Maryland Department of the Environment v. Assateague Coastal Trust, No. 11, September Term 2022, Opinion by Booth, J.

Environmental Law – Administrative Law – Clean Water Act – Maryland Water Pollution Control Laws.

Under the Clean Water Act, 33 U.S.C. § 1251, *et seq.* and Maryland's water pollution control law, Title 9, Subtitle 3 of the Environment Article of the Maryland Code, the Maryland Department of the Environment ("Department") has the authority to issue general discharge permits upon a determination that the discharge meets all state and federal water quality standards.

After the Department published a Final Determination to reissue, with modifications, a general discharge permit for Animal Feeding Operations ("AFOs") ("2019 General Permit"), Assateague Coastal Trust ("Assateague") filed a petition for judicial review alleging that: (1) the Department's failure to include water quality based effluent limitations violates the Clean Water Act and Maryland's water pollution control law; and (2) the Department either has not regulated ammonia emissions at all, or alternatively, if ammonia emissions are included with the permit conditions, the conditions are insufficient.

The Maryland Supreme Court holds that:

1. The Department's AFO general discharge permit framework—which addresses water quality standards by requiring technology based effluent limitations in the form of best management practices that are prepared for a particular facility based upon site specific conditions, while retaining discretion in the Department to impose additional water quality controls where they are necessary to protect and maintain water quality standards of a particular waterway—is reasonable, and is consistent with federal and state law.

2. There is substantial evidence in the record to reflect that the Department not only acknowledges its authority to regulate ammonia emissions and air deposition through the 2019 General Discharge Permit, but that it has, in fact, exercised this authority by requiring best management practices to address ammonia emissions where they are determined to be a resource concern. The Department's decision to evaluate each AFO individually and to require appropriately tailored best management practices to control these emissions where they present a real risk of discharge, is reasonable and falls within the discretion afforded to the Department by the Legislature under the State's water pollution control law.

Circuit Court for Montgomery County
Case No.: 482915V
Argued: November 3, 2022

IN THE SUPREME COURT
OF MARYLAND*

No. 11
September Term, 2022

MARYLAND DEPARTMENT OF THE ENVIRONMENT

v.

ASSATEAGUE COASTAL TRUST

Fader, C.J.,
Watts,
Hotten,
Booth,
Biran,
Gould,
Eaves,

JJ.

Opinion by Booth, J.
Watts, J., dissents.

Filed: August 9, 2023

* At the November 8, 2022 general election, the voters of Maryland ratified a constitutional amendment changing the name of the Court of Appeals of Maryland to the Supreme Court of Maryland. The name change took effect on December 14, 2022.

This appeal concerns judicial review of the most recent iteration of a general discharge permit that the Maryland Department of the Environment (the "Department" or "MDE") issued to Animal Feeding Operations ("AFOs") in connection with its authority to issue water pollution control permits under the federal Clean Water Act[1] and Maryland's water pollution control law.[2] The current iteration of this general discharge permit for AFOs was finalized by the Department pursuant to certain statutory requirements under federal and state law, which require that the Department review and issue or reissue water pollution control permits every five years.

After the Department published its Notice of Final Determination to reissue with revisions the general discharge permit for AFOs (the "2019 General Permit"), Assateague Coastal Trust ("Assateague") filed a petition in the Circuit Court for Montgomery County seeking judicial review. After the circuit court vacated the permit and remanded the matter to the Department with instructions to incorporate certain water quality standards into the permit, the Department filed an appeal to the Appellate Court of Maryland.[3] While the case was

[1] Codified generally as 33 U.S.C. §§ 1251–1389 (2018).

[2] Maryland Code, Environment (2014 Repl. Vol., 2022 Supp) ("EN") Title 9, Subtitle 3.

[3] At the November 8, 2022 general election, the voters of Maryland ratified a constitutional amendment changing the name of the Court of Special Appeals of Maryland to the Appellate Court of Maryland. The name change took effect on December 14, 2022.

pending in that court, Assateague filed a petition for writ of *certiorari*. We granted the petition to consider the following questions, which we have reordered and rephrased as follows:[4]

1. Whether the Department's Final Determination to issue the 2019 General Permit was reasonable and complied with the water quality standards established under the Clean Water Act and the State's water pollution control law.

2. Whether the Department's permit conditions in the 2019 General Permit that address AFO ammonia emissions were reasonable and complied with the water quality standards established under the State's water pollution control law.

Ultimately, we answer both questions "yes" and uphold the Department's Final Determination.

I.

Statutory Background

Before we turn to Assateague's arguments in support of its challenge to the 2019 General Permit that is the subject of this matter, it is useful to provide an overview of the applicable federal and state laws and regulatory framework. We discuss below the Clean

[4] The questions presented in the petition for writ of *certiorari* are:

1. Whether the Maryland Department of the Environment ("MDE") erred in issuing a General Discharge Permit for Animal Feeding Operations without including controls for ammonia emissions, when Maryland water pollution control laws unambiguously require regulation of ammonia emissions[.]

2. Whether the Clean Water Act and the more stringent Maryland Water Pollution Control laws require water discharge limitations that take into account impaired receiving waters (i.e. water quality-based effluent limitations) where effluent limitations based solely on minimum levels of treatment achieved by technology are ineffective[.]

Water Act and Maryland's water pollution control law, the general permitting scheme for water pollution discharge permits under both federal and state law, as well as the specific federal and state regulations that govern discharge permits for concentrated animal feeding operations ("CAFOs"), as well as other types of AFOs.

A. The Federal Clean Water Act

1. NPDES Permitting Scheme

Congress enacted the federal Clean Water Act in 1972 "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters." 33 U.S.C. § 1251(a). Among its core provisions, the Clean Water Act prohibits the "discharge of any pollutant"[5] to waters of the United States, except as authorized by a permit issued under the National Pollution Discharge Elimination System ("NPDES"). 33 U.S.C. §§ 1251(a)(1), 1311(a), 1342(a)(1). An NPDES permit places limits on the type and quantity of pollutants that can be released into the Nation's waters. These limits are called "effluent limitations."[6] The U.S. Environmental Protection Agency ("EPA") is authorized to issue and enforce these permits. 33 U.S.C. §§ 1319, 1342(a)(1).

---

[5] The term "discharge of a pollutant" means "any addition of any pollutant to navigable waters from any point source." 33 U.S.C. § 1362(12). A "point source" is defined as "any discernible, confined, and discrete conveyance, including but not limited to any pipe, ditch, channel, [or other type of conveyance], from which pollutants are or may be discharged." 33 U.S.C. § 1362(14).

[6] "Effluent limitation" is defined as "any restriction . . . on quantities, rates, and concentrations of chemical, physical, biological, and other constituents which are discharged from point sources into navigable waters." 33 U.S.C. § 1362(11).

The Clean Water Act authorizes the EPA to delegate its NPDES permitting authority to a state. 33 U.S.C. § 1342(b). This regulatory approach enables the federal and state water pollution permitting laws to work in tandem with one another. 33 U.S.C. § 1342(b). State law must be at least as stringent as the provisions of the Clean Water Act; however, a state has the ability to impose more stringent pollution control laws as it desires. 40 C.F.R. §§ 122.44(d), 123.25(a).

State permits must be fixed for terms not exceeding five years and are subject to EPA review. 33 U.S.C. § 1342(b)(1); 40 C.F.R. § 123.44. After a state submits a permit for review, the EPA may make objections or recommendations to the proposed permits. 40 C.F.R. § 123.44. States must take action to eliminate the EPA's objections. 40 C.F.R. § 123.44. Maryland is among the states authorized to issue NPDES permits.[7] The Department administers both the federal and state water pollution permitting programs.[8]

Under both federal and state laws, water pollution discharge permits can take one of two forms. The first type is an "individual discharge permit," which is written to reflect site-specific conditions of an applicant discharging to a designated body of water. The permit terms, conditions, and limitations are based upon extensive information submitted in the application and are unique to that discharger. *See* 40 C.F.R. § 122.21; COMAR

---

[7] *See* U.S. EPA Memorandum of Agreement with the State of Maryland for NPDES, May 18, 1989; *available at* https://perma.cc/4978-DSU9; *see also Piney Run Pres. Ass'n v. County Comm'rs of Carroll County*, 268 F.3d 255, 265 (4th Cir. 2001).

[8] *See* EN § 9-323 (stating that water pollution discharge permits are issued by the Department) and COMAR 26.08.04.07A. (stating that "[t]he Department shall administer the National Pollutant Discharge Elimination System (NPDES) program as part of its own discharge permit system").

26.08.04.02–.07. An individual discharge permit allows specific effluent limitations based on many factors, including the type of industry or operation, the technology available, pollutant constituents, and the characteristics of the receiving body of water. *Id.*

The second type of discharge permit—which is the type at issue here—is a "general discharge permit," which may be issued for a particular industry or category of discharges when they are susceptible to regulation under common terms and conditions. *See* 40 C.F.R. §§ 122.28(a), 123.25; COMAR 26.08.04.08.–.09. General discharge permits include conditions and other eligibility requirements that all facilities must meet to obtain coverage under the general permit. *Id.* Prior to discharging, the operator must file a notice of its intent to discharge in compliance with the general permit. 40 C.F.R. § 122.28(b)(2); COMAR 26.08.04.09N(3)(a). The specific classes or categories of discharges authorized by a general permit are determined at the regulatory agency's discretion. 40 C.F.R. § 122.28(a)(2)(ii)(E); COMAR 26.08.04.08A(4). As we will discuss in more detail herein, the EPA and MDE have both chosen to regulate CAFOs under general discharge permits. 40 C.F.R. § 122.23; COMAR 26.08.04.09N.

2. Pollution Controls in Permits

Under the Clean Water Act, "water quality standards" are the benchmark for clean water. 33 U.S.C. § 1313(b); *Maryland Dep't of the Env't v. County Comm'rs of Carroll County*, 465 Md. 169, 186 (2019). These standards are established under the Act as follows. First, states assess the surface waters within their jurisdiction to determine the known or desired uses for each water body's "designated use" (*e.g.*, public water supply, fishing, recreational use). 33 U.S.C. § 1313(c)(2)(A); 40 C.F.R. §§ 130.3, 131.6; COMAR

26.08.02.01.–.03. The states then establish a water quality standard for any pollutants of concern to reflect the ambient water quality needed to support the known or desired uses. *Id.* All water quality standards proposed by the states are subject to EPA review, and if the EPA does not approve them, the EPA will set the standards itself. 33 U.S.C. § 1313.

To achieve water quality standards, the Act requires that discharge permits include pollution controls for point sources. 33 U.S.C. § 1311(b). "The Act calls these controls 'effluent limitations'—'effluent' being the material discharged by a point source." *Carroll County*, 465 Md. at 186. "Effluent limitations may be 'technology based' or 'water quality based.'" *Id.* We describe the differences between these two types of effluent limitations below.

a. Technology Based Effluent Limitations.

"Technology based effluent limitations are generally the first round of controls in the effort to achieve water quality standards." *Id.* (citing 33 U.S.C. § 1311(b)(1)(A)). They "represent the minimum level of control that must be imposed in a permit[.]" 40 C.F.R. § 125.3(a). The Clean Water Act directs the EPA to issue nationally applicable effluent limitations or guidelines for classes or categories of point sources. 33 U.S.C. § 1314(b). These guidelines—often referred to as "ELGs"—consist of industry-specific, technology based effluent limitations, which require the use of "best practicable control technology currently available" that will result in reasonable progress toward the national goal of eliminating the discharge of all pollutants. *See* 33 U.S.C. §§ 1311(b)(1), 1314(b)(1). If technology based effluent limitations are not sufficient for a particular water body to meet or exceed the water quality standard, the Department is required to impose more stringent

controls—"water quality based effluent limitations," often referred to as "WQBELs"—for those receiving water bodies. 33 U.S.C. § 1311(b)(1)(C); 40 C.F.R. § 130.7(c).

b. Water Quality Based Effluent Limitations.

Water quality based effluent limitations are numerical limitations based on the amount and kind of pollutants in a particular water body affected by a particular discharge and are more stringent than technology based effluent limitations. 33 U.S.C. § 1311(b)(1)(C); 40 C.F.R. § 130.7(c); *see also Carroll County*, 465 Md. at 187. To determine if more stringent controls are needed, states are required to identify any bodies of water within their boundaries where the first round of controls—technology based effluent limitations—are inadequate to achieve or maintain the established water quality standard. 33 U.S.C. § 1313(d)(1)(A).

We recently observed that the two types of effluent limitations "differ in their reference point and in their strategies for reducing pollution." *Carroll County*, 465 Md. at 187. We explained that

> [f]or technology based limitations, the reference point is the source, and the strategy is to deploy pollutant-reducing technology at that source regardless of its contribution of pollutants to the waterway. By contrast, for water quality based effluent limitations, the reference point is the waterway, and the strategy is for the point source to implement any additional actions (beyond the already required technologies) necessary to achieve the applicable water quality standard.

Id. at 187–88 (footnotes omitted). Because water quality based effluent limitations are tied to water quality standards of particular waterways, it is useful to discuss the requirement under the Clean Water Act for states to develop a list of impaired waterways and the EPA's

regulations for establishing Total Maximum Daily Loads or "TMDLs" in connection with impaired waters.

3. Total Maximum Daily Loads ("TMDLs")

An important element for determining the conditions that may appear in a discharge permit is what is known as the TMDL. *Carroll County*, 465 Md. at 190. A TMDL is a numeric measure representing the maximum amount of a pollutant that a particular body of water can receive without violating water quality standards. 33 U.S.C. § 1313(d)(1)(C); NPDES Permit Writers' Manual (Sept. 2010), at 6-11. A water body's TMDL serves as an informational tool to assist regulators in controlling water quality. But "the acronym 'TMDL' has come to refer to more than just a numeric measure of a pollutant." *Carroll County*, 465 Md. at 190. It also refers to the "process and calculations used to determine that level of a pollutant and its allocation among various sources of the pollutant." *Id.* "The document in which an agency calculates the TMDL [for a particular waterway], in the sense of a numeric measure of a pollutant, and allocates that level among various sources of pollution is also sometimes referred to as a 'TMDL.'" *Id.* We will discuss TMDLs as a numeric measure and as a process in turn.

a. <u>TMDL as a Numeric Measure.</u>

"The EPA has elaborated on the meaning of TMDL as a numeric measure of pollution in its regulations." *Carroll County*, 465 Md. at 191. The term "load" refers to a measure of water pollution. *See* 40 C.F.R. § 130.2(e) (defining "load" as "[a]n amount of matter or thermal energy that is introduced into a receiving water"). TMDL is defined in regulation as "the sum of" amounts of the relevant pollutant emanating from various point

and nonpoint sources[9] together with a "natural background" amount of the pollutant and a "margin of safety." 40 C.F.R. §§ 130.2(i), 130.7(c)(1). "To understand this definition of a TMDL as a numeric measure [also] requires an understanding of the TMDL process." *Carroll County*, 465 Md. at 191.

b. TMDL as a Process

The EPA and states work together to establish TMDLs in what has been described as a form of "cooperative federalism." *Maryland Dep't of the Env't v. Anacostia Riverkeeper, Inc.*, 447 Md. 88, 101 (2016) (citing *American Farm Bureau v. EPA*, 792 F.3d 281, 289 (3d Cir. 2015); *Anacostia Riverkeeper, Inc. v. Jackson*, 798 F. Supp. 2d, 210, 214–17 (D.D.C. 2011)). Establishing TMDLs is a multi-step process.

The first step in the process is that a state must establish water quality standards for impaired waterways. *Anacostia Riverkeeper*, 447 Md. at 101; *see also American Farm Bureau*, 792 F.3d at 289 (explaining that TMDLs arise after a state enacts water quality standards pursuant to its laws as required by the Clean Water Act). After setting water quality standards, the second step is that states must establish effluent limitations in discharge permits—which is the primary way to meet water quality standards because effluent limitations restrict the discharge of pollutants. *See* 33 U.S.C. § 1362(11). The

[9] Pollutants come from both point and nonpoint sources. As previously noted, the Clean Water Act defines a point source as "any discernible, confined and discrete conveyance, including but not limited to any pipe, ditch, channel . . . or [other type of conveyance], from which pollutants are or may be discharged." 33 U.S.C. § 1362(14). Nonpoint sources come from dispersed areas "where water runs off the land without being collected or channeled into a point source." *Maryland Dep't of the Env't v. County Commr's of Carroll County*, 465 Md. 169, 184 (2019) (footnote omitted).

third step in the TMDL process is based on the direction in the Act that each state identify waterways for which technology based effluent limitations are not achieving water quality standards. *Carroll County*, 465 Md. at 191 (citing 33 U.S.C. § 1313(d)(1)(A)).

"If water quality standards are not being met in a waterway due to excess levels of a particular pollutant, the state is to determine the maximum amount of that pollutant that the waterway can receive without violating water quality standards—*i.e.*, the TMDL for that pollutant as to that waterway." *Carroll County*, 465 Md. at 191 (citing 33 U.S.C. § 1313(d)(1)(c)). "The resulting TMDL—as a cap on the pollutant—is sometimes referred to as a 'pollution budget' or 'pollution diet.'" *Id.* (citing *Norfolk S. Ry. Co. v. City of Roanoke*, 916 F.3d 315, 324 (4th Cir. 2019); *Conservation Law Found. v. EPA*, 964 F. Supp. 2d 175, 179 (D. Mass. 2013)). "The EPA's regulations recognize that, in order for a state to calculate the maximum level of a pollutant that a waterway can tolerate without violating the water quality standards, a state agency must conduct a complex scientific analysis." *Id.* As part of this analysis, the state agency is required to consider, among other things, "the relationship between the water quality standards and the level of the pollutant in the waterway, the various sources of the pollutant, and the extent to which each source contributes to the violation of water quality standards." *Id.* at 191–92 (citing 40 C.F.R. § 130.7(c)).

As we explained in *Carroll County*,

> Once the agency produces its best estimate of the maximum pollutant level consistent with water quality standards—*i.e.*, the TMDL in the sense of a numeric measure of pollution—it must then apportion that amount to the relevant sources of that pollution while allowing for the margin of safety required by the Act. *See* 40 C.F.R. §§ 130.2(i), 130.7(c). The portion

> assigned to each relevant point source is called a "wasteload allocation." 40 C.F.R. § 130.2(h). The portion assigned to each nonpoint source is called a "load allocation." 40 C.F.R. § 130.2(g). In all, therefore, the TMDL—in the sense of the numeric amount—for a given pollutant for a particular waterway is the sum of the wasteload allocations, the load allocations, the natural background, and the margin of safety. 40 C.F.R. §§ 130.2(i), 130.7(c)(1). After a state has determined a TMDL for a particular pollutant with respect to a particular waterway, it is to be submitted to the EPA for approval. 33 U.S.C § 1313(d)(2).

465 Md. at 192.

"When a state submits a TMDL to the EPA, the state provides not only the maximum pollutant amount, but also the various wasteload allocations and load allocations, together with an explanation of the calculations that resulted in that maximum amount and the allocations." *Id.* (citing EPA, *Water Quality Planning and Management*, 50 Fed. Reg. 1774, 1775 (January 11, 1985)).

"To enforce the TMDL limits and corresponding water quality standards, [the] agenc[y] [] issu[ing] [a] discharge permit[] seek[s] to ensure that the total pollution discharged by point sources does not exceed the wasteload allocations in the relevant TMDLs. The combined pollution allocated to all of the point sources should equal the sum of the wasteload allocations in a TMDL." *Id.* at 193.

The Department has developed TMDLs for impaired waterways within Maryland, which have been approved by the EPA. At the time of the State's most recent submission pursuant to the requirements of the Clean Water Act, Maryland has established 568

TMDLs.[10] The establishment of TMDLs and specific water quality standards tied to particular impaired waterways will factor into our discussion of the Department's chosen permit scheme for AFOs. In addition to describing the approval process associated with the individual TMDLs, it is also useful to discuss the Chesapeake Bay TMDL, which looms in the regulatory background of the State's water quality standards.

c. The Chesapeake Bay TMDL and Maryland's Watershed Implementation Plan ("WIP")

In *Anacostia Riverkeeper*, we described in some detail the creation of the Chesapeake Bay TMDL. 447 Md. at 104–07. After decades of multilateral efforts to restore the Chesapeake Bay,[11] in 2009, the EPA began the development of a Chesapeake

[10] *See* Maryland Department of the Environment, *Approved TMDLs*, *available at* https://perma.cc/MG9E-S6QB. Under the Clean Water Act, every two years, states are required to submit their list of impaired and threatened waters to the EPA for approval. *See* 33 U.S.C. §§ 1313(d), 1315(b), 1324(a)(1)(E). The Department submitted its most recent Integrated Report of Surface Water Quality ("Integrated Report") to EPA on January 27, 2022 *available at* https://perma.cc/22ZL-KJKM. The EPA approved the submission on February 25, 2022. Letter from Catherine Libertz, Director, Water Division, EPA to D. Lee Currey, Director, Water and Science Administration, MDE dated February 25, 2022. *available at* https://perma.cc/63Z4-2BD4. According to the Integrated Report, "Maryland has established 568 TMDLs out of a total of 972 water body-pollutant impairments." Integrated Report at 12. These numbers can go up or down each time a list is submitted as impairments are added or deleted based on updated information and data.

[11] Maryland native and United States Senator Charles Mathias was instrumental in the early efforts to address the declining health of the Chesapeake Bay. In the 1970s, Senator Mathias sponsored a congressionally funded, 5-year study to analyze the rapid loss of aquatic life that was affecting the Bay. EPA, *Chesapeake Bay Total Maximum Daily Load for Nitrogen, Phosphorus and Sediment,* 1-3 (December 29, 2010) ("Bay TMDL"), *available at* https://perma.cc/WM8V-PLV7. That study was the first basin-wide assessment of the Chesapeake Bay, its tributaries, and surrounding land. It

Bay-wide TMDL ("Bay TMDL"). EPA, *Chesapeake Bay Total Maximum Daily Load for Nitrogen, Phosphorus and Sediment* (December 29, 2010) ("Bay TMDL"), *available at* https://perma.cc/WM8V-PLV7, ES-4. The Bay TMDL was designed to ensure that all pollution control measures needed to fully restore the Bay and its tidal rivers are in place by 2025. Bay TMDL, at ES-1. After publishing a draft for a period of public review, the EPA adopted the Bay TMDL in late 2010.[12] Although it was developed in 2009 and approved in 2010, the development of the Bay TMDL was a decades-long process. *Anacostia Riverkeeper*, 447 Md. at 106 (citing *American Farm Bureau v. EPA*, 984 F. Supp. 2d 289, 299 (M.D. Pa. 2013); *American Farm Bureau*, 792 F.3d at 291).[13]

---

identified excess nitrogen and phosphorus pollution as the main source of the Bay's degradation. *Id.*

[12] The EPA established the Bay TMDL pursuant to a number of existing authorities, including the Clean Water Act and its implementing regulations, judicial consent decrees requiring the EPA to restore clean water in the Chesapeake Bay and the region's steams, creeks, and rivers that were failing to meet water quality standards, a settlement agreement resolving litigation brought by the Chesapeake Bay Foundation, the 2000 Agreement between certain Bay States, and Executive Order 13508. *See* Bay TMDL at 1-16. The Executive Order directed the EPA to "mak[e] full use of its [Clean Water Act] authorities to lead a collaborative and effective federal and state effort to meet the Bay's nutrient and sediment goals." *Id.* at 1-17. After it was established, the Bay TMDL survived legal challenges before the U.S. District Court for the Middle District of Pennsylvania, as well as the Third Circuit. *American Farm Bureau Fed'n v. EPA*, 984 F. Supp. 2d 289 (M.D. Pa. 2013) *aff'd*, 792 F.3d 281 (3d Cir. 2015), *cert denied*, 577 U.S. 1138 (2016).

[13] Some of these restoration efforts include the Chesapeake Bay Agreement in 1980, another agreement in 1987, amendments to the 1987 agreement in 1992, and the Chesapeake Bay 2000 Agreement. Department of Legislative Services, Office of Policy Analysis, Chesapeake Bay Restoration and the Tributary Strategy: An Analysis of Maryland's Efforts to Meet the Nutrient and Sediment Reduction Goals of the *Chesapeake* 2000 Agreement 3-4 (2007).

The Bay TMDL—the largest ever developed by the EPA—identifies necessary pollution reductions of nitrogen, phosphorus, and sediment across Delaware, Maryland, New York, Pennsylvania, Virginia, West Virginia, and the District of Columbia (the "Bay States") and sets pollution limits necessary to meet applicable water quality standards in the Bay and its tidal tributaries. Bay TMDL at ES-3, 2-6–2-7.[14] These pollution limits are divided by jurisdiction and major river basins based upon state-of-the-art modeling tools, extensive monitoring data, peer-reviewed science, and close interaction with jurisdiction partners. Bay TMDL, ES-1.[15]

[14] The Bay TMDL set Bay watershed limits of 185.9 million pounds of nitrogen per year, 12.5 million pounds of phosphorus per year, and 6.45 billion pounds of sediment per year—representing a 25 percent reduction in nitrogen, 24 percent reduction in phosphorus, and 20 percent reduction in sediment. Bay TMDL, ES-1. The pollutant reductions were allocated among the Bay States by major river basin. Bay TMDL, ES-5, ES-7. Maryland's target loads are scaled to the five major basins in the State, which are the Potomac River basin, the Eastern Shore, the Western Shore, the Patuxent River basin, and Maryland's portion of the Susquehanna River basin. *Id.*

In 2011, the EPA adjusted these figures based upon an updated Chesapeake Bay Program Watershed Model. *See* Letter from Shawn M. Garvin, Regional Administrator, EPA to Robert M. Summers, Secretary, MDE, dated August 1, 2011, *available at* https://perma.cc/2L7Z-2BTE. The new watershed model increased these figures to a total basin/jurisdiction allocation of 191.57 million pounds of nitrogen per year, 14.55 million pounds of phosphorus per year, and 7.34 billion pounds of sediment per year. *Id.* Under the 2011 watershed model, Maryland's allocations were 41.17 million pounds of nitrogen/year, 2.81 million pounds of phosphorus/year, and 1,350 million pounds of sediment/year. *Id.* Maryland incorporated these revised target loads into its Phase II Watershed Implementation Plan ("Phase II WIP"), which we discuss in more detail herein.

