Strengthening the VPA General Permit:

Managing Animal Feeding Operations in Virginia to Meet State Law and the Bay TMDL

Rachel Cannon, J.D.
3rd Year Law Student
Virginia Coastal Policy Clinic
at William & Mary Law School

Jason Kane, J.D.
2nd Year Law Student
Virginia Coastal Policy Clinic
at William & Mary Law School

WILLIAM & MARY
Law School

WINTER 2014

Contact Us

Please contact Shana Jones at scjones@wm.edu if you have comments, questions, or suggestions.

About the Authors

Rachel Cannon is a third-year J.D. candidate at William & Mary Law School and a member of the fall 2013 Virginia Coastal Policy Clinic. In the summer of 2013, she worked as a Legal Intern at the White House Office of Science and Technology Policy. She worked at the U.S. Department of Justice's Antitrust Division from 2008 until entering law school in 2011. She graduated from Hamilton College in 2008, where she studied neuroscience.

Jason Kane, J.D. forthcoming, is a second-year student at William & Mary Law School and was a member of the fall 2013 Virginia Coastal Policy Clinic. He currently serves as a Research Assistant to the Clinic, a staff member of the William & Mary Environmental Law & Policy Review, a Co-President of the William & Mary Environmental Law Society, and a Director of the William & Mary Public Service Fund. He has interned at the New Jersey Office of the Attorney General. Mr. Kane will serve as a law clerk at the Environmental Protection Agency in the summer 2014. He graduated from The College of New Jersey in 2012 with a Bachelor of Arts in Philosophy.

About the Virginia Coastal Policy Clinic

The Virginia Coastal Policy Clinic (VCPC) at William & Mary Law School provides science-based legal and policy analysis of environmental and land use issues affecting the state's coastal resources and educates the Virginia policy making, non-profit, military, legal and business communities about these subjects.

Working in partnership with Virginia scientists, law students in the clinic integrate the latest science with legal and policy analysis to solve coastal resource management issues. Examining issues ranging from property rights to federalism, the clinic's activities are inherently interdisciplinary, drawing on scientific, economic, and policy expertise from across the university. VCPC has a strong partnership with the Virginia Institute of Marine Science (VIMS) and Virginia Sea Grant.

VCPC conducted this analysis on behalf of the Chesapeake Bay Foundation (CBF), which requested this review and report. We thank CBF for providing VCPC with this opportunity. VCPC is also grateful to the Virginia Environmental Endowment for providing funding to establish the clinic in fall 2012.

A Note from the VCPC Director

This white paper is a shortened version of a detailed legal memorandum written by the authors of this paper. The memorandum is available on our website at www.law.wm.edu/vacoastal.

We welcome feedback on our work. Please contact Shana Jones at scjones@wm.edu if you have any questions or comments.

Introduction

Polluted runoff from farming operations degrades local water quality and impairs the Chesapeake Bay. Upcoming revisions to a Virginia program designed to address this problem provide the Commonwealth with the opportunity to better protect water quality and promote a healthier watershed.

The Virginia Department of Environmental Quality ("DEQ") and the State Water Control Board ("SWCB") manage the state's animal feeding operation ("AFO") programs. One program is the Virginia Pollution Abatement ("VPA") Program, a state law-created regulation governing the pollutant management activities of animal wastes at AFOs of a certain size[1] that utilize a liquid manure collection and storage system, and that are not covered by a federal permit.

The SWCB reissues the VPA Program's general permit every ten years. The current general permit is set to expire on November 15, 2014. The public comment period on the proposed amendments to the VPA General Permit Regulation for Animal Feeding Operations opened on November 18, 2013 and will close on January 21, 2014.

