onsite / septic system recommendations. Brookfield is looking onto remote sensing to locate potential problem areas. Homes built in 50s and 60s in low lying areas wouldn't be built today. Still River / Lillinonah, Candlewood Shores (small lots).

Health Dept and others will formulate recommendations

Tracking system funded for DEEP, but not DPH sector, Funding hard to come by for improved tracking by Health Depts. State and Local. Shoreline communities under order have implemented management systems. Establishment in Westbrook over \$32k.

URI Study / Potts, 6" sandy loam influent 6-7 mg/liter effluent always < 0.5 mg/l
role of Fe

Old systems underperforming, close to groundwater

Systems that meet current code / correct siting

Recommendation that time of sale inspections be considered. Title 5 in MA required funding after 6 month meltdown. Standards for designers?

Failures not related to high groundwater consist of surface breakout. Occurrences in tidal areas.

Onsite wastewater Sub-Committee will be established and meet in 1/17/14 1 p.m.

Comments will be shared with the DEEP NPS Program Plan Update process.

Updated information will be posted as it becomes available at
www.ct.gov/deep/phosphorus

Goal for next meeting: Look at categories determine pollution rates and develop strategies for load reductions.