[15] The Bay TMDL divides the waterways within the Chesapeake Bay watershed into 92 impaired segments. Bay TMDL, at xiii. Thus, the Bay TMDL "is actually an assemblage of 276 TMDLs: individual TMDLs for each of the 3 pollutants—nitrogen, phosphorus, and sediment—for each of the 92 segments (3 x 92 = 276)." Bay TMDL, at xiii, 2-7.

While the Bay TMDL establishes the pollutant loadings for nitrogen, phosphorus, and sediment needed to restore and maintain the health of the Bay, it does not, by itself, implement the needed pollution controls. Rather, it is an "information and planning tool" designed to make certain that by 2025, all practices necessary to restore the Bay and its tidal waters are in place. Bay TMDL, ES-6. To ensure that the Bay States meet the targets established by the Bay TMDL, the EPA established a unique "accountability framework," the cornerstone of which is the requirement that each of the Bay States develop a "Watershed Implementation Plan" ("WIP") to serve as a roadmap for how and when a jurisdiction plans to meet its pollutant allocations under the Bay TMDL. *Id.* at ES-1. "Each Bay State's WIP serves two basic purposes—to break down the EPA's total Bay TMDL pollutant allocations among geographic areas and among point and nonpoint sources within the state, and to identify the programs and policies that the state will use to achieve those pollutant reductions." *Carroll County*, 465 Md. at 194–95; *see also American Farm Bureau*, 984 F. Supp. 2d at 298, 323.

The EPA directed that the Bay States' WIPs be prepared in a three-phased planning process designed to ensure the involvement of interested parties and offer multiple opportunities to refine the plans over time. Bay TMDL, ES-14. Maryland's WIPs have been developed by the Department together with the Departments of Planning, Agriculture and Natural Resources. *See* Maryland's Phase I Watershed Implementation Plan for the Chesapeake Bay Total Maximum Daily Load, December 3, 2010 ("Phase I WIP"), *available at* https://perma.cc/8SCP-R76E. Maryland's Phase I WIP was

submitted and accepted by the EPA on December 29, 2010.[16] The second phase ("Phase II WIP")[17] and third ("Phase III WIP")[18] were submitted and accepted by the EPA in

[16] Maryland's Phase I Watershed Implementation Plan for the Chesapeake Bay Total Maximum Daily Load, December 3, 2010 ("Phase I WIP"), *available at* https://perma.cc/82FT-JE5Q. Maryland has been a leader in the Bay's Restoration. Maryland's initial efforts predate the establishment of the Bay TMDL. As noted in the Phase I WIP, between 1985 and 2009, Maryland reduced nitrogen pollution by 33% and phosphorus pollution by 38%. *Id.* at ES-3. These reductions were realized notwithstanding a 29% population increase that occurred in the State between 1985 and 2009. *Id.*

Maryland's Phase I WIP highlights the State's efforts to restore the health of the Bay, including being the first State to:

- require nutrient management plans on all farms;
- commit to implementing state-of-the-art technology on all of the State's 69 largest wastewater treatment plants—accounting for 95% of the State's wastewater flows;
- require nutrient removal technology for new and failing septic systems in its Critical Area—land within 1,000 feet of the Bay;
- require environmental site design to reduce stormwater runoff on all new development approved after May 2010 and implement one of the most progressive sets of stormwater requirements for a stormwater (MS4) permit in the Bay Watershed;
- place stringent air pollution controls on power plants reducing air emissions by over 75% from coal fired power plants by 2013[.]

Phase I WIP, ES-3–ES-4. And most notably for purposes of this case, Maryland "was the first state in the watershed to receive federal approval for [its] Concentrated Animal Feeding Operation program that [met] all of the new EPA regulations and require[d] comprehensive nutrient management on poultry operations for the first time." Phase I WIP, ES-3.

[17] The Department and other state agencies charged with the preparation of the State's WIP submitted the Phase II WIP on March 30, 2012. *See* Letter from Robert M. Summers, Secretary, MDE to Shawn M. Garvin, Regional Administrator, EPA dated March, 30, 2012, *available at* https://perma.cc/8C3Y-V278. Thereafter, the Department incorporated updates, new or refined strategies, and narrative reports in a revised Phase II WIP, which was accepted by EPA on October 26, 2012: Maryland's Phase II Watershed Implementation Plan for the Chesapeake Bay TMDL, October 2012 ("Phase II WIP"), *available at* https://perma.cc/U8XG-5VTT.

2012 and 2019, respectively. Each phased WIP allocated allowable loads of nitrogen, phosphorus, and sediment among various pollutant source sectors and identified statewide strategies for reducing the levels of these pollutants that are impairing the Chesapeake Bay. With each iterative phase, Maryland's WIP has been refined to implement key pollution reduction strategies among the five major pollution source sectors—agriculture, natural lands, septic, stormwater, and wastewater—and has "substantial[ly] increase[d]" its 2025 nutrient targets. Phase III WIP, ES-4–ES-5.[19]

Against the backdrop of the Clean Water Act and the EPA regulations, we turn next to Maryland's water pollution control law.

B. Maryland's Water Pollution Control Law

The State's water pollution control law is set forth in Subtitle 3 of Title 9 of the Environment Article of the Maryland Code. The legislative purpose of the subtitle "is to establish effective programs and to provide additional and cumulative remedies to prevent, abate, and control pollution of the waters of the State." EN § 9-302(a). The General Assembly has directed the Department to "cooperate with local governments, agencies of other states, and the federal government in carrying out" the legislative policy of the State's

[18] Maryland's Phase III Watershed Implementation Plan to Restore Chesapeake Bay by 2025, August 23, 2019 ("Phase III WIP"), *available at* https://perma.cc/NY6Y-9ZW5.

[19] Maryland's Phase III WIP states that its "2025 nutrient targets for Bay Restoration are 45.8 million pounds of total nitrogen (TN) and 3.68 pounds of total phosphorus (TP) per year," which "represents a substantial increase in effort over the Phase II WIP, with an additional million pounds of nitrogen reduction required by 2025." Phase III WIP, ES-4.

water pollution control law. EN § 9-302(c).[20] As discussed below, the Legislature has codified some of the specific requirements for discharge permits, while also leaving considerable discretion in the Department to structure permits and determine whether they comply with federal and state law, as well as considerable discretion to promulgate rules and regulations to address other aspects of water pollution.[21] *See* EN §§ 9-313, 9-324, 9-326.

---

[20] The legislative policy of the Maryland water pollution control law, EN § 9-302(b), states:

> Because the quality of the waters of this State is vital to the interests of the citizens of this State, because pollution is a menace to public health and welfare, creates public nuisances, harms wildlife, fish and aquatic life, and impairs domestic, agricultural, industrial, recreational, and other legitimate beneficial uses of water, and because the problem of water pollution in this State is closely related to the problem of water pollution in adjoining states, it is the policy of this State:
>
> (1) To improve, conserve, and manage the quality of the waters of this State;
> (2) To protect, maintain, and improve the quality of the water for public supplies, propagation of wildlife, fish, and aquatic life, and domestic, agricultural, industrial, recreational, and other legitimate beneficial uses;
> (3) To provide that no waste is discharged into any waters of this State without first receiving necessary treatment or other corrective action to protect the legitimate beneficial uses of the waters of this State;
> (4) Through innovative and alternative methods of waste and wastewater treatment, to provide and promote prevention, abatement, and control of new or existing water pollution; and
> (5) To promote and encourage the use of reclaimed water in order to conserve water supplies, facilitate the indirect recharge of groundwater, and develop an alternative to discharging wastewater effluent to surface waters, thus pursuing the goal of the Clean Water Act to end the discharge of pollutants and meet the nutrient reduction goals of the Chesapeake Bay Agreement.

[21] Maryland's water pollution control law defines "pollution" as:

1. General Discharge Permit Overview

Maryland law prohibits the "discharge [of] any pollutant into the waters of this State" unless authorized through a discharge permit issued by the Department. EN §§ 9-322; 9-323.[22] Maryland law is more stringent than federal law because it regulates "nonpoint discharges," *i.e.*, discharges to groundwater and surface water, whereas federal law regulates only "point source" discharges to surface water. *Compare* 33 U.S.C.

> any contamination or other alteration of the physical, chemical, or biological properties of any waters of this State, including a change in temperature, taste, color, turbidity, or odor of the waters or the discharge or deposit of any organic matter, harmful organism, or liquid, gaseous, solid, radioactive, or other substance into any waters of this State, that will render the waters harmful or detrimental to:
> (1) Public health, safety, or welfare;
> (2) Domestic, commercial, industrial, agricultural, recreational, or other legitimate beneficial uses;
> (3) Livestock, wild animals, or birds; or
> (4) Fish or other aquatic life.

EN § 9-101(h).

[22] EN § 9-323(a)(1) states:

> A person shall hold a discharge permit issued by the Department before the person may construct, install, modify, extend, alter, or operate any of the following if its operations could cause or increase the discharge of pollutants into the waters of this State:
>
> (i) An industrial, commercial, or recreational facility or disposal system;
> (ii) A State-owned treatment facility; or
> (iii) Any other outlet or establishment.

§§ 1311, 1342, 1362(12), 1362(14), *with* EN §§ 9-101(b),[23] (l)(1),[24] 9-322. The Department is authorized to issue a discharge permit upon its determination that the discharge meets all state and federal water quality standards and appropriate effluent limits. *See* EN § 9-324 ("Subject to the provisions of this section, the Department may issue a discharge permit if the Department finds that the discharge meets: (1) All applicable State and federal water quality standards and effluent limitations; and (2) All other requirements of this subtitle."). The Department is authorized to issue state discharge permits "on any conditions the Department considers necessary to prevent a violation" of the State's water pollution control law. EN § 9-326(a).

The Legislature has established certain statutory requirements for state discharge permits that are consistent with the federal counterpart established by the NPDES permitting program. For example, discharge permits must be fixed for a term not

---

[23] EN § 9-101(b) defines "Discharge" as:

> (1) The addition, introduction, leaking, spilling, or emitting of a pollutant into the waters of this State; or
> (2) The placing of a pollutant in a location where the pollutant is likely to pollute.

[24] EN § 9-101(l) states, in pertinent part:

> "Waters of this State" includes:
>
> (1) Both surface and underground waters within the boundaries of this State subject to its jurisdiction, including that part of the Atlantic Ocean within the boundaries of this State, the Chesapeake Bay and its tributaries, and all ponds, lakes, rivers, streams, public ditches, tax ditches, and public drainage systems within this State, other than those designed and used to collect, convey, or dispose of sanitary sewage[.]

exceeding five years. EN § 9-328; 33 U.S.C. § 1342(b)(1). Each time a general discharge permit is renewed or reissued, it is subject to review by the EPA and subject to the public participation process outlined in Title 1, Subtitle 6 of the Environment Article. EN § 9-324(b). We discuss this process below.

Prior to issuing or reissuing a general discharge permit, the Department is required to prepare a draft permit and a tentative determination that includes, among other things, a statement that the Department intends to issue a general permit for a certain class of discharges. EN §§ 1-603, 1-604; COMAR 26.08.04.08G(1)–(3). The Department must make the draft permit available for inspection and copying, publish notice of the tentative determination, and allow 30 calendar days for public comment prior to the issuance of the final determination. EN § 1-604(a)(2), (3); COMAR 26.08.04.08G(4)(b). The Department also prepares a "fact sheet," which describes the class of dischargers to be regulated, outlines the proposed permit conditions and limitations, and specifies the procedures for a person to review and copy the tentative determination, draft permit, and related materials. COMAR 26.08.04.08G(2).

The Department must hold a public hearing if a written request is made for a public hearing within 20 calendar days of publication of the notice of tentative determination. EN §1-604(a)(4)(i); COMAR 26.08.04.01–.02. The Department must give a person who attends a public hearing an opportunity to make comments concerning the issuance of a general permit and accept written comments on the proposal to issue a general permit for at least five days after the public hearing. COMAR 26.08.04.08H(5). With respect to public comments, the Department's regulations state that any person who believes that any

condition of a draft permit is inappropriate "shall raise all reasonably ascertainable issues and submit all reasonably available arguments and documents supporting their position by the close of the public comment period, including any public hearing[.]" COMAR 26.08.04.08I(3).[25]

The Department must prepare a final determination if it receives comments adverse to the tentative determination or if the final determination is substantially different from the tentative determination. EN § 1-604; COMAR 26.08.04.08I. A notice of final determination is required to be published, and a party seeking judicial review must file a petition within 30 days of the publication of a notice of final determination. EN §§ 1-604(b)(2), 1-605(b).

Notably, permits issued to discharge pollutants into the waters of the State are not subject to a contested case hearing. EN § 1-601(a)(3), (b). In other words, a person seeking to challenge a final determination of a general discharge permit is not entitled to an evidentiary hearing. Instead, the General Assembly has provided for a right of judicial review for any person who meets the threshold standing requirements and who participated in the public comment process. EN § 1-601(c). Judicial review is limited to the administrative record before the Department. EN §§ 1-601(d), 1-606(c). That record consists of, among other things, the draft permit, the Department's written basis for its final

[25] Any supporting materials which are submitted are required to be "included in full and may not be incorporated by reference, unless they are already part of the administrative record in the same proceeding, or consist of State or federal statutes and regulations, EPA documents of general applicability, or other generally available reference materials." COMAR 26.08.04.08I(4).

determination, documents supporting the stated basis, comments on the draft permit, responses to any comments, and tapes and transcripts of the public hearings. EN § 1-606(c). Judicial review is limited to issues raised during the public comment process unless objections were not reasonably ascertainable during that process or arose afterward. EN § 1-601(c).

Judicial review begins in the relevant circuit court[26] pursuant to the procedures set forth in EN § 1-601 *et seq.* and Maryland Rule 7-201 *et seq.* (rules governing actions for judicial review when a statute authorizes such judicial review). There is a right to appeal the decision of the circuit court to the Appellate Court of Maryland. EN § 1-601(e)(2).

2. The Department's Regulatory and Rulemaking Authority under Maryland's Water Pollution Control Laws

The Legislature has given the Department extensive regulatory authority in connection with its duties and obligations under the State's water pollution control laws. EN §§ 9-313, 9-314. When promulgating rules and regulations under Subtitle 3 of Title 9 of the Environment Article, the Department is required to consider, among other things: existing physical conditions; the character of the area involved, including surrounding land uses; priority ranking of waters as to effluent limits; the nature of the existing receiving water body; the technical feasibility of measuring or reducing a particular type of water pollution; and the economic reasonableness of measuring or reducing the particular type of water pollution. EN § 9-313(b). The General Assembly has also provided the Department

[26] Venue is appropriate in a circuit court for a county in which the activity governed by the permit will occur. EN § 1-601(e)(1). We discuss this requirement in more detail in note 37 *infra.*

with discretion to "[i]mpose, as circumstances require, different requirements for different pollutant sources and for different geographic areas" unless a provision of Subtitle 3 "provides for a particular type of rule or regulation." EN § 9-313(c).

The statute also gives specific directives related to the Department's rules and regulations that set water quality standards and effluent standards. EN § 9-314. Specifically, EN § 9-314(b) states, in pertinent part, that the Department's rules and regulations that set water quality standards and effluent limitations "shall include at least the following:"

> (1) Water quality standards that specify the maximum permissible short term and long term concentrations of pollutants in the water, the minimum permissible concentrations of dissolved oxygen and other desirable matter in the water, and the temperature range for the water.
>
> (2) Effluent standards that specify the maximum loading or concentrations and the physical, thermal, chemical, biological and radioactive properties of wastes that may be discharged into the waters of this State.

The statute further directs that the "[e]ffluent standards set under this section shall be at least as stringent as those specified by the National Pollutant Discharge Elimination System." EN § 9-314(c). Pursuant to its authority, the Department has promulgated water pollution regulations, which are set forth in Subtitle 8 of Title 26 of the Code of Maryland Regulations.

In addition to its rulemaking and regulatory authority, the Legislature has given the Department additional powers and duties, including the authority to:

- administer and enforce the State's water pollution control law and the rules and regulations promulgated pursuant to the law;

- develop comprehensive programs and plans for the prevention, control, and abatement of pollution of the waters of the State;

- advise, consult, and cooperate with the federal government and other state agencies, and industries to carry out the provisions of the law;

- accept and administer grants and loans to carry out the Department's functions;

- encourage, participate in, finance, or conduct studies, investigations and research related to water pollution or its causes, control, or abatement;

- issue, modify, or revoke orders and permits that prohibit discharges of pollutants into the waters of this State or to adopt any other reasonable remedial measures to prevent, control, or abate pollution or undesirable changes in the quality of the waters of this State; and

- exercise every incidental power necessary to carry out of the provisions of Subtitle 9.

EN § 9-319(a).

In connection with the Legislature's directives, the Department has adopted regulations and permitting schemes to address the five major pollution source sectors associated with water pollution—agriculture,[27] natural lands, septic, stormwater, and wastewater. Phase III WIP, ES-4–ES-5. One category of the agriculture pollutant source

[27] It is undisputed that agricultural activities generate water pollution, which can arise from multiple sources. *See* EPA Development Document for the Final Revisions to the National Pollutant Discharge Elimination System Regulation and the Effluent Guidelines for Concentrated Animal Feeding Operations, December 2002 ("EPA Development Document"), 7-1. One particular pollutant source is animal manure, which contains nitrogen and phosphorus. *Id.* at 7-3. Given its high nutrient content, "animal manure can serve as a valuable agricultural resource[]" when growing crops or plants. *Id.* at 7-3. But in an area "where the amount of nutrients in manure generated from AFOs is greater than the nutrient requirements of the crops grown in the area, excess land application has occurred, which can lead to increased nutrient runoff and seepage and subsequent degradation of water resources." *Id.*

is animal feeding operations or "AFOs." The Department has adopted regulations and a permitting process for AFOs that mirrors the EPA's federal regulatory and permitting process for CAFOs. We discuss below these dual permitting processes that the Department administers under both federal and state law.

C. Permitting Process for Animal Feeding Operations ("AFOs")

Both the EPA and MDE have elected to regulate types of animal feeding operations through the issuance of general discharge permits that include technology based effluent limitations in the form of "best management practices" or "BMPs" that are site-specific to each covered operation. 40 C.F.R. § 412.4(c); EN § 9-326. BMPs are defined as "schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of 'waters of the United States.'" 40 C.F.R. § 122.2. "BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage." 40 C.F.R. § 122.2.

As we discuss in more detail below, once the AFO general discharge permit has been issued by the Department, each AFO owner or operator seeking to obtain permit coverage must undergo a site-specific approval process. That process includes the submission of a nutrient management plan that incorporates technology based effluent limitations in the form of best management practices, which are prepared by licensed and certified nutrient planners based upon the specific site conditions of the particular operation and the surrounding features. Each nutrient management plan is subject to public review and comment. If the Department approves the nutrient management plan, its terms are

incorporated as terms and conditions of the permit coverage. Any person aggrieved by the approval of an individual plan and corresponding permit coverage has a right to file for a contested case hearing.

1. Federal Regulations

The EPA regulates point source discharges by a concentrated animal feeding operation ("CAFO"), which is an animal feeding operation that exceeds certain size thresholds and discharges pollutants into navigable waters. Under federal regulations, an AFO becomes a CAFO in two ways: (1) automatically, if it confines a certain number of animals; and (2) if it is specifically designated as a CAFO based on a determination that it is a significant contributor of pollutants to the waters of the United States. 40 C.F.R. 122.23(b)-(c).

The federal regulations establish a "zero discharge" general permit for CAFOs, which prohibits all discharges of pollutants to surface and ground waters from CAFO production areas.[28] *See* 40 C.F.R. § 412.46. The premise of a zero discharge permit is that the property design and implementation of onsite best management practices (or "BMPs") will either prevent nutrient loss or allow for nutrient-uptake by vegetation, thereby eliminating actual discharges to surface and ground waters. *See* 68 Fed. Reg. 7176, 7179 (February 12, 2003). Under the zero discharge permit framework, the EPA regulations establish best management practices for CAFOs, which are non-numerical effluent limitations, but "are still technology-based because they are based on the technology

[28] "Production area" is defined to mean, among other things, the animal confinement area of an AFO, including all housed lots and confinement houses. *See* 40 C.F.R. § 412.2(h).

standards prescribed by the [Clean Water] Act." *Waterkeeper Alliance Inc. v. E.P.A.*, 399 F.3d 486, 496 (2d Cir. 2005); *see also* 40 C.F.R. § 122.44(k) (describing circumstances in which the EPA may promulgate BMPs in place of numeric effluent limitations).

When issuing a permit, the Department is directed to use the best practicable control technology currently available—as established by any effluent limitation that is applicable to the facility—to achieve a level of water pollution control that produces the least impact on water quality. *See* 40 C.F.R. § 125.3(a)(2)(i). With respect to CAFOs, the regulations require the implementation of best management practices to address three particular sources of pollution that are commonly generated by CAFOs: manure, litter, and process wastewater. *See*, *e.g.*, 40 C.F.R. § 412.31. Notably, the federal CAFO regulations do not require the implementation of BMPs to address air emissions. *See generally* 40 C.F.R. §§ 412.31(a).[29]

2. *Maryland's AFO General Discharge Permit Process*

Maryland began regulating CAFOs through regulations and a general permit originally adopted in 1996. The 1996 general permit only regulated CAFOs as defined by federal regulations. *Assateague Coastkeeper v. Maryland Dep't of the Env't*, 200 Md. App. 665, 678 (2011), *cert. denied* 424 Md. 291 (2012). To be covered under the permit, an

[29] Although the EPA does not regulate air emissions through its water pollution point source permits, the Bay TMDL reflects the EPA's "commit[ment] to reducing air deposition of nitrogen to the tidal waters of the Chesapeake Bay from 17.9 to 15.7 million pounds per year[,]" noting that "[t]he reductions will be achieved through implementation of federal air regulations during the coming years." Bay TMDL ES-6.

applicant needed only to submit an application, a notice of intent, and pay the required fees. *Id.*

In January 2009, MDE established new AFO general discharge permit regulations. 36:1 Md. Reg. 24. The regulations governing AFOs are contained in COMAR under Subtitle 8 "Water Pollution" in sections 26.08.01 General, 26.08.03 Discharge Limitations, and 26.08.04 Permits. Maryland's AFO regulations were approved by the EPA on January 29, 2010. EPA, NPDES CAFO Rule Implementation Status—National Summary End Year 2011 (Dec. 31, 2011), *available at* https://perma.cc/AQE6-QTJH. The Maryland AFO discharge permit scheme recognizes that CAFOs are regulated under the Clean Water Act and CAFO owners or operators must obtain an NPDES permit issued by the Department. COMAR 26.08.03.09B(3).

In addition to regulating CAFOs, Maryland also regulates AFOs and Maryland Animal Feeding Operations ("MAFOs"). AFOs are operations that do not meet the CAFO size threshold and are only regulated by the State. *See generally* COMAR 26.08.01.01B(13-2); 40 C.F.R. § 122.23(b)(2); 40 C.F.R. Part 412. MAFOs meet the CAFO size criteria, but discharge pollutants only into groundwater, not surface water. COMAR 26.08.03.09.B(1)(d). MAFOs are not required to obtain an NPDES permit because they do not discharge to surface water, but they are regulated by the Maryland general discharge permit issued for AFOs. COMAR 26.08.03.09C(5)–(6).

The CAFO performance standards established by federal regulation have been incorporated by reference into Maryland's AFO regulations. *See* 40 C.F.R. §§ 122.23, 412.46; COMAR 26.08.03.09B. Specifically, the general discharge permit scheme

imposes a "zero discharge" limitation for AFOs, which prohibits all discharges of pollutants to surface and ground waters from AFO production areas. *See* 40 C.F.R. § 412.46 (related to CAFOs); *see also* COMAR 26.08.03.09B.

Since the 2009 the adoption of the permit scheme set forth in the AFO regulations, the Department has issued two successive AFO general discharge permits—the first in 2009 and the second in 2014 upon the expiration of the first permit. With each issuance of the general permit, the permit conditions have been strengthened.[30] Assateague challenged the Department's issuance of the 2009 General Permit and the 2014 General Permit in two separate cases, and the Appellate Court of Maryland upheld the Department's final determination with respect to both permits. *See Assateague Coastkeeper*, 200 Md. App. at 678–79; *Food and Water Watch & Assateague Coastal Trust v. Maryland Dep't of the Env't*, 2018 WL 2203175 (Md. Ct. Spec. App.), *cert. denied*, 460 Md. 502 (2018). We will discuss these challenges in more detail when we address Assateague's arguments related to the 2019 General Permit.

In order to obtain permit coverage under the general permit, all AFOs are required to submit a notice of intent and an individual nutrient management plan that addresses site-specific conditions, which is subject to the public participation process. COMAR 28.08.04.09N(3). In addition to submitting a notice of intent, each AFO is required to

[30] As a general rule, the Clean Water Act prohibits subsequent iterations of NPDES permits from containing "less stringent" conditions than the provisions in the previous permit—sometimes referred to as the "anti-backsliding prohibition" in the Act. 33 U.S.C. § 1342(o).

develop and implement for their production areas a nutrient management plan—often referred to as a "Required Plan"—that meets the requirements of 40 C.F.R. § 122.42(e) and applicable effluent limitations and standards, including CAFO-specific effluent limitation guidelines set forth in 40 C.F.R. Part 412.

The General Assembly has delegated authority to the Maryland Department of Agriculture ("MDA") to oversee the creation of nutrient management plans, the licensing and certification requirements for the professionals who prepare the plans, as well as rule making and regulatory authority in connection with the preparation and oversight of the plans. Maryland Code, Agriculture Article (2011 Repl. Vol., 2022 Supp.) ("AG") § 8-801.1. The MDA has promulgated regulations that set forth the contents of a Required Plan in COMAR 15.20.08.04. A Required Plan establishes operational and management practices regarding, among other things, waste storage, animal confinement, and land application areas to prevent the discharge of pollutants to waters of the State. The plans are site-specific and prepared by nutrient management planners who are licensed and certified by the MDA. COMAR 26.08.01.01B(53-1), 15.20.04; 40 C.F.R. § 122.42(e)(1)-(6).[31] Plan writers are trained to evaluate an operation's site-specific environmental effects

[31] The development of Required Plans is yet another area which involves oversight by multiple federal and state agencies—the EPA, the U.S. Department of Agriculture, the MDE, and the MDA—and in which the federal and state regulations overlap. The nutrient management plans must meet federal and state requirements. *See* 40 C.F.R. § 122.42(e)(1)–(6); COMAR 26.08.01.01B(53-1). The MDA has promulgated regulations specifying the contents of a nutrient management plan in COMAR 15.20.08.04, and regulations for the recommendations of nutrient management plans in COMAR 15.20.08.05.

and are tasked with developing site-specific practices to mitigate negative environmental impacts. COMAR 15.20.07–.08. After plan writers identify environmental hazards such as waste storage, animal confinement, proximity to waterbodies, and water quality, the plan writers develop mitigation measures in accordance with the standards and specifications developed by the U.S. Department of Agriculture's Natural Resources Conservation Service ("NRCS"). *See* 40 C.F.R. § 122.42(e)(1)–(6); COMAR 26.08.01.01B(53-1).