Given the permit's lengthy duration, these revisions present a rare opportunity to ensure that the permit's terms are aligned with Virginia's legal and regulatory commitments and obligations, and are as effective as possible in supporting the largest Chesapeake Bay restoration effort: the Chesapeake Bay Total Maximum Daily Load ("Bay TMDL") and the Virginia Watershed Implementation Plan ("WIP" Phase I and II). While Virginia is currently on track to meeting some of its 2013 milestone targets under the Bay TMDL, to reach the 2025 goal for agriculture, the state must reduce 22.45% of its load for nitrogen, and 52.86% of its load for phosphorus.

This white paper concludes that the SWCB has both the ability and obligation to include additional requirements to strengthen the Virginia Pollution Abatement Program's general permit because:

- **Virginia law requires the SWCB to implement the Bay TMDL and WIPs.**
- **The VPA Permit Program is the primary implementation tool for Virginia to incorporate identified BMPs to provide reasonable assurances that AFO pollution reductions meet WIP milestones and the Bay TMDL 2025 goals.**
- **Although the VPA provisions in Virginia's State Water Control Law limit the contents of the VPA general permit, the law still allows for the inclusion of important Phase I WIP BMPs. For example, Virginia has also committed to have 45% of its streams fenced by 2017 in its Phase 1 WIP. The permit should be revised to better ensure that Virginia meets this goal.**

Background

Virginia contributes 43% of the total phosphorus loads, 41% of the sediment loads, and 27% of the total nitrogen loads into the Chesapeake Bay. The state is the largest contributor of phosphorus and sediment.[2] Agriculture is the largest single source of nutrient and sediment loading into the Bay, contributing 44% of nitrogen and phosphorus loads, and 65% of sediment loads.[3] AFOs contribute predominantly to this problem through their

waste disposal methods.[4] As AFOs generate a significantly large amount of the nutrient load into the Bay, strict regulation of these operations is necessary to protect the watershed.

Federal Accountability to Clean the Bay: The Clean Water Act and the Bay TMDL

The Clean Water Act ("CWA") mandates the establishment of a total maximum daily load ("TMDL") of pollutants for impaired waters that do not meet the statutory standard after point source controls are implemented.[5] In 2010, The United States Environmental Protection Agency ("EPA") established the Bay TMDL,[6] the largest and most complex TMDL in the United States, consisting of 92 smaller TMDLs.[7] It is "designed to ensure that all pollution control measures needed to fully restore the Bay . . . are in place by 2025, with at least 60 percent of the action completed by 2017."[8]

Congress limited the reach of EPA under the Clean Water Act, and WIPs are the states' commitments—not federal legal obligations—to achieve the goals of the Bay TMDL.[9] However, to meet the Bay TMDL's goals, Bay States are committed to provide EPA with "reasonable assurances" that the load allocations will be achieved and water quality standards will be attained.[10] The Bay TMDL outlines an Accountability Framework, under which a state failing to provide reasonable assurances that it will meet its two year milestones may be subject to EPA action within the state to ensure that pollution reductions occur.[11] Under this authority, EPA has stated it could cut require additional pollution reductions from permitted entities or cut funding to state water programs that do not make sufficient progress.[12]

Virginia's TMDL and WIP Commitments

Under the Bay TMDL, Virginia has committed to a watershed cap on pollutant loads.[13] **While Virginia is currently on track to meeting its 2013 milestone targets,[14] to reach the 2025 goal for agriculture, the state must reduce 22.45% of the load for nitrogen, and 52.86% of the load for phosphorus.[15]** In addition, Virginia has milestone targets for implementing certain best management practices ("BMPs") identified in the Phase I WIP.[16] Virginia is on track or ahead of many reported BMP implementations for 2013, although for some BMPs, such as implementing livestock stream exclusion and animal waste management systems, the requirements increase steeply as the 2017 and 2025 milestones approach.[17]

Virginia's Phase I WIP includes TMDL standards and implementation goals for AFOs.[18] As the Phase I WIP is the roadmap to complying with the Bay TMDL, Virginia, through the WIP, commits its AFOs "to reducing nutrient and sediment loads through priority practices and other best management practices."[19] The plan emphasizes that "[i]mplementation of agricultural BMPs approaching the highest practicable levels is necessary to achieve nutrient and sediment reduction thresholds."[20] The WIP identifies specific priority practices that represent five suites of BMPs. The five identified priority practices are (1) nutrient management, (2) vegetative buffers, (3) conservation tillage, (4) cover crops, and (5) livestock stream exclusion.[21] Within each of these priority practices, there are more specific BMPs with their own criteria and implementation targets.

Animal Waste Permitting in Virginia

Under the CWA, EPA regulates certain pollutants from point sources through the National Pollutant Discharge Elimination System ("NPDES") Program.[22] EPA has

delegated this permitting and enforcement authority to the SWCB, although day-to-day operations are carried out by DEQ.[23] The SWCB manages the Virginia Permit Discharge Elimination System ("VPDES") Program, which regulates operations that discharge any pollutant into Virginia surface water from a point source. Virginia offers a VPDES permit for some AFOs, although no AFO currently holds a VPDES permit.[24] As of May 2013, 89 AFOs have applied.[25]

Virginia has a second permitting scheme: the Virginia Pollution Abatement ("VPA") Program. The VPA program was developed pursuant to Virginia's State Water Control Law.[26] The state VPA permit program regulates the pollutant management activities of animal wastes at AFOs not covered by a VPDES permit. The VPA Program consists of both a general permit and an individual permit. AFOs that confine more than 300 animal units of livestock and handle liquid manure must obtain a VPA general permit, which sets out blanket requirements that apply to all operations under that permit.[27] Approximately 140 AFOs are permitted under the VPA program.[28]

Discussion

The State Water Control Board has both the ability and obligation to include additional requirements to strengthen the Virginia Pollution Abatement Program's general permit for the following reasons: Virginia law requires TMDL implementation; the VPA program is Virginia's primary tool for reducing AFO runoff; and state law allows for the inclusion of important BMPs.

I. Virginia Law Requires Implementation of the Bay TMDL and WIPs, Legally Requiring the State to Enact the Provisions and Practices Found within the Plan.

Prior to the Bay TMDL process, Virginia enacted a law affirmatively *requiring* the state to implement TMDLs, and the Bay TMDL and Phase I WIP fall within the law's requirements. Virginia's Water Quality Monitoring, Information and Restoration Act requires the State Water Control Board to: "develop and *implement* [a plan] pursuant to a schedule *total maximum daily loads of pollutants* that may enter the water for each impaired water body as required by the Clean Water Act."[29] The plan must be developed and implemented "to achieve fully supporting status for impaired waters,"[30] and must include elements including target achievement dates, measurable goals, necessary corrective actions, and associated costs, benefits, and environmental impact of addressing water impairment.[31] In other words, the statute requires Virginia's SWCB to develop and implement a plan that matches the description of the Phase I WIP, which acts as a roadmap to implement the Bay TMDL. In enacting this statute, Virginia provided a foundation independent of the CWA that compels the Commonwealth to implement the standards and practices identified in the Bay TMDL and WIPs in order to meet its milestones in 2017 and 2025.[32]

II. The VPA Permit Program is a Key Implementation Tool to Provide Reasonable Assurance of Progress on TMDL and WIP Milestones.

A. The VPA Program is currently the only way Virginia regulates AFO pollution.

The VPA permit program is a primary implementation tool to provide reasonable assurance to EPA that Virginia is meeting its pollution reduction commitments. Currently, there are no Virginia-permitted CAFOs under the VPDES program – all

permitted AFOs in Virginia are under the VPA program.[33] In effect, the VPA program, particularly the general permit, is the mechanism by which Virginia currently regulates AFO waste management. Therefore, presently, the VPA Program is the only means by which to implement changes to AFO regulations that will move Virginia towards meeting its obligations under the TMDL and commitments from the Phase I WIP.