Required Plans must ensure that appropriate measures are employed to store, stockpile, and manage manure and waste nutrients associated with animal production in accordance with federal and state requirements, including standards and specifications developed by the NRCS. *See* 40 C.F.R. § 122.42(e)(1)-(6); COMAR 26.08.01.01B(53-1). The plans must be based upon an assessment of "possible resource concerns," and they must implement applicable NRCS conservation standards where resource concerns exist. 40 C.F.R. § 122.42(e)(1)-(6); COMAR 26.08.01.01B(53-1).

A "resource concern" is a term of art, defined in the NRCS Planning Procedures Handbook, Title 180, § 600.2(120), as "[a]n expected degradation of the soil, water, air, plant, or animal resource base to the extent that the sustainability or intended use of the resource is impaired." (Nov. 2014). As it pertains to Assateague's challenge to ammonia emissions—which we discuss below—air quality-based resource concerns include "airborne soil and smoke particulates that can cause safety-related problems, machinery and structure damage, health problems, deposition of airborne sediment in water conveyances, airborne chemical drift, odors, and fungi, molds, and pollen." NRCS National Planning Procedures Handbook, Title 180, § 600.2(3).

The Department reviews each Required Plan to ensure that its management practices are sufficiently protective given the specific circumstances of the farm, the surrounding topography, and the proximity of any waterways that may be affected by the farm's operations. The issuance of coverage under the general discharge permit is contingent upon approval of the Required Plan for the particular operation. COMAR 26.08.04.09.

After the plan writer prepares the Required Plan and submits it to the Department, the plan is subject to public review, comment, and a public hearing in accordance with COMAR 28.08.04.09N(3). Any person aggrieved by the Department's final approval of a Required Plan may request a contested case hearing. COMAR 26.08.04.09N(3)(1)(ii). When the Department approves an AFO's Required Plan, the terms are incorporated into the general permit as conditions that are enforceable by the Department. COMAR 26.08.04.09N(3)(l)(iv). In locations or circumstances in which the Department concludes, in its sole discretion, that the general discharge permit does not adequately protect state waters, the Department may require the AFO owner or operator to apply for and obtain an individual discharge permit for that particular facility. COMAR 26.08.04.09N(1)(a). Once a permit is issued, permit holders must comply with monitoring, record keeping, and reporting requirements for discharge permits. COMAR 26.08.04.03. The Department conducts ongoing inspections of the permit holder's operation to ensure compliance with terms of the discharge permit. EN § 9-328.1.

The above-described process for an individual AFO owner or operator seeking general permit coverage mirrors the process established by the EPA for CAFOs. *See*

40 C.F.R. § 122.23(h)(1).[32] This makes sense given the Department's responsibility for administering both the NPDES permits required for CAFOs, and state general discharge

[32] 40 C.F.R. § 122.23(h)(1) establishes the following procedures for CAFOs seeking coverage under a general discharge permit:

> CAFO owners or operators must submit a notice of intent when seeking authorization to discharge under a general permit in accordance with § 122.28(b). The Director must review notices of intent submitted by CAFO owners or operators to ensure that the notice of intent includes the information required by § 122.21(i)(1), including a nutrient management plan that meets the requirements of § 122.42(e) and applicable effluent limitations and standards, including those specified in 40 CFR part 412. When additional information is necessary to complete the notice of intent or clarify, modify, or supplement previously submitted material, the Director may request such information from the owner or operator. If the Director makes a preliminary determination that the notice of intent meets the requirements of §§ 122.21(i)(1) and 122.42(e), the Director must notify the public of the Director's proposal to grant coverage under the permit to the CAFO and make available for public review and comment the notice of intent submitted by the CAFO, including the CAFO's nutrient management plan, and the draft terms of the nutrient management plan to be incorporated into the permit. The process for submitting public comments and hearing requests, and the hearing process if a request for a hearing is granted, must follow the procedures applicable to draft permits set forth in 40 CFR 124.11 through 124.13. The Director may establish, either by regulation or in the general permit, an appropriate period of time for the public to comment and request a hearing that differs from the time period specified in 40 CFR 124.10. The Director must respond to significant comments received during the comment period, as provided in 40 CFR 124.17, and, if necessary, require the CAFO owner or operator to revise the nutrient management plan in order to be granted permit coverage. When the Director authorizes coverage for the CAFO owner or operator under the general permit, the terms of the nutrient management plan shall become incorporated as terms and conditions of the permit for the CAFO. The Director shall notify the CAFO owner or operator and inform the public that coverage has been authorized and of the terms of the nutrient management plan incorporated as terms and conditions of the permit applicable to the CAFO.

permits for AFOs that are not required to obtain an NPDES permit. *See* COMAR 26.08.04.07A.[33]

II.

Procedural History

A. *2019 AFO General Discharge Permit – Administrative Record*

The Department proposed to reissue its AFO general discharge permit in 2019, with modifications. As it did with prior iterations, the Department submitted the permit to the EPA for its review as required by federal regulations.[34] The Department and the EPA corresponded with one another regarding various provisions and requirements in the draft permit. After including the EPA's suggested modifications, the Department published a notice of tentative determination to reissue the permit. The EPA did not exercise its statutory authority to object to that determination.

The 2019 General Permit follows the same regulatory framework as the 2009 and 2014 General Permits. Pertinent to Assateague's challenges raised here, the 2019 General Permit also contained some new provisions. We first describe some of the provisions of

[33] Because the general discharge permit is issued as a joint federal NPDES permit and a Maryland general discharge permit, the face of the permit includes the numeric permit number under both permit schemes—the 2019 General Permit is issued as "Maryland Permit No. 19AF" and "NPDES Permit No. MDG01."

[34] The Department must provide the EPA with the opportunity to object to state-issued general discharge permits to "ensure compliance" with the "[Clean Water Act]or any guidelines of regulations" and to ensure that the state-issued permit will "[a]chieve water quality standards." 40 C.F.R. § 123.44(c)(1), (4), (8) (incorporating the requirements of 40 C.F.R. § 122.44(d)).

the 2019 General Permit that are substantially the same as previous iterations of the AFO general discharge permit, and then describe some of the key additions.

1. Provisions of the 2019 General Permit that are Substantially the Same as in the 2014 and 2009 General Permits

As in previous permit iterations, the 2019 General Permit prohibits all discharges of pollutants to surface and ground waters from AFO production areas, unless caused by a storm event or an upset event in certain limited instances. 2019 General Permit, Part I.B.[35] To obtain coverage under the 2019 General Permit, an AFO owner or operator is required to submit a notice of intent and develop a Required Plan, which must be submitted and approved in order to obtain coverage under the general permit. The 2019 General Permit, Part II, AA. defines "Required Plan(s)" as "those Plans that CAFO and MAFO applicants are required to submit to the Department pursuant to COMAR 26.08.04.09N(3)(b) and the

[35] The general discharge permit creates different prohibitions for different types of AFOs.

For "Existing CAFOs[,]" "no discharge of pollutants, including manure, litter, or process wastewater, to surface waters of the State from CAFO production areas shall be permitted unless the discharge results from a storm event greater than the 25-year, 24-hour storm," as described elsewhere in the general discharge permit. 2019 General Permit, Part II.B.2.

For "New Source CAFOs[,]" "No discharge of pollutants, including manure, litter or process wastewater to surface waters for the State from production areas shall be permitted unless the operator demonstrates that an 'upset'"—as described in the general discharge permit— "has occurred." 2019 General Permit, Part II.B.3.

For "MAFOs[,]" "No discharge of pollutants, including manure, litter or process wastewater, to surface waters for the State from MAFO production areas, regardless of the intensity of the storm event, is authorized under this permit[.]" 2019 General Permit, Part II.B.4.

federal regulations in 40 CFR 122.42(e). These Plans include, but are not limited to, CNMPs[36] and NMPs[37] and any other plans deemed necessary to perform a proper review of the application by the Department." The Required Plan must be prepared for each site by a certified and licensed planner based upon the specific site conditions for a particular operation, using technology based effluent limitations in the form of BMPs as set forth in the federal and state regulatory framework. The comprehensive nutrient management plan that is part of the Required Plan that is developed for a specific operation is required to meet the requirements of the NRCS National Planning Procedures Handbook (NPPH), Part 600.60 A(1)–Component Planning Technical Guidance, Subpart G, Amendment 6, November 2014. The Required Plan must include nine minimum standards to protect water

---

[36] Under the definitions of the 2019 General Permit, Part II, E. states:

> **"Comprehensive Nutrient Management Plan" or "CNMP"** describes and documents a conservation system that is unique to an AFO. The CNMP addresses all aspects of the AFO including animal waste handling, nutrient management, and conservation practices as described in the NRCS National Planning Procedures Handbook (NPPH), Part 600.60 A(1) – Component Planning Technical Guidance, Subpart G, Amendment 6, November 2014, which is consistent with all requirements of COMAR 15.20.07 and 15.20.08 and federal effluent guidelines at Title 40 CFR 412.31. A CNMP satisfies the requirement for a "required plan" for both CAFOs and MAFOs, as defined in Part III.B of this permit. A CNMP includes a nutrient management plan portion and a conservation plan portion, along with an implementation schedule in addition to other NRCS requirements.

[37] Under the definitions of the 2019 General Permit, Part II, U. states:

> **"Nutrient Management Plan (NMP)"** means a plan written by a nutrient management planner certified by the [Maryland Department of Agriculture] that meets all requirements of COMAR 15.20.07 and 15.20.08.

quality, which include: animal waste storage capacity; a setback or vegetated filter strip between litter storage and surface waters; protocols for manure and soil testing; protocols for land application of manure and wastewater; and monitoring and record keeping requirements. 2019 General Permit, Part IV.B.

Some of the 2019 General Permit's general conditions that were included in previous iterations of the permit are:

- A requirement that the permittee comply at all times with the General Permit, the approved Required Plans, the Clean Water Act, and the Maryland water pollution control law

- A right of entry at all times by the Department, or their authorized representatives, as well as researchers authorized by the Department, the Maryland Department of Agriculture, and the EPA, to inspect and copy records, monitoring equipment and methods, sample any discharge of pollutants, take photographs

Part VII. General Conditions, A. and B. The General Conditions also address TMDLs. 2019 General Permit, Part VII.K. That general permit provision states:

> **K. Total Maximum Daily Loads.** Permit requirements are consistent with existing Total Maximum Daily Loads (TMDLs) for impaired water bodies. *Additional TMDLs and wasteload allocations (WLAs) may be determined for nutrients in tidal waters. If WLA assessment for nutrients in tidal waters or a later assessment of wastewater discharged from these operations indicates that WLAs are required, additional or alternative controls or monitoring may be required.*
>
> 1. Best management practices (BMPs) for AFOs are identified in the operation's Required Plans(s) which may include a CNMP, NMP, and a Conservation Plan. At a minimum, the permittee shall implement these BMPs as specified in the Required Plan(s).
>
> 2. *In order to ensure that this permit provides effluent discharge controls consistent with the assumptions and the requirements of the Chesapeake Bay TMDL WLA, the Department may require, during the permit review process, and at any time after the issuance of the permit coverage,*

> *additional BMPs and controls to protect the public health and to protect, maintain and restore water quality, and the existing and designated uses of the waters of the State. For AFOs within the Chesapeake Bay watershed, this may include additional BMPs listed in Maryland's Watershed Implementation Plan (WIP) for Chesapeake Bay. These BMPs may include, but are not limited to, the agricultural practices set forth in the following categories contained in the WIP: Nutrient Management/Annual Practice; Other Practices; Additional BMPs, and: Pasture BMPs.*

(Emphasis added). In addition, "[i]f the Department, in its sole discretion, determines that this General Discharge Permit is not adequately protective of state waters at an operation, the Department may require any person authorized by this permit to apply for an individual State discharge permit." 2019 General Permit, Part VII,M.2.

2. New Requirements Under the 2019 General Permit

In conjunction with its notice of tentative determination to reissue the AFO general discharge permit, the Department prepared a fact sheet, which summarized changes or modifications that were being made from the prior iteration of the AFO general discharge permit. One of the new requirements of the 2019 General Permit identified on the fact sheet was the addition in Part IV.D. subsection 2, which the Department described as the addition "of a section on outdoor air quality for poultry operations . . . [r]equir[ing] the appropriate NRCS Practice Standards if air quality is a resource concern."

Specifically, the new requirement set forth in Part IV.D.2 of the 2019 General Permit states that nutrient management plans prepared for a particular facility must address any "resource concerns" about the particular AFO's air quality: "For poultry: If outdoor air quality is determined to be a resource concern, use appropriate NRCS Practice Standards to address the concern."

During the public comment period on the proposed permit, the Department received numerous written comments and held two public hearings in October 2019 regarding the tentative determination. Two specific and competing comments—one by the Delmarva Poultry Industry, Inc. ("Poultry Industry") and one by Assateague—related to the Department's new permit provision set forth in Part IV.D.2 addressing air emissions. Part IV.D states:

> 1. Odors: the facility shall be operated at all times to minimize nuisance odors associated with process wastewater treatment and storage operations from escaping the facility boundaries.
>
> 2. For poultry: If outdoor air quality is determined to be a resource concern, use appropriate NRCS Practice Standards to address the concern.

The Poultry Industry took the position that the Department had no authority to regulate odors or air quality through a water pollution discharge permit and requested that the Department remove Part IV.D.1 and 2. On the other hand, Assateague maintained that the new language in the draft permit was inadequate. Specifically, Assateague submitted the following written comment concerning the newly added Part IV.D.2:

> The only reference the draft permit makes to the substantial ammonia pollution caused by AFOs is new language in Part IV.D. that advises, but does not require, an operator to "use appropriate NRCS Conservation Practice Standards to address the concern" if "outdoor air quality is determined to be a resource concern." Once again, the framework for determining whether or not something is a resource concern is left up to the owner or operator of the regulated AFO. As such, there are no pollution limits or standards in the draft permit capable of protecting waters of the State, AFO workers, or downwind communities from the massive amount of ammonia emitted by large poultry AFOs, as well as potentially hazardous amounts of particulate matter or any other pollutant.

After reviewing the testimony and written comments received during the public participation process, the Department prepared a report of its findings that summarized the comments it received, identified several revisions to the draft permit in response to those comments, and where no changes were made, provided its explanation to support the permit conditions. With respect to the new requirement set forth in Part IV.D.2., the Department considered the competing comments by the Poultry Industry and Assateague and provided a written response explaining why it was not making changes to the air quality requirements that had been added to that permit provision. In response to the comments received regarding the Department's approach to regulating air pollution and ammonia depositions from AFOs, the Department summarized the comments it had received, and its response, in its report:

> **[Summary of Comments:] The Permit does not adequately address air pollution (particulate matter/ammonia depositions) from poultry house exhaust fans and manure sheds that are deposited in the air and make their way to surface waters causing health and water quality impairments. Air and water quality monitoring are essential to determine impacts to surface/ground water/air quality. The Permit must be amended to reflect air emissions and monitoring requirements based on results from studies to be conducted by December 1, 2021. The Department should require an air sampling plan with results submitted to MDE within a certain period of time. How will MDE regulate these emissions in the Permit and determine impacts to resources? What is the monitoring strategy?**
>
> [The Department's Response:] EPA does not regulate odors or air quality through its CAFO permitting program. See generally 40 CFR 122.23. While MDE derives much of its NPDES permitting authority from EPA and the [Clean Water Act], it is authorized, as a delegated program, to impose requirements that are more stringent than what is required by the [Clean Water Act] or EPA's regulations. Therefore, MDE included in the draft General Discharge Permit provisions that require AFO owners or operators to implement BMPs in order to reduce nuisance odors and address any air

quality resource concerns using appropriate NRCS Practice Standard(s). See General Discharge Permit at Part IV.D.1–2.

MDE's Air and Radiation Administration (ARA) continues to monitor activities within the animal husbandry industry as well as EPA's ongoing efforts to evaluate environmental impacts and possible regulatory initiatives. Ammonia emissions/ammonia deposition have been considered and addressed to the extent permissible under the Clean Water Act and the state's water pollution control law and implementing regulations with the requirement of several NRCS practices including litter amendments and hedgerows/shelterbelts.

There are several Natural Resources Conservation Service ("NRCS") practice standards that can be implemented by AFO operators to reduce actual or potential ammonia emissions from poultry houses. NRCS Practice Standard, Amendments for Treatment of Agricultural Waste, is used in poultry houses to reduce the potential for high ammonia emissions such as sodium bisulfate, aluminum sulfate, acidified clay, and ferric sulfate. These amendments are applied to the litter prior to bird placement to reduce potential high levels of ammonia, suppress ammonia volatilization from litter and reduce emissions from the poultry facilities. Modern poultry houses have internal ventilation and cooling systems. Though the primary goal of these systems is to provide bird comfort, an added benefit is that they reduce dust and feathers inside the houses. This results in less particulate matter to be discharged into the atmosphere. The emission of dust and feathers may be addressed through NRCS Practice Standards (Hedgerow Planting) or (Windbreak/Shelterbelt Establishment). The implementation of these BMPs can provide ammonia reduction and a means to reduce dust and feathers.

The draft General Discharge Permit contains BMPs to sufficiently minimize AFO ammonia emissions from poultry houses therefore no revisions are necessary.

Although the Department did not modify Part IV.D. in a manner suggested by either the Poultry Industry or Assateague, it added additional provisions that are relevant to Assateague's challenges. Specifically, in its Notice of Final Determination, the Department stated, in pertinent part, that it was adding the following to the 2019 General Permit Part III.B.5:

- Committing the Department to develop a form on which a CNMP writer must identify the resources evaluated and identify all specific resource concerns at the particular AFO, which must be provided to the Department when the AFO's CNMP is submitted

- Requiring the Required Plan to "identify the distance to and the name of the nearest waterbody(s), the 12-digit watershed name and number, the water quality status of the watershed(s) by identifying if there are any . . . TMDL impairments for nitrogen, phosphorus, bacteria or sediment and if the facility is located in a Tier 2 watershed(s)"

The Department issued its Notice of Final Determination, finalized the Permit, and issued it effective July 8, 2020.

B. Judicial Review of the Permit

On July 23, 2020, Assateague filed a petition for judicial review in the Circuit Court for Montgomery County[38] challenging the Department's Final Determination to issue the 2019 General Permit. Assateague argued that the 2019 General Permit failed to comply with federal and state law because it did not include water quality based effluent

[38] In 2009, the Legislature added a provision to EN § 1-601(e)(1), which states that: "Unless otherwise required by statute, a petition for a judicial review . . . ***shall be filed*** in the circuit court where the application for the permit states that the proposed activity will occur." 2009 Md. Laws, ch. 651 (emphasis added). In the Amici Brief filed by the Delmarva Chicken Association, Inc., Maryland Dairy Industry Association, Inc., Maryland Farm Bureau, Inc., Maryland Grain Producers Association, Maryland Pork Producers Association and MidAlantic Farm Credit, ACA, these Amici point out that because there are "no AFOs in Montgomery County[,]" there is "no proposed activity that will occur" in Montgomery County. These Amici assert that Assateague's "venue of choice was deliberate forum shopping done to prevent any AFO owner/operation or other interested person from learning [that] the [p]etition had been filed in time to participate as a party in this case." In light of the fact that: (1) the Department did not challenge Assateague's choice of venue in this case; and (2) we are reversing the circuit court's judgment, we will not consider in this case whether the statutory venue requirements were violated and if so, the consequences for failing to comply. In any event, we trust that future petitions for judicial review will be filed in a venue that complies with the statutory requirements.

limitations, and because it did not adequately address ammonia emissions. The Department defended its decision, arguing that the general permit framework complied with the water quality standards under both federal and state law.

On March 11, 2021, the circuit court issued a memorandum opinion and an order reversing the Department's Final Determination and remanding the 2019 General Permit "to mandate effluent limitations for ammonia and other water quality based effluent limits." The Department filed an appeal to the Appellate Court of Maryland. This Court granted the Department's petition for a writ of *certiorari* prior to the Appellate Court's consideration of this matter.

III.

Discussion

A. What and How We Review

In this case, we are being asked to determine whether the Department erred in making its Final Determination to issue the 2019 General Permit. Assateague has challenged the Department's Final Determination by asserting that: (1) the Department's failure to include water quality based effluent limitations in the general discharge permit for AFOs violates the Clean Water Act and Maryland's water pollution control law; and (2) the Department *either* has not regulated ammonia emissions at all, *or, alternatively*, if ammonia emissions are included with the permit conditions, the conditions are insufficient.

When this Court or any appellate court reviews the final decision of an administrative agency, we look through the circuit court's decision and evaluate the decision of the agency. *Carroll County*, 465 Md. at 201. In other words, we are not

assessing the merits of the circuit court's decision, but are instead directly reviewing the permit in light of the issues raised by Assateague and the Department's response thereto.

Prior to January 1, 2010, challenges to the issuance or denial of a discharge permit were subject to a contested case hearing under the Administrative Procedure Act ("APA"). *See* Md. Code (2004 Repl. Vol., 2009 Supp.) State Government ("SG") § 10-201 *et seq.*; EN § 1-601(b) (1993). Indeed, Assateague's challenge to the 2009 General Permit was brought under the provisions of the APA. *See Assateague Coastkeeper*, 200 Md. App. at 669. In 2009, the General Assembly amended the provisions of EN § 1-601(b) to eliminate an aggrieved party's right to a contested case hearing for certain types of environmental permits, including discharge permits issued under § 9-323 of the Environment Article. *See* 2009 Md. Laws, ch. 651.

Under the 2009 amendments, a person challenging a general permit issued under EN § 9-323 has a right to seek judicial review, which is limited to the administrative record before the Department. EN § 1-601(a). "Although this statute does not set forth a standard of review, the substantial evidence and arbitrary and capricious standards apply where an 'organic statute' authorizes judicial review . . . and does not set forth a standard of review." *Anacostia Riverkeeper*, 447 Md. at 118. We explain how these standards apply when reviewing an environmental permit such as a discharge permit.

B. Standards of Review of Discharge Permits

"The standards for judicial review of a discharge permit—and their corresponding levels of deference to the agency—vary depending on whether the court is reviewing an

agency's fact findings, discretionary decisions, or legal conclusions." *Carroll County*, 465 Md. at 201 (citing *Anacostia Riverkeeper*, 447 Md. at 118–21).

1. Review of Fact Findings

"For fact findings, a reviewing court applies the 'substantial evidence' standard, under which the court defers to the facts found and inferences drawn by the agency when the record supports those findings and inferences." *Id.* As we observed in *Anacostia Riverkeeper*, "[a]pplying the substantial evidence standard of review to a case where no contested case hearing took place may seem anomalous because there is no formal record that was presented before an administrative law judge." 447 Md. at 119; *see also Kor-Ko Ltd. v. Maryland Dep't of the Env't*, 451 Md. 401, 424–25 (2017) (observing that a reviewing court may experience problems "in performing [its] duties" because the Legislature does not require the Department "to express its reasoning in written, detailed findings of fact and conclusions of law, but rather foster[s] a somewhat looser and elusive decisional process[]" when issuing certain environmental permits). Notwithstanding some of the challenges that a reviewing court may encounter when undertaking judicial review of an environmental permit that is not subjected to a traditional contested case administrative process,[39] the judicial review provisions of Title 1, Subtitle 6 of the

[39] In *Kor-Ko Ltd. v. Maryland Department of the Environment*, we commented on the challenges created by the "legislative mandate that these environmental permits proceed [in a manner] other than through a traditional contested case administrative agency process with detailed findings of fact and conclusions of law, and how, in our view, that impacts the courts' abilities to afford meaningful review of such actions." 451 Md. 401, 411 n.8 (2017).

Environment Article identify the documents that may be included in the administrative record upon which a reviewing court may conduct its review. These include draft permits, statements, or fact sheets explaining the basis for the Department's determination, and the Department's responses to comments submitted in connection with the public participation process. EN § 1-606(c)(1)–(9).[40]

In a review for substantial evidence, we ask "whether a reasoning mind reasonably could have reached the factual conclusion the agency reached." *Anacostia Riverkeeper*, 447 Md. at 120 (quotations omitted). We accord deference to the agency's fact finding and drawing of inferences when the record supports them. *Id.*; *see also Mayor & Alderman of City of Annapolis v. Annapolis Waterfront Co.*, 284 Md. 383, 399 (1979) ("The court may

---

[40] EN § 1-606(c) provides:

> Any judicial review of a determination provided for in accordance with § 1-601 of this subtitle or § 5-204 or § 16-204 of this article shall be limited to a record compiled by the Department or Board, consisting of:
>
> (1) Any permit or license application and any data submitted to the Department or Board in support of the application;
> (2) Any draft permit or license issued by the Department or Board;
> (3) Any notice or intent from the Department or Board to deny the application or to terminate the permit or license;
> (4) A statement or fact sheet explaining the basis for the determination by the Department or Board;
> (5) All documents referenced in the statement or fact sheet explaining the basis for the determination by the Department or Board;
> (6) All documents, except documents for which disclosure is precluded by law or that are subject to privilege, contained in the supporting file for any draft permit or license;
> (7) All comments submitted to the Department or Board during the public comment period, including comments made on the draft application;
> (8) Any tape or transcript of any public hearings held on the application; and
> (9) Any response to any comments submitted to the Department or Board.

not substitute its judgment on the question whether the inference drawn is the right one or whether a different inference would be better supported. The test is reasonableness, not rightness.") (citation and internal quotation marks omitted). Moreover, we review the agency's decision in the light most favorable to it. *Anacostia Riverkeeper*, 447 Md. at 120 (quotations omitted). Finally, we accord an agency "great deference" with respect to factual issues that involve scientific matters within an agency's area of technical expertise. *Carroll County*, 465 Md. at 201–02 (citing *Anacostia Riverkeeper*, 447 Md. at 120); *see also Board of Physician Quality Assurance v. Banks*, 354 Md. 59, 69 (1999) (stating that "the expertise of the agency in its own field should be respected[]").