B. Virginia can provide reasonable assurances to EPA that its AFO regulatory program is sufficient by including certain BMPs in the VPA general permit.

The general VPA permit has a ten-year cycle between revisions; the current version is set to expire on November 15, 2014.[34] Accordingly, the next revision will not take place until 2024 – just one year before the 2025 target date for the Phase I WIP.[35] The 2014 revision presents an opportunity to strengthen the general permit to meet Virginia's milestone commitments under the Virginia WIP, and responsibilities under the Bay TMDL.

In presenting an opportunity, the 2014 revision also presents a risk. If EPA determines that Virginia is not effectively implementing the Bay WIPs or meeting their milestones, EPA has the authority to withhold funding or take additional backstop measures, such as expanding the coverage of the federal permits (in Virginia, VPDES permits), increasing oversight of any VPDES permits, requiring additional pollution reductions from point sources or revising water quality standards, or increasing federal enforcement in the watershed.[36] Because the VPA general permit program is the primary means to implement an effective AFO waste management scheme, and because the 2014 permit will remain in effect until 2024, it must be strengthened to reasonably assure to EPA that Virginia will meet its obligations and commitments under the Bay TMDL and WIP.

III. Although the VPA Provisions in Virginia's State Water Control Law Prescribe the Contents of the General Permit, They Still Allow for the Inclusion of Important Phase I WIP BMPs.

While the contents of the general permit are prescribed by state statute, many BMPs identified in the Phase I WIP can be added or strengthened within that framework of regulations. Virginia's SWCB issues and revises the VPA regulations,[37] including the contents of the general permit, pursuant to Virginia's State Water Control Law.[38] The State Water Control Law aims to "prevent any increase in pollution [and] reduce existing pollution"[39] in Virginia's waters.

As the State Water Control Law provides the statutory basis for the VPA permit program, the VPA regulations accordingly must conform to the priorities and standards set out by the legislature in that statute. Some of these criteria are specific in what the general permit shall require.[40] However, some criteria rely on the SWCB's discretion, enabling it to introduce additional requirements beyond the minimum standards identified,[41] or define the practices that are adequate or necessary. **The latter provisions provide an opportunity to include some of the BMPs and priority practices identified in the Phase I WIP into the general permit.**

For example, one provision in the State Water Control Law states that the VPA general permit shall require "adequate buffer zones" between where operators are allowed to apply waste and features that are likely to lead to harm to water quality or

human health.[42] **One WIP priority practice and BMP, stream fencing, supports farmers in ensuring these buffer zones are "adequate".** Stream fencing involves excluding a strip of land with fencing along the stream corridor to protect the water from livestock.[43] This practice is valuable for two reasons: protecting the integrity of a stream, and protecting the integrity of a buffer's functionality. Stream fencing can be placed between grazing pasture and vegetative or grass buffers, which would prevent animals from directly depositing waste into the stream or compromising the health of vegetated buffers. This supports farmers in maintaining an adequate buffer zone to prevent water contamination.[44]

The Phase I WIP commits Virginia to have 45% of streams on agricultural land in Virginia stream fenced by 2017, and 95% fenced by 2025. As of 2009, 15% of streams on agricultural lands were adequately fenced. By 2013, the milestone target requires only 18.6% of these streams to be adequately fenced.[45] This means stream fencing needs to increase nearly 2.5 times to meet the 2017 milestone expectation, and over 5 times to meet the 2025 expectation. Strengthening the general permit by adding stronger stream fencing provisions is the easiest—and perhaps only—way to satisfy Virginia's commitments under the WIP.

Another provision in the statute gives significant discretion given to the Board to determine the structure and content of on-site nutrient management plans, specifying certain minimum criteria, such as that the plans include "storage and land area requirements" and "nutrient management sampling including soil and waste monitoring."[46] It does not, however limit or specifically define what those requirements must be.[47] *Several BMPs relating to AFOs could be introduced or strengthened through this authority.* By including requirements in the VPA general permit that require implementation of these BMPs on permitted AFOs, Virginia can move closer to achieving these milestones, providing reasonable assurance that it is on target to meet its WIP commitments.