2. Review of Matters Committed to the Agency's Discretion

"With respect to matters committed to agency discretion, a reviewing court applies the 'arbitrary and capricious' standard of review, which is 'extremely deferential' to the agency." *Carroll County*, 465 Md. at 202 (citing *Harvey v. Marshall*, 289 Md. 243, 296–99 (2005); *Spencer v. Maryland State Bd. of Pharmacy*, 380 Md. 515, 529 (2004)). "This standard is highly contextual, but generally the question is whether the agency exercised its discretion 'unreasonably or without a rational basis.'" *Id.* (citing *Harvey*, 389 Md. at 297; Arnold Rochvarg, *Principles and Practice of Maryland Administrative Law*, § 20.1 at 255 (2011)).

"For guidance, a reviewing court may look to case law applying the similar standard in federal administrative law." *Id.* (citing *Anacostia Riverkeeper*, 447 Md. at 120–21;

Office of People's Counsel v. Public Serv. Comm'n, 461 Md. 380, 399 (2018)).[41] Under this standard, a reviewing court may not second-guess an agency's judgment: "a decision of less than ideal clarity" will be upheld "if the agency's path may be reasonably discerned." *Office of People's Counsel*, 461 Md. at 399 n.16 (quoting *Bowman Transp., Inc. v. Arkansas-Best Freight Sys., Inc.*, 419 U.S. 281, 285–86 (1974)); *see also Carroll County*, 465 Md. at 202.

3. Review of the Agency's Legal Conclusions

With respect to an agency's legal conclusions, a reviewing court accords the agency less deference than with respect to findings of fact or discretionary decisions. *Carroll County*, 465 Md. at 202–03.[42] "An agency decision based on regulatory and statutory

---

[41] In *Office of People's Counsel v. Public Serv. Comm'n*, 461 Md. 380, 399 n.16 (2018), we noted that the "leading case defining the federal standard is *Motor Vehicle Mfrs. Ass'n of U.S., Inc. v. State Farm Mut. Auto Ins. Co.*, 463 U.S. 29, 43, 103 S. Ct. 2856, 77 L.Ed.2d 443 (1983)." We observed that in *State Farm*,

> the Supreme Court identified several factors that could render an agency action arbitrary or capricious, including whether: (1) there is a rational connection between the facts found and the choice made; (2) the decision was based on a consideration of the relevant factors; (3) there has been a clear error of judgment; (4) the agency relied on factors which Congress has not intended it to consider; (5) the agency has entirely failed to consider an important aspect of the problem; (6) there is an explanation for a decision that runs counter to the evidence; and (7) the decision is so implausible that it could not be ascribed to a difference in view or the product of agency expertise.

Office of People's Counsel, 461 Md. at 399 n.16.

[42] In *Comptroller of Maryland v. FC-GEN Operations Investments LLC*, 482 Md. 343, 360 (2022), we explained that the phrase "errors of law" in connection with judicial review of a decision of an administrative agency "encompasses a variety of legal challenges, including: (1) the constitutionality of an agency's decision; (2) whether the agency had

interpretation is a conclusion of law." *Kor-Ko Ltd.*, 451 Md. at 412 (quoting *Carven v. State Ret. & Pension Sys. of Md.*, 416 Md. 389, 406 (2010)). "[A] court will not uphold an agency action that is based on an erroneous legal conclusion." *Carroll County*, 465 Md. at 203 (citing *Anacostia Riverkeeper*, 447 Md. at 122). That said, we apply the following principles of deference with respect to the Department's interpretation of the statutes that it administers and the rules that it has promulgated in connection therewith.

a. Deference to Agency's Interpretation of Statutes that it Administers

When a party challenges the agency's interpretation of a statute it administers, the court must determine "how much weight to accord that interpretation, keeping in mind that it is always within the court's prerogative to determine whether an agency's conclusions of law are correct." *Id.* (cleaned up). When considering the deference owed to a state agency's interpretation of the law, this Court has applied "a sliding-scale approach" that "is similar to federal *Skidmore* deference."[43] *Comptroller of Maryland v. FC-GEN*

---

jurisdiction to consider the matter; (3) whether the agency correctly interpreted and applied applicable case law; (4) and whether the agency correctly interpreted an applicable statute or regulation." We explained that although we do not apply any agency deference when undertaking a review of the first three types of legal challenges, we occasionally apply agency deference when reviewing errors of law related to the fourth category. *Id.*

[43] *Skidmore* deference, which derives its name from *Skidmore v. Swift & Co.*, 323 U.S. 134 (1944), was the primary deference doctrine used by the federal courts from 1944 until it was displaced by *Chevron* deference in 1984 with the U.S. Supreme Court's articulation of a more highly deferential standard that federal courts apply when an agency interprets a statute that the agency is charged with administering. *See Chevron, U.S.A., Inc. v. Natural Res. Def. Council, Inc.*, 467 U.S. 837, 842–43 (1984). In *Skidmore*, the Court stated that the weight a court will give an agency interpretation "will depend on the thoroughness of the evidence in its consideration, the validity of its reasoning, its

Operations Investments LLC, 482 Md. 343, 363 (2022) (citing Arnold Rochvarg, *Principles and Practice of Maryland Administrative Law*, §§ 19.1–19.3 at 243–49 (2011)). The weight given to an agency's interpretation will vary, depending on a number of factors. *Id.* "We give more weight when the interpretation resulted from a process of reasoned elaboration by the agency, when the agency has applied that interpretation consistently over time, or when the interpretation is the product of contested adversarial proceedings or formal rule making." *Id.* (quoting *Carroll County*, 465 Md. at 203–04 (citing *Baltimore Gas & Electric Co. v. Pub. Serv. Comm'n*, 305 Md. 145, 161 (1986))) (internal quotation marks omitted).[44]

---

consistency with earlier and later pronouncements, and all those facts which give it the power to persuade, if lacking power to control." 323 U.S. at 140.

[44] In *Comptroller of Maryland v. FC-GEN Operations Investments LLC*, 482 Md. 343, 363 (2022) and *Maryland Department of the Environment v. County Commissioners of Carroll County*, 465 Md. 169, 203 (2019), we restated this Court's articulation of the agency deference factors set forth in *Baltimore Gas & Electric Co. v. Public Service Commission*, 305 Md. 145, 161 (1986). We observed that "*Skidmore* is a direct ancestor" of *Baltimore Gas & Electric Co.*, which we described as being "the leading case of this Court concerning the degree of judicial deference owed to state agency actions." *Carroll County*, 465 Md. at 206 n.32; *see also FC-GEN*, 482 Md. at 362–63. In *Baltimore Gas & Electric Co.*, this Court stated:

> The weight to be accorded an agency's interpretation of a statute depends on a number of considerations. Although never binding upon the courts, the contemporaneous interpretation of a statute by the agency charged with its administration is entitled to great deference, especially when the interpretation has been applied consistently and for a long period of time . . . . Another important consideration is the extent to which the agency engaged in a process of reasoned elaboration in formulating its interpretation of the statute. When an agency clearly demonstrates that it has focused its attention on the statutory provisions in question, thoroughly addressed the relevant issues, and reached its interpretation through a sound reasoning process, the

b. Deference to Agency's Interpretation of its Regulations

When the construction of an administrative regulation is an issue—as opposed to a question of statutory interpretation—"deference is even more clearly in order." *Kor-Ko Ltd.*, 451 Md. at 412 (cleaned up) (quoting *Maryland Transp. Auth. v. King*, 369 Md. 274, 288 (2002)). We grant such deference to an agency's interpretation of its regulations because

> agency rules are designed to serve the specific needs of the agency, are promulgated by the agency, and are utilized on a day-to-day basis by the agency. A question concerning the interpretation of an agency's rule is as central to its operation as an interpretation of the agency's governing statute. Because an agency is best able to discern its intent in promulgating a regulation, the agency's expertise is more pertinent to the interpretation of an agency's rule than to the interpretation of its governing statute.

Id. at 412–13 (quoting *King*, 369 Md. at 289) (additional citations and quotation marks omitted). "Put another way, the courts do not play the role of an über administrative agency in reviewing the actions of state or local administrative bodies, but, rather we exercise discipline in our review so as not to cross the separation of powers boundary." *Id.* at 413.

C. The Department's Decision to Regulate AFOs Through a General Permit Scheme—Which Requires Technology Based Effluent Limitations to Address Water Quality Standards With the Ability to Impose Additional Water Quality

---

> agency's interpretation will be accorded the persuasiveness due a well-considered opinion of an expert body . . . . In addition, the nature of the process through which the agency arrived at its interpretation is a relevant consideration in assessing the weight to be accorded the agency's interpretation. If the interpretation is the product of neither contested nor adversarial proceedings nor formal rule promulgation, it is entitled to little weight.

305 Md. at 161–62.

Controls for a Particular Operation if They Are Determined to be Necessary to Protect a Particular Waterway—Is Reasonable and Lawful

Assateague contends that the Department's failure to include uniform water quality based effluent limitations in the General AFO Permit violates the Clean Water Act and Maryland's water pollution control law. Assateague's challenge in this regard is not limited to ammonia emissions, but is also related to all pollutants that water quality based effluent limitations are intended to address. Assateague states that, where technology based effluent limitations are insufficient to achieve the water quality standards, water quality based effluent limitations must be included in the general discharge permit.[45] Assateague argues that the general discharge permit is "silent" as to water quality based effluent limitations "and only briefly discusses TMDLs or water quality standards." Assateague asserts that there is no "detailed or rational explanation for the Department's determination that CAFOs operating pursuant to the general discharge permit 'will not cause or contribute to the violation of water quality standards, and therefore [water quality based effluent limitations] are not necessary.'" Assateague criticizes this statement in the permit, claiming that the Department is simply repeating the Department's conclusion that it made in connection with the issuance of its 2009 General Permit, which Assateague

[45] Seemingly built into Assateague's argument is the conclusion that the technology based effluent limitations required by the General AFO permit scheme, are, *in fact*, insufficient to achieve water quality standards, and therefore, the permit must contain water quality based effluent limitations. As we discuss in more detail herein, the Department's determination that technology based effluent limitations, approved on a site-by-site basis, combined with the Department's ability to add additional water quality controls depending upon the particular operation, as well as the operation's proximity to a particular waterway and its water quality, is not arbitrary or capricious.

contends "predates the establishment of the Bay TMDL, the creation of the current Bay Model, and the current federal CAFO rule, not to mention many of the scientific studies and technical reports that were in the record before the Department when it made its determinations with respect to the current Permit."

The Department asserts that its general discharge permit scheme for AFOs not only complies with the Clean Water Act and Maryland's water pollution control law, but is also a reasonable method for imposing water quality standards on AFOs. The Department points out that the general discharge permit scheme is consistent with the EPA's CAFO regulations and the Department's AFO regulations, which have been in effect for over 13 years, as well as the two prior permits issued pursuant to the statutory five-year permit cycle, both of which were upheld by the Appellate Court of Maryland.

The Department contends that the 2019 General Permit complies with water quality standards by requiring technology based effluent limitations through site-specific best management practices that must be approved prior to a particular AFO obtaining permit coverage. The Department notes that the general discharge permit then provides for additional, water quality based controls during the permit review process, and at any time after the issuance of the permit, to protect, maintain, and restore water quality and the existing and designated waters of the State. In other words, rather than establishing uniform water quality based effluent limitations that would apply to all operations without regard to the geographic location of the operation, including its proximity to any particular nearby waterway (or the specific water quality of the waterway in question), the Department asserts that its general discharge permit framework requires the permittee—

through the plan writer—to research, identify, and implement the permit controls appropriate to its design and location as part of the permitting process.

At the outset, it is important to note that the Department does not start from scratch each time it issues a water pollution control permit for a particular pollutant source. As noted above, the Department is required under federal and state law to reissue or replace water pollution control permits every five years. For this reason, the administrative record for the 2019 General Permit includes the administrative record for the previous iterations of this same permit, including the Department's initial rationale and methodology for choosing to regulate this pollutant source—AFOs—through the same general discharge permit regulatory framework established by the EPA regulations, as well as its own regulations.

We observe that Assateague's general arguments concerning the Department's failure to include uniform water quality based effluent limitations in the 2019 General Permit are not simply directed to this *particular permit*, *but to the general CAFO regulatory framework* established over a decade ago by the EPA and by the Department. Assateague argues that the AFO general discharge permit framework—which does not include uniform water quality based effluent limitations—does not satisfy the water quality standards under federal and state law because it relies only on technology based effluent limitations.

As noted above, Assateague has challenged both prior iterations of this same permit. Because some of Assateague's arguments being made here are similar to the arguments that were made in those cases (and because the administrative record related to the 2019

General Permit includes the former iterations of the permit, as well as the Department's rationale and methodology for the general permit structure), it is useful to start our discussion with those cases.

1. Assateague's Challenge to the 2009 General Permit

In *Assateague Coastkeeper*, 200 Md. App. at 665, Assateague challenged the Department's Final Determination to issue the 2009 AFO General Permit. Assateague's challenge to the 2009 General Permit predated the General Assembly's changes to the statute, which eliminated contested case hearings in connection with the issuance of general permits under the State's water pollution control law. *See* 2009 Md. Laws, ch. 651. Accordingly, Assateague's challenges to that permit were considered within the context of the APA, with proceedings before an administrative law judge ("ALJ") and a final decision maker ("FDM"), followed by judicial review in the circuit court and the Appellate Court. *Assateague Coastkeeper*, 200 Md. App. at 680. Assateague's arguments were rejected at all levels. *Id.* at 669–70.

In seeking to have the 2009 General Permit overturned, Assateague alleged that the permit violated both federal and state law, making three primary arguments. First, Assateague argued that the 2009 General Permit violated federal law because it impermissibly narrowed the scope of CAFOs that required an NPDES permit. *Id.* at 683. Second, Assateague contended that the permit conditions for MAFO litter storage were insufficient because the Department ignored scientific studies related to poultry manure storage, and that it therefore "acted arbitrarily and capriciously" in issuing the general discharge permit. *Id*. Third—and similar to Assateague's argument in this case—it

asserted that the 2009 General Permit structure "failed to assure compliance with applicable water quality standards before the issuance of permit coverage" to individual permittees. *Id.* Assateague argued that the Department could not, "without sufficient evidence, presume that compliance with the technical standards in the [General] Permit will assure compliance with all the various water quality standards applicable in Maryland." *Id.* (Internal citations omitted).

In connection with the administrative proceedings, the Department submitted affidavits from Robert M. Summers, Ph.D., who was the Department's Deputy Secretary at that time, and from Dinorah Dalmasy, a Senior Regulatory and Compliance Engineer with the Department. *Id.* at 680–81. In his affidavit, Dr. Summers explained the Department's process, methodology, and the scientific data upon which it relied to establish the MAFO litter storage requirements. *Id.* at 681. The details of the Department's methodology are described at length in the Appellate Court's opinion. *Id.* at 692–97.

Ms. Dalmasy explained the Department's development of TMDLs for water bodies in the State that had been identified as being impaired by pollutants, and how the 2009 General Permit was consistent with Maryland's watershed-based approach to developing its TMDLs, which had been approved by the EPA:

> TMDLs establish the assimilative capacity of a waterbody, i.e., the maximum allowable load of the specific substance the waterbody can receive without violating water quality standards. Maryland's nutrients and bacteria TMDLs include load allocations (LAs) for nonpoint sources and waste load allocations (WLAs) for point sources. The LA component of a TMDL includes allocations to agricultural, landuse, urban, and forested areas; the WLA includes allocations to traditional point sources (e.g., waste water treatment plants) and NPDES-regulated stormwater discharges. MDE's current modeling tools and data resolution do not allow quantitative

> allocations to specific [AFO] sites. Rather, an overall LA is estimated for each impaired water quality segment, as one aggregate load that includes all agricultural practices (e.g., cropland, pasture, [AFOs]). Maryland's nutrient and fecal bacteria TMDL analyses developed to date include an estimate of the baseline agricultural landuse load as part of the total watershed nutrients or bacteria budget. Maryland's bacteria and nutrient TMDLs apply a watershed based approach, which considers all potential pollutant sources and estimates load reduction targets for those sources necessary for the attainment of the State water quality standards. As an example, in Maryland's nutrient TMDLs to date, all of which have been approved by EPA, the nonpoint source loads were computed in one of two ways:
>
> 1. As the product of observed concentrations and estimated flows. These loads account for contributions from atmospheric deposition, septic tanks, agricultural land (cropland, pasture, animal feeding operations), forest, and urban land. The percentages of these loads by land use were determined using ratios of land use and load coefficients by land use from the Chesapeake Bay Program watershed model.
>
> 2. As the summation of all of the individual land use areas and multiplying by the corresponding land use loading coefficients from the Chesapeake Bay Program watershed model.
>
> Maryland's TMDLs apply a watershed-based approach, which considers all potential pollution sources . . . and estimates load reduction targets for those sources necessary for the attainment of State water quality standards. The agricultural load allocation includes all source categories (i.e., cropland, pastures, AFOs/CAFOs, MAFOs) but they are not broken out or quantified separately from this aggregated load. All currently approved nutrients and bacteria TMDLs were developed prior to the issuance of the January 2, 2009 Final Determination to issue the General [] Permit for [AFOs].

Id. at 715–16. Ms. Dalmasy stated that the 2009 General Permit was "consistent with existing approved TMDLs, since those TMDLs do not provide specific load allocations to this source of pollution." *Id.* at 716. She further explained that "the new permit requirements will result in more stringent control of potential pollutants from these sources; and that the permit's requirements will ensure that no new discharges will increase the

pollutant loads in watersheds with established TMDLs." *Id.* Ms. Dalmasy concluded that the 2009 General Permit "ensure[d] compliance with . . . the Clean Water Act," and that it "contains measures intended to ensure that [AFO] discharges do not cause or contribute to violations of water quality standards." *Id.*

In upholding the 2009 General Permit, the ALJ determined that the Department was not "narrowing the definition of CAFOs," but was "actually expanding the group of AFOs that must submit to some sort of permitting requirement in order to operate and store manure." *Id.* at 684. The ALJ likewise rejected Assateague's assertion that the Department's decision to regulate MAFOs differently from CAFOs for manure storage purposes was arbitrary and capricious, noting that MDE's decision was based on available scientific information. *Id.* Finally, the ALJ found that the 2009 General Permit complied with federal regulations governing water quality, noting: (1) all of Maryland's water quality standards had been approved at that point by the EPA; and that (2) the permit was consistent with the existing approved standards. *Id.* Thereafter, Assateague filed exceptions to the ALJ's decision with the FDM.

The FDM upheld the Final Determination to issue the 2009 General Permit, concluding that compliance with the permit will "result in a reduction in pollutants to State waters." *Id.* at 688. In support of its conclusion, the FDM noted that the EPA had approved Maryland's use of a watershed-based approach to developing TMDLs. *Id.* at 717. The FDM stated that such an approach "considers all pollutant sources . . . and estimates load reduction targets for those sources necessary for the attainment of State water quality standards." *Id.* at 717 n.31. The FDM explained:

> While no specific waste load is allocated to CAFOs in Maryland's TMDLs, a portion of the load allocation includes contributions from existing CAFOs. The TMDLs contain load reduction targets that are not specific for individual land uses or facilities. Methods available to Maryland to accomplish the load reduction targets that include diverse programs that address air deposition, septic system discharges, environmental site design, and a host of BMPs, including not only those incorporated in the [General Permit], but also such things as conservation tillage, off-stream watering, and forest buffers.
>
> The pollutant contributions from CAFOs already in existence that will acquire NPDES permits for the first time under the [General Permit] are taken into account in the existing LA and therefore are included in the reduction targets. Further, the requirements of the [General Permit] are quite stringent, and it is reasonable to conclude that compliance with the [General Permit] will reduce the loading to the impaired waterbody. More specifically, the [General Permit] will regulate the discharges from a significant number of CAFOs that previously had not been required to obtain a general or an individual permit. For the first time, these CAFOs will be subject to stringent requirements aimed at reducing pollutant discharges to State waters. Because this represents a net reduction, it is not prohibited by 40 C.F.R. § 122.4(i). As the TMDLs are further implemented, additional reductions may be required of the CAFO and nonpoint sources to fully achieve the TMDL.
>
> Where no TMDL has been prepared for an impaired water, an existing CAFO subject to the [General Permit] for the first time will also be reducing its contribution to the impaired water. At the time a TMDL is prepared, consideration will be given to the contribution of the CAFO, and it is possible that further reductions will be required.

Id. at 717–18. With respect to new CAFOs, the FDM noted that they would be subject to the zero discharge requirement under federal regulations, which promotes "up-front design, construction, operation, and maintenance to ensure that predictable discharges do not occur." *Id.* at 717 n.30 (quoting 73 Fed. Reg. 70459 (Nov. 20, 2008)). After the circuit court affirmed the Department's Final Determination, Assateague appealed to the Appellate Court, which also affirmed the Department's Final Determination.

With respect to Assateague's argument that the Department had insufficient evidence concerning the water quality impacts related to litter storage, the Appellate Court determined that the Department had a reasonable basis for establishing its litter storage requirements. *Id.* at 697. The Appellate Court similarly rejected an argument made by Assateague that the permit had not done enough to regulate MAFOs, and was "arbitrary and capricious because it [was] contrary to the policy goals" of Section 9-302(a) of the Environment Article. *Id.* at 697–98 (cleaned up). The Appellate Court agreed with the Department's position that its decision to regulate MAFOs—which were previously unregulated—was consistent with the statutory policy goal to "prevent, abate, and control pollution of the waters of [the] State," and that its review of the Department's decision to issue the general discharge permit was "limited to the narrow issue of whether there was substantial evidence to support" the Department's determination. *Id.* at 698. The court observed that Assateague's policy arguments were not a basis for reversing the agency's determination. *Id.*

The Appellate Court also addressed Assateague's assertion that the 2009 General Permit violated the federal regulations governing water quality standards. *Id.* at 704. Before the Appellate Court, Assateague framed its arguments as follows. *Id.* at 704–05. First, Assateague argued that the 2009 General Permit violated the federal regulations because it authorized "new discharges" to impaired waters without demonstrating compliance with the requirements of 40 C.F.R. § 122.4(i), which prohibit the issuance of an NPDES permit to "a new discharger, if the discharge from its construction or operation will cause or contribute to the violation of water quality standards." *Id.* at 704. Second,

Assateague asserted that, under federal regulations, the Department was required to conduct a case-by-case analysis for each CAFO to determine whether water quality based effluent limitations are necessary for the specific NPDES to meet water quality standards for receiving bodies, and that the 2009 General Permit failed to comply with this requirement. *Id.* at 705 (citing 40 C.F.R. § 122.44(d)(1)). Assateague further asserted that—given that the Department had not established a TMDL for all waterways that might be impacted by CAFOs, and even for CAFOs that discharge into an impaired waterway in which a TMDL has been established—the Department failed to identify the quantitative significance of any pollutant offsets. *Id.* at 714. Assateague contended that, in the absence of "particularized and scientific analyses of the impacts of the new discharges," the Department could not "properly conclude that the [2009 General Permit] would have no significant impact on the impaired waterway(s)." *Id.* (Cleaned up).

For its part, the Department defended the overall framework of the general discharge permit, making many of the same arguments that it has put forth in this case. Concerning Assateague's first argument, the Department pointed out that Assateague's interpretation of the federal regulation was not the view accepted by the EPA—which is that a previously unpermitted pollutant source that becomes permitted under the 2009 General Permit scheme does not "cause or contribute to the impairment if it constitutes a *net reduction* in the loading of the substance causing the impairment." *Id.* at 705 (Emphasis added) (internal citations omitted) (footnote omitted). The Department also asserted that the 2009 General Permit did not violate the federal regulation prohibiting the issuance of a discharge permit if its issuance would "cause or contribute to the violation of water quality standards"

because under both federal and state regulations, CAFOs are subject to the "zero discharge" standard. *Id.* at 706 (citing 40 C.F.R. § 412.46; COMAR 26.08.03.09B). The Department argued that the general discharge permit's requirement that AFOs implement Department-approved Required Plans, "which are farm-specific plans to ensure protection of water resources through appropriate management practices, provides further assurance that [2009 General Permit]-authorized facilities will not violate water quality standards." *Id.* at 706 (internal citations omitted). The Department defended the structure of the general discharge permit by stating that it reviews each plan "to make sure that the *specific* practices proposed are sufficiently protective given the circumstances of the *specific* farm and the *specific* waterway that may be affected by the farm's operation," giving the Department "the opportunity to impose additional restrictions, identify specific load allocations, and even kick the farm out of the [general discharge permit] and require an individual NPDES permit." *Id.*

Concerning the competing interpretations of the language "cause or contribute" in the federal regulations, the Appellate Court observed that the Department is "the agency tasked with enforcing and administering federal regulations regarding water quality standards, *see* [EN] § 9-324, and that [the reviewing courts] give considerable weight to an administrative agency's interpretation and application of the statute which the agency administers, recognizing its expertise in the field." *Id.* at 713–14 (cleaned up) (quoting *Najafi v. Motor Vehicle Admin.*, 418 Md. 164, 173–74 (2011)) (additional citations omitted). The Appellate Court determined that the Department's "construction of 40 C.F.R. § 122.4(i) as allowing the consideration of pollution offsets in determining whether

a discharge 'causes or contributes' to a violation of water quality standards, is reasonable" and, accordingly, the court would not "substitute [its] judgment for that of the agency." *Id.* at 714.

As for Assateague's second argument, the Appellate Court pointed out that Ms. Dalmasy had submitted an affidavit describing the Department's process for establishing TMDLs, how the general discharge permit scheme fit within the overall TMDL framework, and the Department's conclusion "that the [general discharge permit] 'ensures compliance with water quality standards as required by the Clean Water Act,' and it 'contains measures intended to ensure that [AFO] discharges do not cause or contribute to violations of water quality standards.'" *Id.* at 715–16. The Appellate Court observed that the FDM credited Ms. Dalmasy's affidavit in upholding the Department's Final Determination. *Id.* at 716–17. With respect to existing CAFOs, the court noted that the FDM concluded that the issuance of the general discharge permit to existing CAFOs in impaired waterways—regardless of whether a TMDL has been promulgated—would not cause or contribute to a violation of water quality standards. *Id*. The Appellate Court pointed out that, in support of its conclusion, the FDM had noted that the "EPA has approved Maryland's use of a watershed-based approach in developing TMDLs." *Id.* at 717. After summarizing the FDM's findings and conclusions, the Appellate Court stated that the FDM's "finding here, that the issuance of the [general discharge permit] 'will not cause or contribute to the violation of the water quality standards,' is a factual finding, or at least a mixed question of fact and law, which limits [the court's] review to whether there was substantial evidence in the record to support the finding and whether a 'reasoning mind' could have reached

that conclusion." *Id.* at 718. The court determined that there was a substantial basis for the FDM's decision that the 2009 General Permit would not "'cause or contribute' to a violation of water quality standards." *Id.*

The Appellate Court similarly rejected Assateague's assertion that the 2009 General Permit "further violates federal law because it fails to comply with other applicable federal laws governing water quality standards." *Id.* at 719, 721. The Appellate Court noted that the 2009 General Permit reflected the process by which the Department reviews permit applications—the filing of the notice of intent and Required Plan—which are subject to public review and comment, and observed that permit coverage may not be approved prior to a completion of the public participation process. *Id.* at 721 (citing 2009 General Permit, Part III.C.3.). The Appellate Court determined that it "was within the province of [the Department] to determine that this process is sufficient to ensure that the issuance of new permits will not cause or contribute to the violation of water quality standards[,]" and that the court would not substitute its judgment for that of the agency on this issue. *Id.*

Finally, the court also rejected Assateague's arguments that the 2009 General Permit was less stringent than federal law, concluding that, by its plain terms, the permit was "broader, not less stringent, than federal law." *Id.* at 722–24.

2. Assateague's Challenge to the 2014 General Permit

In 2014, MDE published its Final Determination to issue the 2014 General Discharge Permit. Food and Water Watch and Assateague (collectively "Appellants") challenged the permit, contending that it failed to comply with federal monitoring requirements. *Food and Water Watch v. MDE*, 2018 WL 2203175 at *1 (Md. App. May

14, 2018). The Department defended the 2014 General Permit by pointing out that, under the Clean Water Act and the federal regulations, the Department has discretion in determining what conditions shall be in the NPDES permit, including technology based effluent limitations, the duration of the permit, best management practices, and monitoring requirements to assure compliance with the permit limitations. *Id.* at *5 (citing 33 U.S.C. § 1318(a)(1)(A)(iii)-(iv); 40 C.F.R. § 122.44(i)(1)). The Department noted that, under the EPA regulations, the "EPA specifically acknowledges that these requirements may not be appropriate for every NPDES permit" and that the Department exercises discretion in requiring additional best management practices as it deems necessary—discretionary authority it expressly retained in the 2014 General Permit. *Id.*

The Appellate Court affirmed the Department's decision. First, the Appellate Court concluded that the 2014 General Permit included measures to ensure compliance with federal and state law because the permit incorporated each permittee's Required Plan, which, if not implemented, constituted a violation of the permit. *Id.* at *9. The Appellate Court also rejected the Appellant's argument that the general discharge permit's effluent limitations in the form of best management practices could "not replace [water quality] effluent limitations for compliance." *Id.* at *9–10. The court noted that federal law allows for best management practices in the place of numeric effluent limitation guidelines when "numeric effluent limitations are infeasible" or "the practices are reasonably necessary to achieve effluent limitations and standards or to carry out the purposes and intent of the Act." *Id.* at *10 (citing 40 C.F.R. § 122.44(k)(3)-(4)). The court concluded that the 2014 General Permit was "reasonable and necessary to carry out the intent of the [Clean Water

Act], as numeric limitations are infeasible because the 2014 [General] Permit is [a] zero discharge [permit]." *Id.*

The Appellate Court similarly rejected Appellant's argument that the Department's failure to include monitoring violated 40 C.F.R. § 122.44(i), which provides that "each NPDES permit shall include conditions meeting the following [monitoring] requirements when applicable[.]" *Id.* at *10. The court deferred to the Department's determination that "when applicable" does not mean that monitoring is required in every case, and that, because the 2014 General Permit is a zero discharge permit, monitoring is unnecessary to ensure compliance. *Id.* at *11. The Appellate Court held that there was substantial evidence in the record that the 2014 General Permit complied with the EPA's regulations, and concluded that the Department's decision was rational and lawful. *Id.*

3. The 2019 General Permit Framework Complies with Federal and State Laws

Our reasons for upholding the Department's Final Determination with respect to the 2019 General Permit are consistent with the reasons expressed by our colleagues in the above-described cases involving challenges to the two prior iterations of this permit. The federal and state laws and regulations that establish the general framework for this particular type of pollutant source have not changed since those cases were decided.

Starting with federal law, the Clean Water Act expressly provides for a tiered approach to water quality controls. As discussed above, under the Act, technology based effluent limitations are the first round of controls in the effort to achieve water quality standards. *Carroll County*, 465 Md. at 186 (citing 33 U.S.C. § 1311(b)(1)(A)). The Act directs the EPA to issue nationally applicable effluent guidelines for classes or categories

of point sources. 33 U.S.C. § 1314(b). The EPA has chosen to regulate CAFOs—as a pollutant-source class—through a zero discharge general permit scheme, which prohibits *all* discharges of pollutants to surface and ground waters from CAFO production areas. 40 C.F.R. § 412.46. Under the federal regulations, each CAFO is required to implement technology based effluent limitations in the form of best management practices that are tailored to the particular site and operation. *See* 40 C.F.R. § 122.42(e). The Department has incorporated by reference the EPA's CAFO performance standards into Maryland AFO regulations. *See* 40 C.F.R. § 412.46; COMAR 26.08.03.09B.

The Department's AFO general discharge permit model is also consistent with the State's water pollution control law. As noted above, the General Assembly has conferred considerable discretion in the Department to: (1) determine whether the discharge will meet all state and federal water quality standards, and appropriate effluent limitations; and (2) establish the conditions necessary to prevent a violation of federal and state laws. *See* EN § 9-324(a) (stating that "the Department *may issue* a discharge permit *if the Department finds that the discharge meets:* (1) All applicable State and federal water quality standards and effluent limitations; and (2) All other requirements of this subtitle[]") (emphasis added); EN § 9-326 (stating that "[t]he Department may make the issuance of a discharge permit contingent on any conditions *the Department considers necessary* to prevent violation of this subtitle[]") (emphasis added).

In addition to its permitting authority, the Legislature has also given the Department extensive regulatory and rulemaking authority. *See* EN § 9-313. In connection with this authority, the General Assembly does not mandate that the Department adopt a particular

type or types of discharge permits for different pollutant sources. Rather, the Legislature has given the Department considerable discretion in the development of its permitting schemes. The Legislature recognizes that there is no "one-size-fits all" approach to regulating water pollution. The water pollution control law specifically states that the Department's rules and regulations may "[i]mpose, as circumstances require, *different requirements for different pollutant sources and for different geographical areas*[.]" EN § 9-313(c) (emphasis added).

Since 2009, the Department has adopted the same regulatory model as the EPA. Under both the federal and state regulations, the AFO permittee is required to prepare a Required Plan providing conditions that are tailored to the particular operation, surrounding environment, and where applicable, affected waterway(s). The plans are prepared by plan writers who are licensed and certified by the Maryland Department of Agriculture. COMAR 26.08.01.01B(53-1), 15.20.04, 40 C.F.R. § 122.42(e)(1)-(6). The plan writers are required to identify environmental hazards, such as waste storage, animal confinement, proximity to waterbodies and water quality, and develop mitigation measures in accordance with the standards and specifications set forth in the NRCS manual. COMAR 26.08.01.01B(53-1), 15.20.04, 40 C.F.R. § 122.42(e)(1)-(6). The plans must be based upon an assessment of "possible resource concerns," and they must implement applicable NRCS standards where resource concerns exist. COMAR 26.08.01.01B(53-1), 15.20.04, 40 C.F.R. § 122.42(e)(1)-(6). Under the requirements of the National Planning and Procedures Handbook, plan writers are required to evaluate site-specific practice effects on identified resource concerns and develop a combination of practices that mitigate

all negative effects. *See* NPPH, 180-600-I. The Required Plan must also identify the distance to, and name of, the nearest waterbody, and the watershed status, including whether there are any TMDL impairments established for the particular watershed.

The Department reviews each Required Plan to ensure that its practices are sufficiently protective given the specific circumstances of the farm, the surrounding topography, and the proximity and condition of any waterway that may be affected by the farm's operation. The Department retains the authority to require additional best management practices and water quality controls if it determines, in its sole discretion, that they are necessary to maintain water quality standards. 2019 General Permit, Part VII.K.2. The Department also retains the discretion to require that an individual AFO obtain an individual discharge permit. 2019 General Permit, Part V.II.M.

Under both federal and state regulations, the Required Plans are reviewed and approved *prior* to the individual AFO obtaining coverage under the general discharge permit. 40 C.F.R. § 122.23(h)(1); COMAR 26.08.04.09N. The Required Plans are subject to public review and comment, and a person aggrieved by the Department's final approval of a Required Plan may request a contested case hearing. COMAR 26.08.04.09N(3)(l)(ii).

The Department asserts that its AFO general discharge permit framework is not only consistent with this authority, but is particularly appropriate with respect to general discharge permits for AFOs, which are located in various geographic areas across the State, including portions of Garrett County and Worcester County that are located outside the Chesapeake Bay watershed. The Department explains that its general discharge permit framework allows it to consider those regional differences and tailor each permit's

requirements to the specific AFO's impact to nearby waterways, depending on the characteristics of that particular waterway.

As discussed above, the Legislature has given broad discretion to the Department to establish permit terms and conditions as the Department determines are necessary. The text of the statute does not instruct the Department as to how it must make these determinations or the water quality controls that must be included. When reviewing matters that are committed to agency discretion, we apply an "arbitrary and capricious" standard of review, which is extremely deferential to the administrative agency. *Carroll County*, 465 Md. at 202; *see also Anacostia Riverkeeper*, 447 Md. at 120 (stating that courts are to accord an agency "great deference regarding factual questions involving scientific matters in its area of technical expertise[]"). In this case, the Department, through the promulgation of formal regulations, has chosen to adopt the same general discharge permit framework established by federal regulations—a zero discharge general permit that imposes technology based effluent limitations in the form of best management practices as a first level of control, while retaining discretion and authority to impose additional water quality controls based upon the particular farming operation, and its location to a particular impaired waterway. We determine that the Department's decision to continue to utilize the same discharge permit regulatory framework for the 2019 General Permit—a permitting model that has been in place for over a decade and utilized in two prior permit iterations—is not arbitrary or capricious and is consistent with the discretionary authority conferred upon the Department under both federal and state law.

Assateague also challenges the 2019 General Permit because it asserts that the AFO permit framework "predates the establishment of the Bay TMDL, the creation of the current Bay Model, and the current federal CAFO rule,[46] not to mention many of the scientific studies and technical reports that were in the record before the Department when it made its determinations with respect to the current Permit." In other words, Assateague appears to be arguing that the AFO general discharge permit framework is out-of-date. We disagree. As discussed above, the federal and state regulations that establish a general discharge permit structure for this particular pollutant source have not changed. Assateague does not point to any evidence in the record in this case that supports the notion that the EPA's and the Department's regulatory permitting framework for this particular pollutant source is no longer reasonable or fails to comply with federal or state law.

With respect to Assateague's argument that the AFO general discharge permit framework predates the establishment of the Bay TMDL and the creation of the current

---

[46] Although it is not entirely clear what "EPA Rule" Assateague refers, as discussed in detail, the EPA regulatory framework that establishes a general discharge permit for the CAFO industry has not changed. To the extent that Assateague is referring to the guidance set forth in the NPDES Permit Writers' Manual for Concentrated Animal Feeding Operations, it states that "situations *could* arise where the permitting authority needs to impose more stringent requirements," such as where a CAFO discharges to an impaired waterbody or "where an *analysis of frequency, duration and magnitude* of the anticipated discharge" indicates the "reasonable potential" to affect water quality. EPA NPDES Permit Writers' Manual for Concentrated Animal Feeding Operations, February 2012, ("NPDES Permit Writers' Manual for CAFOS"), 4-36 (emphasis added). In other words, in the EPA's view, water quality based effluent limitations *may* be needed in specific instances following what amounts to a site-specific analysis. This language is consistent with the Department's permit conditions, which give the Department the *discretion* to impose additional water quality controls on a site-specific basis, depending upon the location of a particular operation, its proximity to a specific waterway, and the environmental health of that waterway.

Bay Model and therefore is no longer valid, we disagree. Although the Bay TMDL was not adopted until December 2010, it was being developed at the same time as the 2009 General Permit. As we noted in *Anacostia Riverkeeper*, the development of the Chesapeake Bay TMDL was a decades-long process. 447 Md. at 106. In that case, we rejected a similar argument made by Montgomery County in connection with its challenge to the Department's issuance of a stormwater permit. Specifically, we noted that, although the Department issued Montgomery County's permit before the Chesapeake Bay TMDL was established and Maryland's Phase I WIP was approved, these documents were not prepared in isolation, and we therefore observed that it would be "improper to view the [final Chesapeake Bay TMDL] in a vacuum as a single, isolated effort to restore water quality to the Chesapeake Bay." *Id.* (quoting *American Farm Bureau*, 984 F. Supp. 2d at 298). We reject Assateague's argument for similar reasons here.

Moreover, the administrative record in this case reflects that, in its development of TMDLs and the associated load and wasteload allocations, the Department factored in the AFO general discharge permit scheme. Specifically, in connection with the 2009 General Permit, Ms. Dalmasy described the Department's inclusion of the AFO general discharge permit structure as part of the establishment of the State's estimated agricultural load allocations necessary for the attainment of State water quality standards.

Maryland's approved phased WIP established the State's roadmap for how it will meet its pollutant allocations under the Bay TMDL. Maryland's Phase I WIP, which was completed in December 2010, allocated allowable loads of nitrogen, phosphorus, and sediments among different pollutant sources and identified statewide strategies for

reducing the levels of these pollutants that are impairing the Chesapeake Bay. Phase I WIP, iii. With respect to the agricultural source sector, the Phase I WIP specifically described the AFO general discharge permit scheme, noting that "Maryland's CAFO Program is current with federal regulations having been approved by EPA on January 29, 2010 after a rigorous review of Maryland's regulations, general permit and fact sheet." Phase I WIP, 2-42. The Phase I WIP described in detail the general permitting plan for this particular type of pollutant source—AFOs—the use of best management practices in the form of Required Plans that would be approved on a site-specific basis. *See* Phase I WIP, ES-3, 2-42. Building upon the details set forth in its Phase I WIP, the Department continued to refine its TMDL load allocation in the Phase II WIP, which were based upon the updated Bay Model, and accounted for agricultural impacts as part of its allocations. Phase II WIP, A-32. The development of the agricultural source component of the Phase II WIP involved extensive meetings between the Department and MDA, and various stakeholders.[47] During these discussions, the State workgroup formed to address agricultural source pollutants—the Water Quality Goal Implementation Team Agriculture Workgroup—sought specific guidance from the EPA in connection with the manner in which CAFO production areas would be factored into the TMDL load allocations and wasteload allocations. In other words, the Phase II WIP continued to take into account the

[47] The Phase II WIP describes the process that was undertaken by MDE and MDA to establish the portions of the Phase II WIP applicable to agriculture, including extensive meetings within each of the 23 counties in Maryland, that included a broad spectrum of stakeholders, including farmers, the University of Maryland Extension, Chesapeake Bay Foundation, Sierra Club, River Keepers, Maryland Farm Bureau, and the Delmarva Poultry Institute. Phase II WIP, A-30.

AFO general discharge permit approach—utilizing technology based effluent limitations in the form of BMPs—for this particular pollutant source as part of the State's overall load analysis in connection with the Chesapeake Bay TMDL.

The Phase III WIP describes additional efforts the State has undertaken to ensure that the agricultural sector satisfies the necessary Bay TMDL through BMPs to satisfy the nitrogen and phosphorus reduction goals within the Bay Model. Phase III WIP, B-10. Like the Phase II WIP, the Phase III WIP for agriculture was developed by the Department and MDA with active engagement by various agriculture and environmental stakeholders participating in numerous meetings across the State. Phase III WIP, B-2 –B-4. The Phase III WIP describes the State's efforts—coordinated through the MDA and local soil conservation districts—to inspect BMPs, verify that they relate to an NRCS standard, and to ensure that they are functioning as intended as far as nitrogen and phosphorus reduction within the Bay Model, and are satisfying water quality standards. Phase III WIP, B-9 – B-11.

The Department has determined that AFOs operating in compliance with the general discharge permit are not generally expected to cause or contribute to a violation of the water quality standards. That said, the Department's position "is that it will impose additional water quality based effluent limitations if—during the permit review process or at any time after the issuance of permit coverage—the Department determines that they are necessary to protect, maintain, and restore water quality and the existing and designated uses of waters of the State."

The Department's consistently stated position has been incorporated into the general discharge permit terms since the issuance of the 2009 General Permit. Turning to the language of the 2019 General Permit, it expressly acknowledges that there may be instances in which BMPs may be insufficient to address water quality standards. The permit specifically states that "[a]dditional TMDLs and wasteload allocations (WLAs) may be determined for nutrients in tidal waters. If WLA assessment for nutrients in tidal waters or a later assessment of wastewater discharged from these operations indicates that WLAs are required, *additional or alternative controls or monitoring may be required*." 2019 General Permit, Part VII.K (emphasis added). The 2019 General Permit also states that "the Department may require, *during the permit review process, and at any time after the issuance of the permit coverage*, additional [best management practices]" to ensure that the permit provides effluent discharge controls consistent with the Bay TMDL and its wasteload allocations. 2019 General Permit, Part VII.K.2 (emphasis added). For AFOs within the Chesapeake Bay watershed, the 2019 General Permit states that the additional measures may include the additional best management practices outlined in the WIP. *Id.* In addition, "[i]f the Department, in its sole discretion, determines that this General Discharge Permit is not adequately protective of state waters at an operation, the Department may require any person authorized by this permit to apply for an individual State discharge permit." 2019 General Permit, Part VII.M.2.

By its express terms, the 2019 General Permit gives the Department the authority to impose additional pollutant "controls or monitoring" if a WLA assessment for a particular waterway indicates it is required. The Department asserts that its decision to require

additional pollutant controls that are tied to an operation's proximity to a particular waterway and its overall health is not only reasonable, but is also consistent with the overall approach of the TMDL process, which is to establish water quality based effluent limitations for *particular* waterways.

The Department asserts that this permit condition, which provides for the implementation of additional site-specific limits where needed, also is consistent with the EPA NPDES Permit Writers' Manual for CAFOs, which states that "situations *could* arise where the permitting authority needs to impose more stringent requirements," such as where a CAFO discharges to an impaired waterbody or "where an *analysis of frequency, duration and magnitude* of the anticipated discharge" indicates the "reasonable potential" to affect water quality. EPA NPDES Permit Writers' Manual for Concentrated Animal Feeding Operations, February 2012, ("NPDES Permit Writers' Manual for CAFOS"), 4-36 (emphasis added). In other words, according to the Department, the EPA's view is that water quality based effluent limitations *may* be needed in specific instances following what amounts to a site-specific analysis.

This has been the Department's consistent position taken since the issuance of the 2009 General Permit. Like the Appellate Court which considered this same issue when analyzing the permit conditions in the 2009 General Permit, we conclude that the Department's determination that the 2019 General Permit conditions will not cause or contribute to the violation of the water quality standards is a determination that the Legislature has placed within the discretion and expertise of the Department. The

Department's determination is not arbitrary or capricious, and this Court will not substitute its judgment for that of the Department.

Finally, Assateague asserts that this Court's trilogy of cases that upheld the Department's permitting scheme for Municipal Separate Stormwater Sewer Systems ("MS4") support their position that water quality based effluent limitations are required to be included in the AFO general discharge permit. *Anacostia Riverkeeper*, 447 Md. 88 (2016); *Carroll County*, 465 Md. at 169; *Maryland Small MS4 Coal. v. Maryland Dep't of the Env't*, 479 Md. 1 (2022). Assateague asserts that *Anacostia Riverkeeper* and *Carroll County* "unquestionably require the Department to establish permit limits sufficient to meet water quality standards but confer considerable flexibility on the Department regarding *how* to do so." (Emphasis added). We completely agree with this statement. That is, under both state and federal law: (1) the Department is required to establish permit limits sufficient to meet water quality standards; and (2) the Department has considerable flexibility regarding how to satisfy the water quality standards. However, Assateague appears to be arguing that the term "water quality standards" is synonymous with "water quality based effluent limitations." It is not. As we explained in *Carroll County*, technology based and water quality based effluent limitations are two different types of controls employed to achieve water quality standards. *Carroll County*, 465 Md. at 186–88.

Because these cases involved a completely different pollutant source involving a completely different regulatory scheme, we do not need to delve too far into them, other than to note that, in each, this Court upheld the Department's interpretation and application of its regulatory authority under federal and state law to regulate stormwater management

permits. In *Anacostia Riverkeeper*, we upheld the Department's decision to issue MS4 permits to various counties after the Department's decision was challenged by environmental groups. 447 Md. at 179. In that case, we determined that applicable provisions of the Clean Water Act that address stormwater management permits, as well as the implementing regulations, provide the Department with flexibility in connection with its implementation of stormwater management effluent limitations established in water pollution control permits. *Id.* We concluded that there, as here, the text of the statute "does not instruct the permitting authority as to how it must ensure" consistency with water quality standards, and the agency has "the flexibility to determine the appropriate procedures for developing" permittee-specific limits. *Id.* at 136–37.

In *Maryland Department of the Environment v. County Commissioners of Carroll County*, certain counties sought judicial review of their MS4 permits issued by the Department. 465 Md. 169. We upheld the Department's decision to include certain impervious surface restoration requirements in addition to what is referred to as the "maximum extent practicable" standard, determining that such requirements were lawful and were not arbitrary or capricious. 465 Md. at 264–65. In *Maryland Small MS4 Coalition v. Maryland Department of the Environment*, we upheld the Department's final determination in connection with the issuance of other MS4 permits to other counties after applying the doctrine of *stare decisis* and determining that the holdings of *Carroll County* applied to that case. 479 Md. 1.

In this case, there is more than ample evidence in the record to establish that the Department's general permitting approach to AFOs is reasonable, and complies with the

Clean Water Act and Maryland's state water pollution control law, as well as its watershed-based approach to the Bay TMDL, which has been approved by the EPA and has been incorporated into all three phases of the WIP. Under both the Clean Water Act and Maryland's water pollution control law, the Department has the authority to determine the appropriate permitting procedures to ensure that permittees comply with water quality standards. We determine that the Department's AFO general discharge permit framework is consistent with the authority given to the Department under federal and state law to regulate particular types of pollutant sources utilizing its expertise, and is not arbitrary or capricious.

D. The Department's Decision to Require Plans to Address Ammonia Emissions Through Best Management Practices—Is Reasonable and Consistent with Federal and State Law

We turn next to Assateague's permit challenges pertaining to ammonia emissions. Ammonia is a form of nitrogen that is toxic to plant and aquatic life in large concentrations. *See* EPA Development Document for the Final Revisions to the National Pollutant Discharge Elimination System Regulation and the Effluent Guidelines for Concentrated Animal Feeding Operations, December 2002 ("EPA Development Document"), 7-1; *see also* NPDES Permit Writers' Manual for CAFOs, at 6-2. Nitrogen from animal waste or litter can be released to the atmosphere as gaseous ammonia through volatilization or denitrification. *Id.* It is undisputed that ammonia emissions in the form of agricultural atmospheric deposition are a source of nitrogen to the Bay. *See* Phase II WIP, A-32.

Assateague makes several arguments with respect to ammonia emissions and air deposition. First, Assateague asserts that the Department "reissued the permit without any limitations on ammonia" and states that, when developing the record and responding to comments, the Department has consistently taken the position that, as a matter of law, ammonia is not subject to regulation under this permit. Assateague asserts that not only has the Department "repeatedly and categorically" excluded ammonia as a matter of law from the 2019 General Permit, but it also contends that there is not "a single term, condition, or limit in the Permit that even references ammonia." Second—and somewhat contradictory to its primary argument that ammonia emissions *are not regulated in any manner* by the 2019 General Permit—Assateague argues that the Department's regulation of ammonia emissions does not go far enough. Assateague characterizes the Department's regulation of ammonia emissions as being a "discretionary approach" which, according to Assateague, leaves the decision to regulate ammonia emissions squarely within the control of the plan writer.

Finally, Assateague asserts that "[t]he record contains no discussion about the Department's current, planned, or previous exercise of discretion to impose ammonia, or any sort of air quality [] BMPs at individual AFOs" and asserts that the record is "devoid of any discussion of the types of site-specific 'outdoor air quality' conditions that might be present at a facility or any threshold characteristics that could guide this exercise of discretion established by the Permit." Assateague asserts that the lack of discussion is "not surprising" because it contends that "the record makes clear that the Department intends not to regulate this pollutant."

The Department asserts that it not only recognizes its authority to impose technology based effluent limitations on ammonia emissions, but that it did so in the 2019 General Permit. The Department points to the plain language of the permit, as well as the administrative record, which it contends provides substantial evidence that it intends to regulate ammonia emissions through best management practices incorporated into an approved Required Plan where air quality is a resource concern. As further evidence of the Department's determination that it has the authority to regulate and intends to regulate ammonia emissions, the Department points to the Phase II WIP, in which it specifically recognized that "agricultural atmospheric deposition" was one of the contributing sources of nitrogen to the Bay and accounted for that impact in its TMDL load allocation. Phase II WIP, A-32.[48]

Based upon our review of this record, there is substantial evidence contained therein to support the Department's stated position that it intends to regulate ammonia emissions through technology based effluent limitations in the form of best management practices identified in a Required Plan, which, once approved, is incorporated into the general discharge permit.