The above are only some examples, not a comprehensive review, of agricultural BMPs that potentially could be introduced or strengthened through the general permit. The statute underlying the VPA general permit, although prescriptive, allows for the addition and strengthening of BMP implementation in the general permit. Therefore, the SWCB has the opportunity—as well as a obligation as an arm of the State—to take steps towards meeting the Commonwealth's requirements under Virginia law, and its commitments to implementing Phase I WIP agricultural BMPs.

Conclusion

The VPA permit program is the only current, actual source of regulation for AFO nutrient waste,[48] therefore, the terms of the general permit are the best way to ensure that TMDL targets and WIP best management practices related to AFOs are implemented in Virginia. The next revision of the general permit will not be until 2024— only one year before the Chesapeake Bay TMDL requires implementation of all pollution control measures needed to fully restore the Bay in 2025. Virginia statutes obligate Virginia to implement the Bay TMDL and the commitments through the Phase I WIP. The State Water Control Board has a unique opportunity to strengthen the terms and requirements in the VPA Program's general permit for animal feeding operations to comply with state law, and to

provide reasonable assurance to the Environmental Protection Agency (EPA) that Virginia is upholding its commitments under the Bay TMDL and Phase I WIP. To avoid EPA taking backstop measures, there are effective, well-defined, and feasible ways to strengthen the VPA general permit. While some of the contents of the general permit are prescribed by state statute, many BMPs identified in the Phase I WIP can be added or strengthened within the general permit regulations. These BMPs should be incorporated into the 2014 general permit revision in order to provide reasonable assurance that Virginia will meet its TMDL milestones.