[48] Specifically, the Phase II WIP identified the following "Sources of Nitrogen to the Bay" based upon 2009 figures and the Chesapeake Bay Program Watershed Model Phase 4.3: Agriculture-Chemical Fertilizer (15%); Agriculture-Manure (17%); *Agricultural Atmospheric Deposition (6%)*; Atmospheric Deposition – Mobile, Utilities and Industries (19%); Atmospheric Deposition – Natural (1%); Atmospheric Deposition to Tidal Waters (7%); Municipal and Industrial Wastewater (19%); Developed Lands – Chemical Fertilizer (10%); and Septic Systems (4%). Phase II WIP, A-32 (emphasis added).

The 2019 General Permit is the first iteration of the AFO general discharge permit in which the Department has inserted specific permit conditions to regulate ammonia emissions. In other words, the new permit condition imposes additional restrictions on poultry operations where outdoor air quality is a resource concern, thereby providing stronger environmental protections than prior permit iterations. The Department's fact sheet—which specifically identified the changes being made in the 2019 Draft Permit from the 2014 General Permit—identified Part IV.D.2 as being a newly added "section on outdoor air quality for poultry operations . . . [r]equir[ing] the appropriate NRCS Practice Standards if air quality is a resource concern."

The plain language set forth in Part IV.D.2 of the 2019 General Permit states that nutrient management plans prepared for a particular facility must address any "resource concerns" about the particular AFO's air quality, stating: "For poultry: If outdoor air quality is determined to be a resource concern, use appropriate NRCS Practice Standards to address the concern." The permit's table of contents refers to this new condition as implementing "Other Best Management Practices" for the "Reduction of Ammonia, dust, and feathers."

As discussed above, Assateague and the Poultry Industry each provided competing written comments to this new addition—with the Poultry Industry asserting that the Department lacked the authority to regulate air emissions in a water pollution control permit, and Assateague asserting that the language did not go far enough. In its written comments, Assateague acknowledged that Part IV.D.2 was "new language" that was directed at "ammonia emissions." Assateague's written comments were directed at the

permit's "framework," in which the permit writer addresses "outdoor air quality" if it is determined to be a resource concern. In Assateague's view, because the framework for regulating ammonia emissions "is left up to the owner or operator of the regulated AFO[,]" "there are no pollution limits or standards in the draft permit capable of protecting waters of the State[.]"

After reviewing the testimony and written comments received during the public participation process, the Department prepared a report of its findings that summarized the comments it received, identified several revisions to the draft permit in response to those comments, and, where no changes were made, provided its explanation to support the permit conditions. With respect to the new air emissions requirement contained in Part IV.D.2., the Department considered the competing comments by the Poultry Industry and Assateague, and provided a written response explaining why it was not making changes to the permit condition—a written response that the Legislature specifically instructs us to consider in connection with our judicial review of environmental permits. *See* EN § 1-606(c) (stating that judicial review of the Department's determination of water pollution control permits is limited to the record compiled by the Department, including the Department's responses to public comments).

We reject Assateague's argument that the Department has excluded the regulation of ammonia emissions or air deposition "as a matter of law" and has taken the position that it has no authority to regulate air deposition through a water pollution control permit. Assateague's argument is in direct conflict with the evidence in the administrative record. In the Department's written response to Assateague's comments, it expressly

acknowledges its authority under state law to include air deposition in this permit. In explaining its basis for including Part IV.D.2, the Department accurately stated that: "EPA does not regulate odors or air quality through its CAFO permitting program. See generally 40 CFR 122.23." Although the Department correctly pointed out that the EPA does not regulate air quality through its CAFO permitting regulations, the Department also correctly acknowledged that it has such authority under both federal and state law. In its written comments, the Department explained that, "[w]hile MDE derives much of its NPDES permitting authority from the EPA and the [Clean Water Act], *it is authorized, as a delegated program, to impose requirements that are more stringent than what is required by the [Clean Water Act] or EPA's regulations*." (Emphasis added). The above comment reflects that the Department recognizes its legal authority to include air emissions in the 2019 General Permit.

Not only did the Department recognize its legal authority under state law to include ammonia emissions, the Department also explained that it, in fact, "included in the draft General Discharge Permit *provisions that require AFO owners or operators to implement BMPs in order to reduce nuisance odors and address any air quality resource concerns using appropriate NRCS Practice Standard(s)*." (Emphasis added). The Department also explained specifically how "ammonia and ammonia deposition" would be addressed and the types of best management practices that a permit writer is to include where air quality is a "resource concern":

> *There are several Natural Resources Conservation Service ("NRCS") practice standards that can be implemented by AFO operators to reduce actual or potential ammonia emissions from poultry houses.* NRCS Practice

> Standard, Amendments for Treatment of Agricultural Waste, is used in poultry houses to reduce the potential for high ammonia emissions such as sodium bisulfate, aluminum sulfate, acidified clay, and ferric sulfate. *These* amendments are applied to the litter prior to bird placement to reduce potential high levels of ammonia, suppress ammonia volatilization from litter and reduce emissions from the poultry facilities. Modern poultry houses have internal ventilation and cooling systems. Though the primary goal of these systems is to provide bird comfort, an added benefit is that they reduce dust and feathers inside the houses. This results in less particulate matter to be discharged into the atmosphere. The emission of dust and feathers may be addressed through NRCS Practice Standards (Hedgerow Planting) or (Windbreak/Shelterbelt Establishment). The implementation of these BMPs can provide ammonia reduction and a means to reduce dust and feathers.

(Emphasis added).

The Department's response specifically mentions implementing Natural Resource Conservation Practice Standards that are designed and used to reduce ammonia emissions. For example, Amendments for Treatment of Agricultural Waste is a standard intended to "address the use of amendments to manure and other agricultural wastes for specific purposes such as odor reduction, *ammonia emissions reduction*, reduction of soluble phosphorus, etc." USDA Natural Resources Conservation Service, *National Handbook of Conservation Practices Notice 137* (Apr. 26, 2005) (emphasis added), *available at* https://perma.cc/UPP8-XVTD. The Department also mentioned Hedgerow Planting, a standard used, among other things, to "[i]ntercept airborne particulate matter or to reduce chemical drift and odor movement." USDA Natural Resources Conservation Service, Conservation Practice Standard / Hedgerow Planting (Dec. 2018), *available at* https://perma.cc/2W8N-XRJ4. Similarly, the Department mentioned Windbreak/Shelterbelt Establishment, which is a standard used, among other things, to "[i]mprove air quality by reducing and intercepting

air borne particulate matter, chemicals and odors." USDA Natural Resources Conservation Service, Conservation Practice Standard / Windbreak/Shelterbelt Establishment (Dec. 2011), *available at* https://perma.cc/LN2Q-7N3R.

Based upon the above-described BMPs, the Department explained that, in its judgment, "[t]he draft General Discharge Permit contains BMPs to sufficiently minimize AFO ammonia emissions from poultry houses therefore no revisions are necessary."

The above written response illustrates that the Department correctly recognized its authority to regulate ammonia emissions as part of the 2019 General Permit; considered the public comments, including those comments made by Assateague and the Poultry Industry related to ammonia emissions; and explained how best management practices that are included in the NRCS Practice Standards—such as litter amendments, internal ventilation and cooling systems, hedgerow plantings, and the establishment of windbreak/shelterbeds—provide ammonia reduction. The Department's decision to regulate ammonia emissions through best management practices—with the Department's discretion to incorporate additional water quality controls based upon the location of a particular operation and its proximity to a particular waterway—is reasonable and is consistent with its authority under state law.[49]

[49] Finally, the parties each cite *County of Maui, Hawaii v. Hawaii Wildlife Fund,* 140 S. Ct. 1462 (2020). In that case, the question presented to the United States Supreme Court was whether pollution from an underground injection well that eventually makes its way into the Pacific Ocean could constitute a "discharge of pollutant" from a "point source" subject to regulation under the federal Clean Water Act. 140 S. Ct. at 1466. The Court held that the Act requires a permit where there is a direct discharge of a pollutant from a point source into water, or where there is a "functional equivalent" of a

We agree with the Department that, not only is there substantial evidence in the administrative record for the 2019 General Permit to support the Department's exercise of its authority to regulate ammonia emissions through the general discharge permit, but that the Phase II WIP also reflects that it has acknowledged this authority. The Phase II WIP specifically identified "agricultural atmospheric deposition" as one of the contributing sources of nitrogen to the Bay and accounted for that impact in its TMDL load allocation. Phase II WIP, A-32. In Ms. Dalmasy's explanation of the Department's process for establishing TMDLs, she explained how the load allocations "account for contributions from atmospheric deposition . . . ." *Assateague Coastkeeper*, 200 Md. App. at 715. There is substantial evidence in the record to reflect that the Department acknowledges its authority under state law to regulate ammonia emissions through its water pollution control permits and has, in fact, included BMPs to address ammonia emissions in this iteration of the AFO general discharge permit.

Next, Assateague asks us to determine that the language in Part IV.D.2 is insufficient because it contends that there is not "a single term, condition, or limit in the Permit that even references ammonia." The Department explains that the permit language is sufficient because the language includes terms of art that address ammonia emissions.

---

discharge. *Id.* We determine that this case is inapposite to our analysis here. In this case, it is undisputed that agricultural ammonia emissions are a source of nitrogen pollution that impacts the Chesapeake Bay. *See* Phase II WIP, A-32. As discussed above, there is substantial evidence in the record that the Department acknowledges its authority under state law to regulate ammonia emissions through its water pollution control permits, and has, in fact, included BMPs to address ammonia emissions in the 2019 General Permit.

The terms of art are defined in other technical documents—such as the NRCS Practice Standards—that the Permit incorporates by reference. We agree with the Department.

The 2019 General Permit states that, "[i]f outdoor air quality is determined to be a resource concern, use appropriate NRCS Practice Standards to address the concern." Part IV.D.2. A "resource concern" is defined in the NRCS Planning Procedures Handbook, Title 180, § 600.2(120), as "*[a]n expected degradation of the* soil, water, *air*, plant, or animal resource base to the extent that the sustainability or intended use of the resource is impaired." (Emphasis added). As it pertains to Assateague's challenge to ammonia emissions, air quality-based resource concerns include "*airborne* soil and smoke *particulates that can cause* safety-related problems, machinery and structure damage, health problems, *deposition of airborne sediment in water conveyances,* airborne chemical drift, odors, and fungi, molds, and pollen." NRCS National Planning Procedures Handbook, Title 180, § 600.2(3) (emphasis added). As the Department explained in its written response to public comments, the NRCS practice standards that address the generation of ammonia emissions include the application of litter amendments, cooling and ventilation systems, the planting of hedgerows, and the establishment of vegetated windbreaks and shelterbelts.

We agree with the Department that the 2019 General Permit incorporates sufficient language for a licensed certified plan-writer to understand that where "air quality" is a "resource concern" as those terms are defined in the NRSC National Planning and Procedures Handbook—a document that has been around for more than a decade, and is required by the Department's and MDA's regulations to be utilized by certified plan writers in preparing the Required Plan for a particular operation.

In *Anacostia Riverkeeper*, one of the water groups' challenges to the Department's issuance of certain stormwater management permits related to the fact that the permit incorporated by reference the 2000 Maryland Stormwater Design Manual, which the water group contended contravened the public participation requirements. 447 Md. at 172–73. In rejecting the water groups' argument, we acknowledged that the stormwater permits at issue, indeed, relied "heavily on incorporation by reference." *Id.* at 172. That said, we noted that "such incorporation by reference, even of important documents," did not contravene the public participation requirements. *Id.* We observed that "*including the best management practices* [in the stormwater management permits] *would significantly lengthen the document*" and "would obfuscate other requirements" in the permit. *Id.* at 173 (emphasis added). Accordingly, we saw "no reason" to require that the Department include the content of the manual in the permit itself. *Id.*

We approach the 2019 General Permit in a similar manner. We see no reason to require the Department to precisely identify the BMPs that are required for ammonia emissions. These practices are included in NRCS National Planning and Procedures Handbook, which is available to the public. In reviewing water pollution control permits, we will not substitute our judgment for that of the agency, and we affirm even decisions of "'less than ideal clarity' so long as the court can reasonably discern the agency's reasoning." *Carroll County*, 465 Md. at 202 (citing *Bowman Transp., Inc.*, 419 U.S. at 285–86). The Department requires that air quality be addressed—if it is determined to be a resource concern—by utilizing the methods and technology described in the NRCS National Planning Procedures Handbook. Because the Department is not required to

include the information incorporated by reference in the NRCS Planning Procedures Handbook, and we can reasonably discern the agency's reasoning, we conclude that the Department's permit conditions are not arbitrary or capricious.

To support its argument that the 2019 General Permit does not go far enough to regulate ammonia emissions, Assateague included as part of the circuit court record a study that has been referred to as the "Baker Study" (published as Baker, J., et al. "Modeling and Measurements of Ammonia from Poultry Operations: Their Emissions, Transport, and Deposition in the Chesapeake Bay," Science of the Total Environment, 706:135290 (March 1, 2020) (https://pubmed.ncbi.nlm.nih.gov/31838459/)). Given the discussion of this study in the briefs, it is worth addressing here.

Although the Baker Study was submitted as part of the circuit court record as an exhibit to Assateague's memorandum of law, it was not included in the Department's administrative record. Rather, a draft of that study was referenced in footnote 45 of the written public comment submission by Assateague and other organizations. The Baker Study was officially published on March 1, 2020—after the Department issued its Final Determination. The Department has not challenged Assateague's inclusion of the Baker Study as part of the judicial record in this case, [50] instead choosing to address the merits of the Study.

[50] In undertaking our review of this permit, we are mindful of the Legislature's directive that we confine our review of the administrative record. We also observe that, under the Department's regulations, any supporting materials that a member of the public wishes the Department to consider must be "included in full and may not be incorporated by reference, unless they are already part of the administrative record in the same proceeding or

The Baker Study modeled ammonia emissions from poultry houses on the Eastern Shore and concluded that approximately 40% of those emissions were redeposited within 1.5 miles of the source, and approximately 70% were redeposited within 31 miles. *Id.* at 23–24. The Department states that, although "[t]he Baker Study is an important contribution to the body of scientific knowledge about air emissions from poultry houses, [] its findings are abstract and theoretical, as the study itself acknowledges." For example, the Department points out that the authors of the study acknowledge that the dispersion model does not allow for land use to be considered as part of their analysis. *Id.* at 29. Without land use data, the study was not able to model the extent to which ammonia emissions actually make it into waterways because, as the study acknowledges, "[u]nfortunately, determining the deposition to rivers, streams and tributaries would be very difficult without land-use satellite data." *Id.* at 24. The study also notes that the lack of site-specific data about the proximity of dense forests and other vegetation is also an "important consideration," as those features tend to be "near rivers and waterbodies" and thus "will likely limit direct deposition to the Bay by taking up ammonia that would otherwise deposit to the water surface." *Id.* at 29. And, the Department asserts, most relevant here, the study acknowledges that one of its "important assumption[s]" was that "no waste management practices or environmental technologies are used to mitigate ammonia emissions throughout the modeling domain[,]" and that, specifically, the "use of

---

consist of State or federal statutes and regulations, EPA documents of general applicability or other generally available reference materials." COMAR 26.08.04.08I(4). Because the Department has chosen to discuss the merits of the study, we shall do so as well.

[the BMP] of using aluminum sulfate in the poultry houses for reducing ammonia emissions was not accounted for." *Id.* at 8, 29. In other words, the study recognizes that its modeling assumptions do not take into account *any* of the site-specific land uses surrounding a particular operation, *or* the very BMPs that are recognized in the NRCS National Planning and Procedures Handbook.

The Department states that the Baker Study is "an important piece of the scientific record" and "supports the conclusion that ammonia emissions from poultry CAFOs are cause for legitimate regulatory concern." The Department's view, however, is that the Baker Study "does not compel the conclusion" that the site-specific approach that the Department has chosen "is arbitrary, capricious, or unsuited to addressing CAFO air emissions." The Department explains that "science and common sense alike suggest that site-specific factors—distance to a particular waterway, topography, surrounding land use, vegetative cover, flock size, and fan size and direction—will determine whether gaseous emissions from a particular CAFO are likely to result in a discharge to waters of the State."

The Department defends its permit structure by pointing out that the Baker Study itself reflects, and the record here makes clear, "that the generation and subsequent deposition of ammonia emissions is subject to considerable variability and is most accurately evaluated site by site." The Department states that it has reasonably determined that a site-specific analysis will help evaluate the extent to which a facility's air emissions raise resource concerns and identify appropriate BMPs to address those concerns. The Department asserts that, rather than implementing a "one-size-fits-all approach," the 2019 General Permit "requires the licensed nutrient management plan-writer to determine

whether outdoor air emissions present a resource concern based on site-specific considerations, and requires the implementation of appropriate NRCS standards to address that concern where it exists."

We determine that it was within the Department's discretion to require each AFO to be assessed individually to evaluate ammonia emissions and to require appropriately tailored BMPs to control these emissions where they present a real risk of discharge. As this decision falls within the discretion afforded to the Department by the Legislature, we will not substitute our judgment for that of the agency. *See Carroll County* 465 Md. at 202; *Anacostia Riverkeeper*, 447 Md. at 120. Because the Department acted reasonably in implementing a site-specific approach to regulating outdoor air emissions, we conclude that the Department's decision was not arbitrary and capricious.

Finally, with respect to Assateague's argument that the permit is insufficient because the framework leaves unfettered discretion with the AFO owner or operator to adopt BMPs to address ammonia emissions, we disagree. As the Department explains, its regulations and permit conditions specifically require that a prospective permittee submit a Required Plan prepared by a certified planner *prior to* the approval of permit coverage. The Plans are subject to the public review and comment process. Moreover, unlike the statutory provisions that prohibit contested case review for general water pollution control permits, the regulations governing Required Plan approval provide aggrieved persons with a right to a contested case review. Under some of the newly added terms in the 2019 General Permit, the certified plan writer is required to identify all specific resource concerns at the particular AFO as part of the Plan's submission, and the Plan is also

required to identify the distance to and name of the nearest waterway as well as the water quality status of the watershed. 2019 General Permit, Part III.B.5. If an aggrieved person believes that the Required Plan is insufficient and does not comply with the State's water quality standards, it may be challenged through the appropriate administrative proceeding.

IV.

CONCLUSION

For the reasons set forth above, we hold:

1. The Department's AFO general discharge permit framework—which addresses water quality standards by requiring technology based effluent limitations in the form of best management practices that are prepared for a particular facility based upon site-specific conditions, while retaining discretion in the Department to impose additional water quality controls where they are necessary to protect and maintain water quality standards of a particular waterway—is reasonable, and is consistent with federal and state law.

2. There is substantial evidence in the record to reflect that the Department not only acknowledges its authority to regulate ammonia emissions and air deposition through the 2019 General Permit, but that it, in fact, has exercised this authority by requiring best management practices to address ammonia emissions where they are determined to be a resource concern. The Department's decision to evaluate each AFO individually and to require appropriately tailored best management practices to control these emissions where they present a real risk of discharge, is reasonable and falls within the discretion afforded

to the Department by the Legislature under Maryland's water pollution control law. We will not substitute our judgment for that of the agency.

JUDGMENT OF THE CIRCUIT COURT FOR MONTGOMERY COUNTY IS REVERSED. COSTS TO BE PAID BY THE APPELLEE.

Circuit Court for Montgomery County
Case No. 482915-V

Argued: November 3, 2022

IN THE SUPREME COURT

OF MARYLAND*

No. 11

September Term, 2022

MARYLAND DEPARTMENT OF THE ENVIRONMENT

v.

ASSATEAGUE COASTAL TRUST

Fader, C.J.
Watts
Hotten
Booth
Biran
Gould
Eaves,

JJ.

Dissenting Opinion by Watts, J.

Filed: August 9, 2023

*At the November 8, 2022 general election, the voters of Maryland ratified a constitutional amendment changing the name of the Court of Appeals of Maryland to the Supreme Court of Maryland. The name change took effect on December 14, 2022.

Respectfully, I dissent.

Under the heading "Environmental Justice"[1] in a letter to the Maryland Department of the Environment ("the Department"), that is part of the record, several advocacy organizations—including the Assateague Coastal Trust ("Assateague")—expressed their concern that the draft of the 2019 General Discharge Permit for animal feeding operations ("AFOs")[2] issued by the Department was "a clear example of a state program or policy

---

[1]*Special Environmental Concerns*—an August 2011 publication by the Natural Resources Conservation Service of the United States Department of Agriculture, which was included in the November 2014 version of the National Planning Procedures Handbook, which is part of the record—states that "environmental justice require[s] that populations . . . are not affected in a disproportionately high and adverse manner by government programs and activities affecting human health or the environment." Unfortunately, "[d]isproportionate exposure to environmental harms in communities of color and low-income communities has been well documented in Maryland." Aman Azhar, *Center: Most Maryland state agencies get Ds and Fs on environmental justice 'scorecard'*, *The Baltimore Banner* (Oct. 14, 2022), https://www.thebaltimorebanner.com/community/climate-environment/report-most-maryland-state-agencies-get-ds-and-fs-on-environmental-justice-scorecard-JTJCPB6DRVFWBMNSCCRNZIDD2U/ [https://perma.cc/J9CQ-MGB7].

[2]An animal feeding operation, or AFO, is

> a lot or facility (other than an aquatic animal production facility) where the following conditions are met: (i) Animals (other than aquatic animals) have been, are, or will be stabled or confined and fed or maintained for a total of 45 days or more in any 12–month period, and (ii) Crops, vegetation, forage growth, or post-harvest residues are not sustained in the normal growing season over any portion of the lot or facility.

40 C.F.R. § 122.23(b)(1) (paragraph breaks omitted). Under 40 C.F.R. § 122.23(b)(2), a concentrated animal feeding operation, or CAFO, is an animal feeding operation that meets the definition of "Large CAFO" in 40 C.F.R. § 122.23(b)(4), meets the definition of "Medium CAFO" in 40 C.F.R. § 122.23(b)(6), or is designated as a concentrated animal feeding operation under 40 C.F.R. § 122.23(c), which states in pertinent part that "[t]he appropriate authority . . . may designate any AFO as a CAFO upon determining that it is a significant contributor of pollutants to waters of the United States." Under Code of

with the potential to impose disproportionate negative environmental consequences[.]" The organizations observed that "[m]any of the lowest income areas of the state are found in the counties with the greatest concentration of [animal feeding operations]" and that "several of the dominant poultry producing counties also have among the highest percentages of minority populations in Maryland." (Footnote omitted). According to the organizations, "[t]he enormous quantities of pollution that emanate[] from [animal feeding operations] pose[] substantial public health risks, including from . . . emissions of unregulated ammonia[.[3]]"

Upon receipt of the letter, the Department expressly declined to make any changes to the part of the draft general discharge permit that purported to address ammonia emissions. Some of the events that gave rise to the advocacy organizations' concerns about ammonia emissions are described in, among other sources, the advocacy organizations' December 26, 2019 letter to the Department regarding "Comments on Draft General Discharge Permit for Animal Feeding Operations" and the Department's "Response to Public Comments Regarding General Discharge Permit for Animal Feeding Operations" dated July 8, 2020 as follows. Every year, animal feeding operations in Maryland produce

---

Maryland Regulations ("COMAR") 26.08.01.01B(42-1), a Maryland animal feeding operation, or MAFO, is an animal feeding operation that is not a concentrated animal feeding operation and that either meets the definition of "large AFO" in COMAR 26.08.03.09A or is designated as a Maryland animal feeding operation under COMAR 26.08.03.09C(2), which states that "[t]he Department may designate as a MAFO a small or medium AFO if the Department determines that the type or location of animal waste storage or animal access to surface water is likely to cause a discharge of pollutants to ground or surface waters of this State."

hundreds of millions of chickens—and tens of millions of pounds of poultry waste. Through a process called volatilization, poultry waste emits ammonia into the air. Ammonia then leaves poultry houses—often while being propelled by industrial exhaust fans—and may present a risk to the environment. Ammonia can pollute the Chesapeake Bay by landing on the bay or one of its many tributaries. Ammonia contains nitrogen, which causes nutrient pollution—which has been described as the main form of pollution in the Chesapeake Bay. Nitrogen and phosphorus, another nutrient pollutant, make algae grow, which pollutes the Bay by decreasing the amount of oxygen and increasing the amount of toxins and bacteria. Polluted water can kill or contaminate fish and shellfish and sicken people who drink it, otherwise come into contact with it, or eat contaminated seafood.

After the Department issued its Notice of Final Determination to reissue the general discharge permit, which did not contain provisions expressly limiting ammonia emissions, Assateague petitioned for judicial review. The Circuit Court for Montgomery County reversed, holding that, based on the plain language and legislative intent of the Environment Article, the Department erred as a matter of law in reasoning that the water pollution control statutes of Maryland do not apply to ammonia emissions. Specifically, the circuit court stated that "[t]he clear intent to expand the [Clean Water Act]'s reach, and the broadened definitions contained in the Environment Article, require the Department to regulate ammonia as a water pollutant." The circuit court concluded that ammonia is a gaseous pollutant under Md. Code Ann., Env't (1987, 2013 Repl. Vol.) ("EN") § 9-101 and is subject to regulation by the Department under the Environment Article, that "CAFOs

and MAFOs in Maryland actively emit gaseous ammonia into the Bay designating them as dischargers of pollutants[,]" and that regulating gaseous ammonia does not expand the Clean Water Act. The Department appealed. While this case was pending in the Appellate Court of Maryland, Assateague filed a petition for a writ of *certiorari*, which we granted.

Unlike the Majority, I would not reverse the judgment of the Circuit Court for Montgomery County in its entirety. See Maj. Slip Op. at 95-96. Rather, I would remand the case for the circuit court to address the question of whether substantial evidence supports the conclusion that the Department, through the use of Best Management Practices Subsection IV.D.2 of the discharge permit, has exercised its authority to regulate ammonia emissions that impact water quality. In my view, the Department was required to regulate ammonia emissions under the water pollution control statutes of Maryland but, unlike the Majority, I do not agree that it is clear that the general permit does so. Simply put, I am not convinced that the record demonstrates the general permit was intended to and does, in fact, subject ammonia emissions that impact water quality to regulation.