Notes

1 Having 300 or more animal units. See 9 Va. Admin. Code 25-192-10 to 20 (2013).
2 U.S. Envtl. Protection Agency, Chesapeake Bay Total Maximum Daily Load for Nitrogen, Phosphorus and Sediment 4-2, ES-4 to 6 (Dec. 29, 2010) [hereinafter Bay TMDL]. Virginia also contributes 20% of nitrogen from agriculture to the Bay. *Id*.
3 *Id*. at 4-29.
4 Rena Steinzor & Yee Huang, Manure in the Bay: A Report on Industrial Animal Agriculture in Maryland and Pennsylvania (The Center for Progressive Reform, June 2012).
5 33 U.S.C. § 1313(d)(1)(C) (2006).
6 Bay TMDL, *supra* note 2, at ES-2. The Bay TMDL The Bay TMDL has recently been ruled consistent with the provisions of the CWA and Administrative Procedures Act in *Am. Farm Bureau Fed'n v. United States Envtl. Prot. Agency*, 2013 U.S. Dist. LEXIS 131075 (M.D. Pa. 2013).
7 Bay TMDL, *supra* note 2, at ES-3. These tidal segments also have maximum pollution loads.
8 *Id*. at ES-1.
9 Oliver A. Houck, *The Clean Water Act Returns (Again): Part I, TMDLs and the Chesapeake Bay*, 41 Envtl L. Rep. 10208, 10219 (2011).
10 *See Am. Farm Bureau Fed'n v. Envtl. Protection. Agency*, ____ F. Supp. 2d _____ ; 2013 WL 5177530 at *31-33 (2013) (finding that Bay restoration measures set forth by the Chesapeake Bay TMDL is an allowable framework under the Clean Water Act's cooperative federalism scheme).
11 Bay TMDL, *supra* note 2, at 7-1. The Bay TMDL encapsulated under the CWA specific reduction requirements for nitrogen (25%), phosphorous (24%), and sediments (20%), further allocated to states and major river systems.
12 *Id.* at ES-8.
13 Chesapeake Bay TMDL Phase I Watershed Implementation Plan 17-18 (Commonwealth of Virginia ed., 2010) [hereinafter Phase I WIP].
14 EPA Interim Assessment of Virginia 2012-2013 Milestones and WIP Progress (May 30, 2013), http://www.epa.gov/reg3wapd/pdf/pdf_chesbay/InterimAssessments/.VA%20Interim%20Assessment%202012%202013%20Milestones%20and%20WIP%20progress.pdf
15 *Water Quality: 2012-2013 Milestones*, ChesapeakeStat, http://stat.chesapeakebay.net/?q=node/130&quicktabs_10=5&milestonestate2013=VA (last visited Nov. 11, 2013).
16 Phase I WIP, *supra* note 13, at 57.
17 EPA Interim Assessment of Virginia 2012-2013 Milestones and WIP Progress, *supra* note 14.
18 Phase I WIP, *supra* note 13, at 45.
19 *Id.* at 58.
20 *Id.* at 56 (emphasis added).
21 *Id*. at 45, 59.
22 33 U.S.C. §§ 1341 *et seq.* (2006).
23 9 Va. Admin. Code 25-31 *et seq.* (2013).
24 *Id.*
25 EPA Interim Assessment of Virginia 2012-2013 Milestones and WIP Progress, *available at http://www.epa.gov/reg3wapd/pdf/pdf_chesbay/InterimAssessments/VA%20Interim%20Assessment%202012%202013%20Milestones%20and%20WIP%20progress.pdf.*
26 Va. Code Ann. §§ 62.1-44.2 et seq. (1950); § 62.1-44.17:1 (1950).
27 Defined by statute as "a lot or facility where animals are stabled or confined for a total of 45 days or more in any 12-month period, and where crops or vegetative growth is not maintained in the normal growing season over the lot or facility." § 62.1-44.17:1.
28 Memorandum from Betsy K. Bowles, Animal Feeding Operations Program Coordinator, to SWCB (Feb. 2013)(on file with VCPC Clinic).
29 Va. Code Ann. § 62.1-44.19:7(C) (1950) (emphasis added).
30 Va. Code Ann. § 62.1-44.19:7(A) (1950).
31 *Id*.
32 Phase I WIP, supra note 13, at 57.
33 EPA Interim Assessment of Virginia 2012-2013 Milestones and WIP Progress, *supra* note 14.
34 9 Va. Admin. Code 25-192-70 (2013). Approximately 140 AFOs are currently covered under the general

permit.

35 See *supra* note 8 and accompanying text. As mentioned, 60 percent pollution control measures needed to fully restore the Bay must be implemented by 2017, and fully implemented by 2025. PHASE I WIP, *supra* note 13, at 2.

36 BAY TMDL, *supra* note 2, at ES-8.

37 9 VA. ADMIN. CODE 25-192-10 *et seq.* (2013); 9 VA. ADMIN. CODE 25-32-10 *et seq.* (2013).

38 VA. CODE ANN. § 62.1-44.2 *et seq.* (1950).

39 VA. CODE ANN. § 62.1-44.2 (1950).

40 For example, "New waste storage facilities shall not be located on a 100-year flood plain." VA. CODE ANN. § 62.1-44.17:1(E)(6) (1950).

41 For example, "The operation shall be monitored as follows . . .[but DEQ] may include in the permit or nutrient management plan more frequent or additional monitoring of waste, soils or groundwater as required to protect state waters." VA. CODE ANN. § 62.1-44.17:1(E)(4) (1950).

42 VA. CODE ANN. § 62.1-44.17:1(E)(3) (1950).

43 A vegetated buffer zone is a permanent strip of dense perennial vegetation.

44 *Water Quality: 2012-2013 Milestones, supra* note 15.

45 *Id*. This number was calculated from a ratio of the values of 2009 and 2013.

46 VA. CODE ANN. § 62.1-44.17:1(E)(2) (1950).

47 *Id.*

48 *See supra* II.A.

Cover Image Source:
www.chesapeakebay.net