Nutrient Pollution in the Chesapeake Bay Generally

According to the United States Environmental Protection Agency ("the EPA"), "[n]utrient pollution is one of America's most widespread, costly and challenging environmental problems, and is caused by excess nitrogen and phosphorus in the air and water." EPA, *Nutrient Pollution / The Issue* (updated Aug. 11, 2022), https://www.epa.gov/nutrientpollution/issue [https://perma.cc/VK3Q-FDZN]. The EPA acknowledges that "[n]itrogen and phosphorus are nutrients that are natural parts of aquatic ecosystems" and "support the growth of algae and aquatic plants, which provide food and habitat for fish,

shellfish and smaller organisms that live in water." Id. The EPA points out, however, that "[t]oo much nitrogen and phosphorus in the water causes algae to grow faster than ecosystems can handle. Significant increases in algae harm water quality, food resources and habitats, and decrease the oxygen that fish and other aquatic life need to survive." Id. According to the EPA, some large growths of algae, or algal blooms, "are harmful to humans because they produce elevated toxins and bacterial growth that can make people sick if they come into contact with polluted water, consume tainted fish or shellfish, or drink contaminated water." Id.

The EPA observes that "livestock operations[] are [] vulnerable to nutrient losses to the air. Nitrogen can emanate from farm fields in the form of gaseous, nitrogen-based compounds, like ammonia and nitrogen oxides. And, ammonia can be harmful to aquatic life if large amounts are deposited from the atmosphere to surface waters." EPA, *Nutrient Pollution / The Sources and Solutions: Agriculture* (updated Nov. 4, 2021), https://www.epa.gov/nutrientpollution/sources-and-solutions-agriculture [https://perma.cc/J9MZ-LXXR].

Nutrients are the primary pollutants in the Chesapeake Bay. Nutrient pollution in the form of nitrogen and phosphorus in the Chesapeake Bay is so significant that the Clean Water Act expressly refers to it. Under the Clean Water Act, the Administrator of the EPA "shall ensure that management plans are developed and implementation is begun by signatories to the Chesapeake Bay Agreement[4] to achieve and maintain[] the nutrient

[4]"The term 'Chesapeake Bay Agreement' means the formal, voluntary agreements

goals of the Chesapeake Bay Agreement for the quantity of nitrogen and phosphorus entering the Chesapeake Bay and its watershed[.]" 33 U.S.C. § 1267(g)(1)(A). Another provision of the Clean Water Act states that "[e]ach State shall establish for the waters identified in paragraph (1)(A) of this subsection, and in accordance with the priority ranking, the total maximum daily load, for those pollutants which the Administrator identifies under section 1314(a)(2) of this title as suitable for such calculation." 33 U.S.C. § 1313(d)(1)(C).

Consistent with these provisions of the Clean Water Act, in coordination with "the seven jurisdictions in the Chesapeake Bay watershed (Delaware, District of Columbia, Maryland, New York, Pennsylvania, Virginia, and West Virginia)," in 2009, the EPA began developing—and, in 2010, the EPA issued—the Chesapeake Bay Total Maximum Daily Load, or TMDL, which the EPA refers to as a "'pollution diet'" and which sets forth, among other things, "allocations for nitrogen, phosphorus, and sediment[.]" EPA, *Chesapeake Bay TMDL Executive Summary* at 3, 1 (Dec. 29, 2010), https://www.epa.gov/sites/default/files/2014-12/documents/bay_tmdl_executive_summary_final_12.29.10_final_1.pdf [https://perma.cc/F3JN-R4NF]; EPA, *Chesapeake Bay TMDL / Section 9. Chesapeake Bay TMDLs* at 1 (Dec. 29, 2010),

executed to achieve the goal of restoring and protecting the Chesapeake Bay ecosystem and the living resources of the Chesapeake Bay ecosystem and signed by the Chesapeake Executive Council." 33 U.S.C. § 1267(a)(2). Today, the Chesapeake Executive Council is comprised of the federal government, the Chesapeake Bay Commission, Delaware, the District of Columbia, Maryland, New York, Pennsylvania, Virginia, and West Virginia. See Chesapeake Watershed Agreement at 18 (amended Jan. 24, 2020), https://d18lev1ok5leia.cloudfront.net/chesapeakebay/documents/FINAL_Ches_Bay_Watershed_Agreement.withsignatures-HIres.pdf [https://perma.cc/AX9M-KQBD].

https://www.epa.gov/sites/default/files/2014-12/documents/cbay_final_tmdl_section_9_final_0.pdf [https://perma.cc/P8E4-XZNM]. The Chesapeake Bay Total Maximum Daily Load "is designed to ensure that all pollution control measures needed to fully restore the Bay and its tidal rivers are in place by 2025[.]" *Chesapeake Bay TMDL Executive Summary* at 1.

Ammonia Pollution in the Chesapeake Bay

Maryland has a large poultry industry, and almost all of its operations are in the Chesapeake Bay Watershed. In the above-mentioned letter to the Department, Assateague, the Wicomico County Chapter of the NAACP, Chesapeake Legal Alliance, Environmental Action Center, Environmental Integrity Project, and other advocacy organizations advised that, according to the Delmarva Chicken Association, Inc.,[5] in 2017, an estimated "306.7 million broilers[6] were raised in Maryland, producing 1.84 billion pounds of meat." The organizations observed that the vast majority of animal feeding operations in Maryland are on the Eastern Shore. The organizations cited a 2015 report by the EPA indicating that approximately 95% of animal feeding operations in Maryland are in the Chesapeake Bay Watershed. See EPA, *Maryland Animal Agriculture Program Assessment* at 38 (Aug. 2015), https://www.epa.gov/sites/default/files/2015-09/documents/marylandanimala

[5]The Delmarva Chicken Association, Inc. used to be named the Delmarva Poultry Industry, Inc.

[6]A broiler is "a bird fit for broiling[,] especially [] a chicken that is younger and smaller than a roaster[.]" *Broiler*, Merriam-Webster, https://www.merriam-webster.com/dictionary/broiler [https://perma.cc/YY3L-XLHB]. In turn, a roaster is "a bird fit for roasting[,] especially [] a young chicken larger than a broiler[.]" *Roaster*, Merriam-Webster, https://www.merriam-webster.com/dictionary/roaster [https://perma.cc/3JAL-ETGE].

gricultureprogramassessment.pdf [https://perma.cc/24UR-T335].

Through a process called volatilization, poultry waste emits ammonia into the air. According to the EPA, "[a]mmonia [] volatilization from poultry litter results in accumulation of atmospheric [ammonia] in the poultry house, which is detrimental to human and bird health and reduces poultry productivity." EPA, *Development Document for the Final Revisions to the National Pollutant Discharge Elimination System Regulation and the Effluent Guidelines for Concentrated Feeding Operations* at 8-122 (Dec. 2002), https://nepis.epa.gov/Exe/ZyPDF.cgi/20002UUV.PDF?Dockey=20002UUV.PDF [https://perma.cc/JCV2-MNDQ]. In this context, "volatilization" means "pass[ing] off in vapor[,]" and "litter" means both "material used as bedding for animals" and "material used to absorb the urine and feces of animals[.]" *Volatilize*, Merriam-Webster (2023), https://www.merriam-webster.com/dictionary/volatilize [https://perma.cc/SL5P-SUMG]; *Litter*, Merriam-Webster (2023), https://www.merriam-webster.com/dictionary/litter [https://perma.cc/SFJ8-X6YH].

In a publication that is part of the record, the Environmental Integrity Project pointed out that, even though "[a]mmonia, the pungent gas released from animal waste, is responsible for a significant fraction of the nitrogen load to the Chesapeake Bay each year[,]" the Chesapeake Bay Total Maximum Daily Load does not "include any limits on ammonia emissions from agriculture, although EPA estimated emissions could be cut about 30% at fairly low cost." Abel Russ and Eric Schaeffer, Environmental Integrity Project, *Ammonia Emissions from Broiler Operations Higher than Previously Thought* at 1, 4, (Dec. 2017), https://www.environmentalintegrity.org/wp-content/uploads/2017/12/

Ammonia-Emissions.pdf [https://perma.cc/7LVD-Q3XZ] (footnote omitted). The Environmental Integrity Project observed that, "[i]nstead, EPA is counting on the [nitrogen oxide] reductions driven by Clean Air Act rules to keep the airborne nitrogen load low enough to meet cleanup goals by 2025. That scenario will be undermined if ammonia emissions prove to be higher than EPA expects." Id. at 4.

The Environmental Integrity Project contended that this is the case—*i.e.*, that, when developing the Chesapeake Bay Total Maximum Daily Load, the EPA underestimated ammonia emissions from agriculture. See id. at 1. The Environmental Integrity Project pointed out that "[t]he largest source of ammonia emissions is livestock waste, and a large component of that source category comes from the factory farms that produce broiler[]s." Id. The Environmental Integrity Project also noted that, based on data from European broiler animal feeding operations, the EPA assumed that broilers emit 0.27 grams of ammonia per bird per day and approximately 20,000 tons of ammonia into the Chesapeake Bay per year. See id. at 1-2. The Environmental Integrity Project argued that it was improper for the EPA to rely on data from European broiler animal feeding operations because American ones raise larger birds, reuse litter much more often, and operate in a warmer climate. See id. at 1-2. The Environmental Integrity Project stated that, based on a survey of literature concerning American broiler animal feeding operations, their ammonia emissions were double what the EPA assumed—*i.e.*, broilers emit 0.54 grams of ammonia per bird per day and approximately 40,000 tons into the Chesapeake Bay per year. See id. at 2.

Even the Environmental Integrity Project's numbers could be underestimates of the

amount of ammonia that animal feeding operations emit into the Chesapeake Bay. In their letter to the Department, Assateague and other advocacy organizations cited a report by the Maryland Department of Natural Resources indicating that "[e]stimates of emissions factors are relatively consistent in Delmarva and range from 0.47 grams of ammonia per bird per day . . . to 0.98" grams of ammonia per bird per day. See Md. Dep't of Natural Resources, *Broiler Industry Ammonia Emissions in the Chesapeake Bay Watershed* at 6 (June 2010), https://msa.maryland.gov/megafile/msa/speccol/sc5300/sc5339/000113/013000/013066/unrestricted/20100942e.pdf [https://perma.cc/J5S6-VXPN]. The same range of numbers appears in a study that is part of the record concerning broiler animal feeding operations in Pennsylvania and Kentucky. See Eileen F. Wheeler, Kenneth D. Casey, Richard S. Gates, Hongwei Xin, Jennifer L. Zajaczkowski, Patrick A. Topper, Yi Liang, and Anthony J. Pescatore, *Ammonia emissions from twelve US broiler chicken houses*, *Transactions of the ASABE*,[7] Vol. 49(5), at 1510 (Aug. 2006), https://dr.lib.iastate.edu/server/api/core/bitstreams/c349d3ef-5998-44ca-8470-a72cffee3147/content [https://perma.cc/3J3G-K3MQ].[8]

[7]"ASABE" stands for the American Society of Agricultural and Biological Engineers. See American Society of Agricultural and Biological Engineers, *About Us*, https://www.asabe.org/About-Us [https://perma.cc/7HPM-XVAZ].

[8]Similarly, according to a scientific journal article that is included in the record, estimates of emission factors range from 0.035 kilograms of ammonia per bird per year (*i.e.*, 0.1 grams of ammonia per bird per day) to 0.789 kilograms of ammonia per bird per year (*i.e.*, 2.16 grams of ammonia per bird per day). See Jordan Baker, William H. Battye, Wayne Robarge, S. Pal Arya, and Viney P. Aneja, *Modeling and Measurements of Ammonia from Poultry Operations: Their Emissions, Transport, and Deposition in the Chesapeake Bay*, *Science of the Total Environment*, Vol. 706 (March 1, 2020), https://www.sciencedirect.com/science/article/abs/pii/S0048969719352829

This Case

Tentative Determination and Public Hearings

On September 4, 2019, the Department issued a "Tentative Determination to Re-Issue Permit" ("the Tentative Determination") as to the "General Discharge Permit for Animal Feeding Operations[,]" as well as a "Fact Sheet Supplement" as to the Tentative Determination. Neither the Tentative Determination nor the Fact Sheet Supplement mentioned ammonia emissions.

On October 15 and 21, 2019, the Department conducted public hearings on the Tentative Determination. During the October 21, 2019 public hearing, a resident of Berlin stated that any new concentrated animal feeding operation "whose design does not prevent the discharge of ammonia or particulate matter into the surrounding air should not be permitted within three kilometers of the surrounding waterways. This would avoid any direct contamination of the waterways." Additionally, a resident of Princess Anne stated that she could "see particulate matter falling" when she used a flashlight at night and that the Department needed to "address[] ammonia depositions in surface waters because it goes up in the air from the exhaust fans and it comes down via rain or particulate matter that's falling on the ground and in the water."

[https://perma.cc/3D6U-Y6BH] ("*Modeling and Measurements of Ammonia from Poultry Operations*"). The article estimated that approximately 40% of ammonia emissions from chickens are deposited within 2.5 kilometers (*i.e.*, approximately 1.6 miles) of the animal feeding operation and that approximately 70% of ammonia emissions from chickens are deposited within 50 kilometers (*i.e.*, approximately 31 miles) of the animal feeding operation. See id.

Draft Permit and Conservation Practice Standards

On December 1, 2019, the Department issued a draft of a General Discharge Permit for Animal Feeding Operations ("the draft Permit"). Best Management Practices Subsection IV.D.2 of the draft Permit stated: "For poultry: If **outdoor air quality** is determined to be a resource concern, use appropriate [Natural Resources Conservation Service] Practice Standards to address the concern." (Emphasis added). According to the Department's brief in this Court, "[a] 'resource concern' is a term of art, defined in the [Natural Resources Conservation Service] National Planning Procedures Handbook, Title 180, § 600.2(120), as 'an expected degradation of the soil, water, air, plant, or animal resource base to the extent that the sustainability or intended use of the resource is impaired.'" (Citation omitted).[9]

[9]The most recent version of the National Planning Procedures Handbook does not mention ammonia. The November 2014 version of that handbook, which is part of the record, mentions ammonia on only two pages and simply observes that ammonia is a pollutant that can be in the form of particulate matter in the air and that "reducing emissions of directly-emitted particulate matter, [nitrogen oxide], ammonia, and [volatile organic compound]s from agricultural sources will help to mitigate agriculture's contribution to concentrations of particulate matter and ozone in the ambient air." Natural Resources Conservation Service, *National Planning Procedures Handbook* (amended Nov. 2014), https://directives.sc.egov.usda.gov/OpenNonWebContent.aspx?content=36483.wba [https://perma.cc/BX4X-J386]. The record contains a provision that was in the March 2003 version of the National Planning Procedures Handbook, but not in the current version or the November 2014 version—namely, Section 600.54 ("Element Criteria for [Comprehensive Nutrient Management Plan] Development") (a) (Manure and Wastewater Handling and Storage) (2) (Considerations for Manure and Wastewater Handling and Storage) (i) (Air Quality), which addressed ammonia emissions and related matters as follows:

> During the [Comprehensive Nutrient Management Plan] development process, [animal feeding operation] operators and/or owners need to consider

The Natural Resources Conservation Service has issued several Conservation Practice Standards that may be used once a resource concern is identified, three of which are relevant here because the Department expressly referred to them in the decision at issue.[10] See Natural Resources Conservation Service, *Conservation Practice Standards*, https://www.nrcs.usda.gov/resources/guides-and-instructions/conservation-practice-standards [https://perma.cc/UA7Y-6BES]. The first relevant Conservation Practice Standard is the one concerning "Amendments for Treatment of Agricultural Waste[,]" which it defines as "[t]he addition of chemical or biological additives to manure, process wastewater,[11] contaminated storm water runoff, or other wastes to reduce adverse effects

---

> the impact of selected conservation practices on air quality. Air quality in and around structures, waste storage areas, and treatment sites may be impaired by excessive dust, gaseous emissions, and odors. Poor air quality may affect the health of workers, animals, and persons living in the surrounding areas. Ammonia emissions from animal operations may be deposited to surface waters, increasing the nutrient load. Proper siting of structures and waste storage facilities can enhance dispersion and dilution of odorous gases. Conservation buffers placed with regard to prevailing wind patterns can intercept movement of some airborne pollutants. Enclosing waste storage or treatment facility can reduce gaseous emissions from [animal feeding operation]s in areas with residential development.

Natural Resources Conservation Service, *National Planning Procedures Handbook* § 600.54(a)(2)(i) (amended Mar. 2003), https://nutrientmanagement.tamu.edu/content/resources/nrcs_handbook.pdf [https://perma.cc/QRP2-NAB5].

[10]Although these three Conservation Practice Standards are critical to understanding the Department's reasoning, the record extract includes only a copy of an outdated version of one and lacks a copy of either of the others. To give context to the Department's decision and to avoid confusion, I will provide the current versions of the three Conservation Practice Standards at issue.

[11]The draft Permit defined "Process wastewater" in pertinent part as

> water directly or indirectly used in the operation of the [animal feeding

on air and/or water." Natural Resources Conservation Service, *Conservation Practice Standard / Amendments for Treatment of Agricultural Waste* at 1 (Sept. 2020), https://www.nrcs.usda.gov/sites/default/files/2022-09/Amendments_Treatment_Agricultural_Waste_591_CPS_9_2020.pdf [https://perma.cc/V2QP-523P]. This Conservation Practice Standard states that it "applies where the use of a chemical or biological amendment is needed to alter the physical and chemical characteristics of the waste stream as a part of a planned manure or waste management system." Id. The Conservation Practice Standard sets forth criteria for the labeling and instructions for use of, validation of products used as, expected performance of, handling and storage of, and byproducts of, amendments for treatment of agricultural waste. See id. at 1-2.

The Conservation Practice Standard states that "[t]he use of amendments to reduce ammonia and other emissions from manure in confined spaces may allow altered ventilation strategies at an appreciable energy savings." Id. at 2. The Conservation Practice Standard acknowledges, however, that "[t]he use of an amendment to reduce ammonia emissions from manure may result in a higher nitrogen content in the manure. Nutrient management plans may need to be revised to account for the decreased loss of nitrogen in the manure." Id.

The second relevant Conservation Practice Standard is the one concerning "Hedgerow Planting[,]" which it defines as the "[e]stablishment of dense vegetation in a

---

> operation] for any or all of the following: spillage or overflow from animal or poultry watering systems; washing, cleaning, or flushing pens, barns, manure pits, or other [animal feeding operation] facilities; direct contact swimming, washing, or spray cooling of animals; or dust control.

linear design to achieve a natural resource conservation purpose." Natural Resources Conservation Service, *Conservation Practice Standard / Hedgerow Planting* at 1 (Sept. 2010), https://www.nrcs.usda.gov/sites/default/files/2022-09/Hedgerow_Planting_422_CPS.pdf [https://perma.cc/CVF9-VWZ8]. This Conservation Practice Standard states that hedgerows can "intercept airborne particulate matter" and that "[w]ater quality benefits may arise from[i]nfiltration and assimilation of plant nutrients." Id. at 1, 3. The Conservation Practice Standard sets forth several criteria, including that "[h]edgerows shall be established using woody plants or perennial bunch grasses producing erect stems attaining average heights of at least 3 feet persisting over winter." Id. at 1.

The third relevant Conservation Practice Standard is the one as to "Windbreak-Shelterbelt Establishment and Renovation[,]" which it defines as "[e]stablishing, enhancing, or renovating windbreaks, also known as shelterbelts, which are single or multiple rows of trees and/or shrubs in linear or curvilinear configurations." Natural Resources Conservation Service, *Conservation Practice Standard / Windbreak-Shelterbelt Establishment and Renovation* at 1 (July 2021), https://www.nrcs.usda.gov/sites/default/files/2022-10/Windbreak-Shelterbelt_Establishment_380_NHCP_CPS_2021.pdf [https://perma.cc/S6AW-ZKPD]. This Conservation Practice Standard states that windbreaks and shelterbelts can "[i]mprove air quality by intercepting airborne particulate matter, chemicals, and odors, and/or by reducing airflow across contaminant or dust sources[.]" Id. The Conservation Practice Standard states: "On all lands except forest land, apply this practice to establish, enhance, or renovate windbreaks where rows of woody plants are desired and suited for the intended purposes." Id.

Public Comments on the Draft Permit

In a letter to the Department dated December 26, 2019, the Executive Directors of the Environmental Action Center and the Chesapeake Legal Alliance stated that they were commenting on the draft Permit on behalf of both of their advocacy organizations, as well as Assateague, the Wicomico County Chapter of the NAACP, the Center for Progressive Reform, the Environmental Integrity Project, the Maryland League of Conservation Voters, Concerned Citizens Against Industrial CAFOs, Waterkeepers Chesapeake, and the Protectors of the St. Martin River. The organizations requested that the Department revise the draft Permit to "account[] for and mitigate[] the enormous amounts of ammonia produced from each poultry house and manure storage shed." The organizations advised that animal feeding operations on the Eastern Shore add millions of tons of ammonia to the air every year and that much of that ammonia is deposited into the Chesapeake Bay and its tributaries.

The organizations pointed out that Subsection IV.D.2 of the draft Permit stated that Conservation Practice Standards were to be used "[i]f outdoor air quality is determined to be a resource concern[.]" The organizations also pointed out that "the framework for determining whether or not something is a resource concern is left up to the owner or operator of the regulated [animal feeding operation]." The organizations contended that, as such, there were "no pollution limits or standards in the draft permit capable of protecting waters of the State, [animal feeding operation] workers, or downwind communities from the massive amount of ammonia emitted by large poultry [animal feeding operations.]"

In another letter to the Department, dated December 26, 2019, the Maryland Executive Director of the Chesapeake Bay Foundation requested that the Department revise the draft Permit to "require additional mandatory site-specific terms for [animal feeding operations] to adequately control ammonia emissions and resulting nitrogen deposition to ensure that permitted [animal feeding operations] are able to comply with all applicable water quality standards and the General Permit's zero-discharge standard." The Chesapeake Bay Foundation stated "that ammonia emissions from growing poultry [animal feeding operations] throughout the Delmarva peninsula are more than just a neighborhood nuisance." The Chesapeake Bay Foundation asserted that ammonia "emissions cumulatively present an unquantified load of air deposition of nitrogen to the Bay" and "an unpermitted discharge in violation of the Clean Water Act and the General Permit's zero-discharge standard." (Footnote omitted).

The Chesapeake Bay Foundation acknowledged that the Department had indicated that certain animal feeding operations needed to implement the Conservation Practice Standard as to "Amendments for Treatment of Agricultural Waste[.]" The Chesapeake Bay Foundation pointed out, however, that only some of the Concentrated Animal Feeding Operation Comprehensive Nutrient Management Plans[12] included even one best management practice, whereas other such plans included "no practices to address ammonia

[12]A Comprehensive Nutrient Management Plan, or CNMP, is "a conservation plan that is specifically for an" animal feeding operation and that "identifies conservation practices and management activities that, when implemented as part of a conservation system, will manage sufficient quantities of manure, waste water, or organic by-products associated with a waste management facility." 7 C.F.R. § 1466.3.

emissions."

The Department's Final Determination, Permit, and Response to Public Comments

On July 8, 2020, the Department issued a "General Discharge Permit for Animal Feeding Operations" ("the Permit"), a "Notice of Final Determination" as to the Permit, a "Fact Sheet Supplement" as to the Permit, and a "Response to Public Comments Regarding [the Permit.]" Subsection 1 of Section M, titled "Individual or General Permit Coverage, Termination, and Closure[,]" within Part VII titled "General Conditions" of the Permit, stated that "[e]ach [Maryland animal feeding operation] and [concentrated animal feeding operation] shall be registered either under this General Discharge Permit or an individual, site-specific discharge permit." The Fact Sheet Supplement stated that "[e]ach permittee must develop, submit with its [notice of intent], and implement a site-specific Required Plan" and that the Department would "use the Required Plan to identify site-specific permit terms and conditions. The enforceable terms and conditions of the Required Plan are incorporated by reference into the [] Permit." (Citation omitted).

The Permit defined "Required Plan(s)" as the plans that concentrated animal feeding operation and Maryland animal feeding operation "applicants are required to submit to the Department. . . . These Plans include, but are not limited to, [Comprehensive Nutrient Management Plans] and [Nutrient Management Plans] and any other plans deemed necessary to perform a proper review of the application by the Department."

The Permit was substantively identical to the draft Permit with respect to

ammonia.[13] In the Permit, as in the draft Permit, the only mention of ammonia was in the label of Best Management Practices Subsection IV.D.2 ("Reduction of ammonia, dust, and feathers") in the table of contents. Subsection IV.D.2 of the Permit was identical to that subsection of the draft Permit, stating: "For poultry: If **outdoor air quality** is determined to be a resource concern, use appropriate [Natural Resources Conservation Service] Practice Standards to address the concern." (Emphasis added).[14] Neither the Notice of

[13]To be sure, as the Majority notes, the Department added limited new language indicating that "the certified plan writer is required to identify all specific resource concerns at the particular AFO as part of the Plan's submission, and the Plan is also required to identify the distance to and name of the nearest waterway as well as the water quality status of the watershed." Maj. Slip. Op. at 94-95 (citation omitted). This language imposes no new substantive requirements under Best Management Practices Subsection IV.D.2. In other words, this additional language does not require that a plan writer or animal feeding operation owner take any action other than to "identify" resources concerns (which ostensibly the plan writer was already required to do under the best management practices) and nearest waterways as well as water quality status. The new language does not impose any requirements for any further action whatsoever.

[14]Subsection IV.D.1 of the Permit stated: "Odors: The facility shall be operated at all times to minimize nuisance odors associated with process wastewater treatment and storage operations from escaping the facility boundaries." Subsection IV.D.3 of the Permit stated:

> Additional Best Management Practices for Organic Poultry Operations:
>
> > a) The [Comprehensive Nutrient Management Plan] and [Nutrient Management Plan] for an organic poultry [concentrated animal feeding operation] or [Maryland animal feeding operation] shall account for the uncollected manure that is deposited in the Poultry Pasture to assure that the vegetation on the Poultry Pasture is adequate to assimilate the manure nutrients deposited.
> >
> > b) The [Comprehensive Nutrient Management Plan] and [Nutrient Management Plan] shall describe how the Poultry Pasture will be operated to ensure that there is no discharge of manure, litter, or process wastewater from the Poultry Pasture into surface waters of the State.

Final Determination nor the Fact Sheet Supplement mentioned ammonia.

Consistent with the letter submitted to the Department on behalf of Assateague and other advocacy organizations, as well as the letter to the Department on behalf of the Chesapeake Bay Foundation, one of the Department's summaries of public comments stated that the Permit would "not adequately address air pollution (particulate matter/ammonia depositions) from poultry house exhaust fans and manure sheds that are deposited in the air and make their way to surface waters causing health and water quality impairments." In one of its responses to the public comments received, the Department reasoned that it was not necessary to revise the draft Permit to address the advocacy organizations' concerns about ammonia pollution because the draft Permit incorporated best management practices "to sufficiently minimize [animal farming operation] ammonia emissions from poultry houses[.]" The Department concluded that "[a]mmonia emissions/ammonia deposition have been considered and addressed to the extent permissible under the Clean Water Act and the state's water pollution control law and implementing regulations with the requirement of several" Conservation Practice Standards.

The Department stated that, under Subsection IV.D.2 of the Permit, animal feeding operations would be required to implement best management practices to "address any air quality resource concerns using appropriate" Conservation Practice Standards. The Department stated that the Conservation Practice Standard concerning "Amendments for Treatment of Agricultural Waste" "is used in poultry houses to reduce the potential for high ammonia emissions" and is "applied to [] litter prior to bird placement to reduce

potential high levels of ammonia, suppress ammonia volatilization from litter and reduce emissions from the poultry facilities." The Department stated that the Conservation Practice Standards concerning "Hedgerow Planting" and "Windbreak-Shelterbelt Establishment and Renovation" could also "provide ammonia reduction[.]"

Proceedings in the Circuit Court

Assateague petitioned for judicial review of the Final Determination. Afterward, the parties filed memoranda. In its memorandum, the Department stated that Assateague contended that the Permit was "legally deficient because it does not place controls on the gaseous emissions of pollutants from [concentrated animal feeding operations], including ammonia, that might later be deposited into state waters from the atmosphere." (Citation omitted). The Department argued that "[t]he simple reason for this omission is that regulating air emissions through a water discharge permit is outside the scope of both the [Clean Water] Act and Maryland's water pollution control statutes." (Footnote omitted). On January 26, 2021, the circuit court conducted a hearing.

On March 11, 2021, the circuit court issued an order reversing the Final Determination and remanding the Permit to the Department "to mandate effluent limitations for ammonia and other water quality based effluent limitations." On the same date, the circuit court issued a memorandum opinion holding that, based on the plain language and legislative intent of the Environment Article, the Department erred as a matter of law in reasoning that the water pollution control statutes of Maryland do not apply to ammonia emissions.

The circuit court concluded that ammonia meets the definition of "pollutant" in EN

§ 9-101(g) because ammonia is a gaseous substance that contains nitrogen and is emitted from poultry waste through volatilization. The circuit court determined that excluding ammonia from the definition of "pollutant" in EN § 9-101(g) would be a nonsensical construction that would greatly inhibit the Department's ability to protect the Chesapeake Bay. The circuit court also concluded that animal feeding operations' actions with regard to ammonia meet the definition of "discharge" in EN § 9-101(b) because animal feeding operations use industrial exhaust fans to emit ammonia onto the waters of this State.

The circuit court disagreed with the Department's contention that the circuit court's holding would require the Department to regulate all forms of water pollution that originate from the air—*i.e.*, to issue water discharge "permits for things as varied as 'cars and chimneys.'" (Quoting Chem. Weapons Working Grp., Inc. (CWWG) v. U.S. Dep't of the Army, 111 F.3d 1485, 1490 (10th Cir. 1997)). The circuit court concluded that its holding would not expand the Department's responsibility to issue water discharge permits beyond what the water pollution control statutes of Maryland prescribe because the record reflects that animal feeding operations' discharges of ammonia are specific, calculable events that the Department must regulate to fulfill its responsibility to administer those statutes. In other words, the circuit court determined that the Department's position was at odds with "[t]he concrete and measurable nature of the pollution in this case[.]" The circuit court stated that it would not address Assateague's contention that substantial evidence did not support the Department's decision. On April 12, 2021, the Department noted an appeal.

Petition for a Writ of *Certiorari* and Motions for Leave to File New Briefs

While this case was pending in the Appellate Court, Assateague petitioned for a writ

of *certiorari*, raising the following two issues:

> 1. Whether the Maryland Department of the Environment ("MDE") erred in issuing a General Discharge Permit for Animal Feeding Operations without including controls for ammonia emissions, when Maryland water pollution control laws unambiguously require regulation of ammonia emissions?
>
> 2. Whether the Clean Water Act and the more stringent Maryland Water Pollution Control laws require water discharge limitations that take into account impaired receiving waters (i.e. water quality-based effluent limitations) where effluent limitations based solely on minimum levels of treatment achieved by technology are ineffective?

The Department filed an answer to the petition and a conditional motion for leave to file a new principal brief, stating that it did not oppose the grant of the petition. Assateague filed a motion for leave to file a new brief.[15] On June 3, 2022, this Court granted the petition and the motions. See Md. Dep't of the Env't v. Assateague Coastal Tr., 479 Md. 63, 276 A.3d 610 (2022).

Standard of Review

Md. Code Ann., State Gov't (1984, 2021 Repl. Vol.) § 10-222(h)(3) generally concerns judicial review of a decision by an administrative agency, stating in pertinent part that a court may reverse such a decision where "any substantial right of the petitioner may have been prejudiced because a finding, conclusion, or decision: . . . (iv) is affected by any [] error of law; (v) is unsupported by competent, material, and substantial evidence in light of the entire record as submitted; . . . or (vii) is arbitrary or capricious." (Paragraph breaks

[15]When each party filed a motion to file a new brief in this Court, it had already filed a brief in the Appellate Court.

omitted).[16]

Clean Water Act and Federal Regulations

In Md. Dep't of Env't v. Anacostia Riverkeeper, 447 Md. 88, 96, 134 A.3d 892, 896-97 (2016), we described the National Pollution Discharge Elimination System established by the Clean Water Act as follows:

> Under the Clean Water Act ("CWA"), the discharge of pollutants is illegal. 33 U.S.C. § 1311. Through the National Pollution Discharge Elimination System ("NPDES"), 33 U.S.C. § 1342, either the Environmental Protection Agency ("EPA") or an EPA-approved state, such as Maryland, may issue permits exempting a discharger from this prohibition. *See Piney Run Pres. Ass'n v. Cnty. Comm'rs of Carroll Cnty., Md.*, 268 F.3d 255, 265 (4th Cir. 2001). [The Department] is the authority in Maryland that administers the NPDES program. Code of Maryland Regulations ("COMAR") 26.08.04.07. An NPDES permit, however, does not give a discharger carte blanche. "Generally speaking, the NPDES requires dischargers to obtain permits that place limits on the type and quantity of pollutants that can be released into the Nation's waters." *S. Fla. Water Mgmt. Dist. v. Miccosukee Tribe*, 541 U.S. 95, 102, 124 S.Ct. 1537, 158 L.Ed.2d 264 (2004). These limits are called effluent limitations. *See* 33 U.S.C. § 1362(11) (defining an effluent limitation as "any restriction established by a State or the Administrator on quantities, rates, and concentrations of chemical, physical, biological, and other constituents which are discharged from point sources into navigable waters, the waters of the contiguous zone, or the ocean, including schedules of compliance"). The type of discharge determines the type of limitations the permit must impose on the discharger.

(Footnote omitted).

In Md. Dep't of the Env't v. Cnty. Comm'rs of Carroll County, 465 Md. 169, 186-88, 214 A.3d 61, 71-72 (2019), we described the requirements under the Clean Water Act

[16]EN § 1-601(d)(1) specifically concerns judicial review of a decision by the Department to issue a general discharge permit, stating in pertinent part that "[j]udicial review shall be on the administrative record before the Department and limited to objections raised during the public comment period[.]"

as to water quality standards, technology-based effluent limitations, and water quality-based effluent limitations as follows:

> Under the Act, "water quality standards" are the benchmark for clean water. For each water body covered by the Act, states submit water quality standards to the EPA for review and approval. The standards are to be based on the water body's "designated use" (*e.g.*, public water supply, fishing, recreational use) and include criteria necessary to support that use (e.g., specific limits on certain pollutant concentrations). *See* 33 U.S.C. § 1313(c)(2)(A); 40 CFR §§ 130.3, 131.6; COMAR 26.08.02.01-.03.
>
> To achieve water quality standards, the Act requires that discharge permits include pollution controls for point sources. 33 U.S.C. § 1311(b). The Act calls these controls "effluent limitations" – "effluent" being the material discharged by a point source. Effluent limitations may be "technology based" or "water quality based." *See* EPA, NPDES Permit Limits, https://perma.cc/L4G6-24K9; *Natural Resources Defense Council v. EPA*, 808 F.3d 556, 563 (2d Cir. 2015).
>
> Technology based effluent limitations are generally the first round of controls in the effort to achieve water quality standards. *See* 33 U.S.C. § 1311(b)(1)(A). They "represent the minimum level of control that must be imposed in a permit[.]" 40 CFR § 125.3(a). But even the most stringent technology based effluent limitations have not achieved water quality standards in thousands of the nation's waterways. Congress anticipated this possibility in 1972 by retaining water quality standards "as a supplementary basis for effluent limitations ... so that numerous point sources, despite individual compliance with effluent limitations, may be further regulated to prevent water quality from falling below acceptable levels." *EPA v. California ex rel. State Water Resources Control Board*, 426 U.S. 200, 205 n.12, 96 S.Ct. 2022, 48 L.Ed.2d 578 (1976). If technology based limitations do not achieve the water quality standards, permits may include "any more stringent limitation ... necessary to meet water quality standards" – *i.e.*, "water quality based effluent limitations." 33 U.S.C. § 1311(b)(1)(C); 40 CFR § 130.7(c). Thus, regardless of whether a waterway is over-polluted due to point sources, nonpoint sources, or some mixture of both, the Act authorizes the imposition of water quality based controls on point sources, in addition to the most stringent technology based controls.
>
> These two types of effluent limitations differ in their reference point and in their strategies for reducing pollution. For technology based limitations, the reference point is the source, and the strategy is to deploy pollutant-reducing technology at that source regardless of its contribution of pollutants to the waterway. By contrast, for water quality based effluent limitations, the reference point is the waterway, and the strategy is for the

> point source to implement any additional actions (beyond the already required technologies) necessary to achieve the applicable water quality standard.

(Footnotes omitted) (ellipses in original).

33 U.S.C. § 1311(b)(1)(C) sets forth a requirement for States to establish limitations necessary to meet water quality standards, stating:

> In order to carry out the objective of this chapter there shall be achieved . . . not later than July 1, 1977, any more stringent limitation, including those necessary to meet water quality standards, treatment standards, or schedules of compliance, established pursuant to any State law or regulations (under authority preserved by section 1370 of this title) or any other Federal law or regulation, or required to implement any applicable water quality standard established pursuant to this chapter.

33 U.S.C. § 1311(g)(1) sets forth the EPA's authority to classify ammonia as a pollutant for purposes of the Clean Water Act, stating:

> The Administrator, with the concurrence of the State, may modify the requirements of subsection (b)(2)(A) of this section with respect to the discharge from any point source of ammonia, chlorine, color, iron, and total phenols (4AAP) (when determined by the Administrator to be a pollutant covered by subsection (b)(2)(F)) and any other pollutant which the Administrator lists under paragraph (4) of this subsection.

Consistently, Table IB (List of Approved Inorganic Test Procedures) of 40 C.F.R. § 136.3 (Intro Identification of Test Procedures), which is within Part 136 (Guidelines Establishing Test Procedures for the Analysis of Pollutants) of Subchapter D (Water Programs) of Chapter I (EPA) of Title 40 (Protection of Environment) of the Code of Federal Regulations, identifies criteria for measuring "Ammonia (as N[itrogen])[.]"

Water Pollution Control Statutes and Regulations of Maryland

As their names suggest, Subtitle 3 (Water Pollution Control) of Title 9 (Water, Ice,

& Sanitary Facilities) of the Environment Article, as well as Subtitle 4 (Water Pollution Control and Abatement) of Title 4 (Water Management) of the Environment Article, contain the water pollution control statutes of Maryland. The subtitle that is relevant here is Subtitle 3 of Title 9 of the Environment Article, which contains statutes concerning discharge permits. See EN §§ 9-322 to 9-333. Subtitle 4 of Title 4 of the Environment Article primarily contains statutes concerning oil. See EN §§ 4-406 to 4-411.1, 4-420.

EN § 9-101 contains definitions that apply throughout Title 9 of the Environment Article. See EN § 9-101(a). Under EN § 9-101(b), "'[d]ischarge' means: (1) The addition, introduction, leaking, spilling, or emitting of a pollutant into the waters of this State; or (2) The placing of a pollutant in a location where the pollutant is likely to pollute." (Paragraph breaks omitted). Under EN § 9-101(g), "'[p]ollutant' means: (1) Any waste or wastewater that is discharged from: (i) A publicly owned treatment works; or (ii) An industrial source; or (2) Any other liquid, gaseous, solid, or other substance that will pollute any waters of this State." (Paragraph breaks omitted). EN § 9-101(h) defines "pollution" as follows:

> "Pollution" means any contamination or other alteration of the physical, chemical, or biological properties of any waters of this State, including a change in temperature, taste, color, turbidity, or odor of the waters or the discharge or deposit of any organic matter, harmful organism, or liquid, gaseous, solid, radioactive, or other substance into any waters of this State, that will render the waters harmful or detrimental to:
>
> (1) Public health, safety, or welfare;
>
> (2) Domestic, commercial, industrial, agricultural, recreational, or other legitimate beneficial uses;
>
> (3) Livestock, wild animals, or birds; or
>
> (4) Fish or other aquatic life.

Code of Maryland Regulations ("COMAR") 26.08.01.01B(20), (66), and (67) contain identical, or substantively identical, definitions of "discharge," "pollutant," and "pollution," respectively.

Although EN § 9-101(j) contains a definition of "solid waste," neither that statute, EN § 1-101 (which contains definitions that apply throughout the Environment Article), nor EN § 9-301 (which contains definitions that apply throughout Subtitle 3 of Title 9 of the Environment Article) sets forth a definition of "waste." That said, under COMAR 26.08.01.01B(98), "'[w]aste' means industrial waste and all other liquid, gaseous, solid, or other substances which will pollute any waters of this State."

EN § 9-302(a) and (b) set forth the purpose and legislative policy, respectively, of Subtitle 3 of Title 9 of the Environment Article. EN § 9-302(a) states that "[t]he purpose of this subtitle is to establish effective programs and to provide additional and cumulative remedies to prevent, abate, and control pollution of the waters of this State." EN § 9-302(b) sets forth the legislative policy of Subtitle 3 of Title 9 of the Environment Article as follows:

> Because the quality of the waters of this State is vital to the interests of the citizens of this State, because pollution is a menace to public health and welfare, creates public nuisances, harms wildlife, fish, and aquatic life, and impairs domestic, agricultural, industrial, recreational, and other legitimate beneficial uses of water, and because the problem of water pollution in this State is closely related to the problem of water pollution in adjoining states, it is the policy of this State:
>
> (1) To improve, conserve, and manage the quality of the waters of this State;
>
> (2) To protect, maintain, and improve the quality of water for public

> supplies, propagation of wildlife, fish, and aquatic life, and domestic, agricultural, industrial, recreational, and other legitimate beneficial uses;
>
> (3) To provide that no waste is discharged into any waters of this State without first receiving necessary treatment or other corrective action to protect the legitimate beneficial uses of the waters of this State;
>
> (4) Through innovative and alternative methods of waste and wastewater treatment, to provide and promote prevention, abatement, and control of new or existing water pollution; and
>
> (5) To promote and encourage the use of reclaimed water in order to conserve water supplies, facilitate the indirect recharge of groundwater, and develop an alternative to discharging wastewater effluent to surface waters, thus pursuing the goal of the Clean Water Act to end the discharge of pollutants and meet the nutrient reduction goals of the Chesapeake Bay Agreement.

EN § 9-322 sets forth a general prohibition on discharging pollutants into the waters of this State, stating that, "[e]xcept as provided in this subtitle and Title 4, Subtitle 4 of this article and the rules and regulations adopted under those subtitles, a person may not discharge any pollutant into the waters of this State." Consistently, COMAR 26.08.04.01B(1) states that "[a] person may not commit any of the following acts except as authorized by a discharge permit issued by the Department: []Except as provided in COMAR 26.08.02.09A(3) and Regulation .08 of this chapter, discharge into the waters of this State any waste or wastewater regardless of volume." (Paragraph break omitted). EN § 9-323 sets forth a requirement for operators of concentrated animal feeding operations and other facilities to hold discharge permits.

EN § 9-324(a) states that "the Department may issue a discharge permit if the Department finds that the discharge meets: (1) All applicable State and federal water quality standards and effluent limitations; and (2) All other requirements of this subtitle."

EN § 9-328(b) sets forth the conditions under which the Department may renew a discharge permit (as it did here), stating:

> Before a discharge permit expires, the Department may renew the discharge permit for another term:
>
> (1) After administrative review in accordance with the rules and regulations that the Department adopts;
>
> (2) After notice and opportunity for public hearing on the subject;
>
> (3) On the condition that the discharge meets or will meet:
>
> (i) Any applicable State or federal water quality standards or effluent limitations; and
>
> (ii) Any applicable requirement of this subtitle; and
>
> (4) If the permit holder pays all application and permit fees assessed by the Department under this subtitle.

EN § 9-327 sets forth the conditions under which the Department may refuse to issue a discharge permit, stating, among other things, that the Department may refuse to issue a discharge permit if the Department finds that issuance of the permit would violate any State or federal law or any rule or regulation adopted under any State or federal law. EN § 9-326 concerns conditions on discharge permits, stating in relevant part: "(a)(1) The Department may make the issuance of a discharge permit contingent on any conditions the Department considers necessary to prevent violation of this subtitle."

Although Subtitle 3 of Title 9 of the Environment Article does not mention ammonia, Sections H (Acute Numeric Toxic Substance Criteria for Ammonia for the Protection of Fresh Water Aquatic Life (Table 1)), I (Chronic Numeric Toxic Substance Criteria for Ammonia, Expressed as a 30-day Average, for the Protection of Fresh Water

Aquatic Life (Tables 1 and 2)), J (Saltwater and Estuarine Acute Criteria for Ammonia), and K (Saltwater and Estuarine Chronic Criteria for Ammonia) of COMAR 26.08.02.03-2 (Numerical Criteria for Toxic Substances in Surface Waters) do so, indicating that ammonia is a toxic substance.

Maryland Case Law

This is only the fourth administrative case in which we have addressed in detail the substance of the Clean Water Act and/or the water pollution control statutes of Maryland. The other three such cases are Anacostia Riverkeeper, 447 Md. 88, 134 A.3d 892, Carroll County, 465 Md. 169, 214 A.3d 61, and Md. Small MS4 Coal. v. Md. Dep't of the Env't, 479 Md. 1, 276 A.3d 573 (2022) (per curiam). Unlike this case, all three of these cases involved discharge permits for municipal separate storm sewer systems, or MS4s. See Anacostia Riverkeeper, 447 Md. at 95, 134 A.3d at 896; Carroll Cnty., 465 Md. at 188, 214 A.3d at 72-73; Md. Small MS4 Coal., 479 Md. at ___, 276 A.3d at 575 (per curiam). The three cases involved interpretation of 33 U.S.C. § 1342(p)(3)(B)(iii), which states that "[p]ermits for discharges from municipal storm sewers . . . shall require controls to reduce the discharge of pollutants to the maximum extent practicable," or MEP.

In Anacostia Riverkeeper, 447 Md. at 126, 134 A.3d at 915, this Court held, among other things, that a requirement in discharge permits for municipal separate storm sewer systems that counties restore 20% of impervious surfaces complied with the "maximum extent practicable" standard. We observed that Maryland's watershed improvement plan, or WIP, "includes what we refer[red] to as the adaptive management approach" or "the 'iterative' process," "whereby additional or alternative practices are implemented if

existing programs are not meeting target reductions." Id. at 128 & n.44, 134 A.3d at 916 & n.44 (citation omitted). Specifically, the discharge permit for municipal separate storm sewer systems stated that "'[best management practice] and program modifications shall be made' if the Counties fail to comply with the Permits or fail to show progress in meeting [wasteload allocation] of EPA-approved [total maximum daily loads]." Id. at 128, 134 A.3d at 916 (footnote omitted). We pointed out that the relevant regulation adopted by the EPA did "not instruct the permitting authority as to how it must ensure" "that effluent limits are consistent with [wasteload allocation] assumptions and requirements." Id. at 136, 134 A.3d at 920-21 (citations omitted). We noted that, "[i]nstead, the EPA set a minimal, flexible requirement in which the permitting authority is to design a scheme where effluent limits are compatible or in agreement with [wasteload allocations]." Id. at 136, 134 A.3d at 921 (citation omitted). Immediately afterward, we quoted guidance from the EPA in the Federal Register observing that the regulation "gives the permitting authority the flexibility to determine the appropriate procedures for developing water quality-based effluent limits." Id. at 137, 134 A.3d at 921 (cleaned up). "[W]e conclude[d] that the nature of the schedules in the restoration plans d[id] not require [the Department] to incorporate those plans into the Permits by modification" because the "adaptive management approach is the true enforcement mechanism that leads to compliance with an effluent limitation or other limitation." Id. at 174, 134 A.3d at 943-44 (cleaned up).

In Carroll County, 465 Md. at 264, 214 A.3d at 118, we held, among other things, that "[t]he Department may lawfully include an impervious surface restoration requirement in a[municipal separate storm sewer system] permit without reference to the ['maximum

extent practicable'] standard." We observed that, "[t]o achieve water quality standards, the Act requires that discharge permits include pollution controls for point sources." Id. at 186, 214 A.3d at 71 (citing 33 U.S.C. § 1311(b)). We also noted that municipal separate storm sewer systems "differ from typical 'end-of-pipe' point sources in certain respects" and that "a discharge permit for a[municipal separate storm sewer system] differs from that for a typical point source." Carroll County, 465 Md. at 188-89, 214 A.3d at 73.

A dissenting opinion concluded, among other things, that the Department "was not authorized to set forth in Frederick County's [municipal separate storm sewer system] permit requirements that exceed the 'maximum extent practicable' standard[.]" Id. at 266, 214 A.3d at 119 (Watts, J., dissenting). In another dissenting opinion, Judge Getty stated that he "would scale back the agency deference doctrine as recognized in Maryland." Id. at 281, 214 A.3d at 128 (Getty, J., dissenting).[17]

In Md. Small MS4 Coal., 479 Md. at ___ & n.2, 276 A.3d at 576 & n.2 (per curiam), in a *per curiam* opinion that Judges McDonald, Hotten, Biran, and Adkins joined, we declined to overrule Carroll County and again held that conditions based on the EPA's regulations in the general permit for municipal separate storm sewer systems were not

[17]At the November 8, 2022 general election, the voters of Maryland ratified a constitutional amendment changing the title of the Judges serving on this Court to that of Justices. The name change took effect on December 14, 2022. And, on the same day, this Court amended Maryland Rule 1-202, effective immediately, to state that the title of "Judge" includes a Justice of the Supreme Court of Maryland and the title of "Senior Justice" means a Senior Judge who has been designated to sit on the Court in a case or other judicial matter pending before the Court. For purposes of this opinion, I will use the then-existing title of "Judge" when referring to opinions authored or joined by members of the Court before December 14, 2022.

illegal on the ground that they exceeded the "maximum extent practicable" standard. We observed that, in Carroll County, 465 Md. at 186, 214 A.3d at 71, we had "noted that, in a typical [National Pollution Discharge Elimination System] permit, there would be no question that the Department is to consider water quality standards in designing a permit – in fact, such consideration is required by the Act." Md. Small MS4 Coal., 479 Md. at ___, 276 A.3d at 584 (per curiam). We also pointed out that, in Carroll County, 465 Md. at 188-89, 214 A.3d at 73, we had "observed that a[municipal separate storm sewer system] permit is not a typical [National Pollution Discharge Elimination System] permit; [municipal separate storm sewer systems] differ from 'end-of-pipe' point sources and have a different permit standard." Md. Small MS4 Coal., 479 Md. at ___, 276 A.3d at 584 (per curiam).

In a concurring opinion that Judges Hotten and Adkins joined, Judge McDonald indicated that the water pollution control statutes of Maryland, which are more stringent than the Clean Water Act, could provide the Department with the authority to implement requirements that exceed the "maximum extent practicable" standard. See id. at ___, 276 A.3d at 604 (McDonald, J., concurring). Another opinion concurring in the judgment only, which Chief Judge Getty and Judge Booth joined, stated that, it disagreed with the substance of Carroll County, but would adhere to the principle of *stare decisis* and not overrule the case at the time. See Md. Small MS4 Coal., 479 Md. at ___, 276 A.3d at 606-07 (Watts, J., concurring in the judgment only). In another opinion concurring in the judgment only, Judge Booth stated that she would have joined the dissent in Carroll County but was bound by the doctrine of *stare decisis* and would not overrule that case at the time.

See Md. Small MS4 Coal., 479 Md. at ___, 276 A.3d at 607-08 (Booth, J., concurring in the judgment only) (joined by J. Getty and J. Watts).

In addition to Anacostia Riverkeeper, Carroll County, and Maryland Small MS4 Coalition, another Maryland case involving the Clean Water Act and/or the water pollution control statutes of Maryland is Assateague Coastkeeper v. Md. Dep't of the Env't, 200 Md. App. 665, 669-70, 28 A.3d 178, 181-82 (2011), in which the Appellate Court of Maryland upheld a discharge permit for animal feeding operations. The appellants contended that, under the EPA's regulations, the Department was required to "either ensure compliance with any applicable [wasteload allocation]/[total maximum daily load] or make a case-by-case determination of any necessary [water quality-based effluent limitations]." Id. at 719, 28 A.3d at 210 (internal quotation marks omitted). The appellants also argued "that these site-specific requirements 'c[ould]not be reconciled with the broad authorization to discharge' contained in the" discharge permit. Id. at 719, 28 A.3d at 210-11.

The Appellate Court pointed out that a Final Decision Maker, or FDM, of the Department found "that the imposition of [water quality-based effluent limitations] is likely to be quite site-specific and therefore may be more appropriately imposed through the [notice of intent] process, including the approval of the [Comprehensive Nutrient Management Plan]." Id. at 720, 28 A.3d at 211 (footnote omitted). The Appellate Court stated: "[T]his is a factual finding to which we give deference to the agency." Id. at 720, 28 A.3d at 211. The Appellate Court observed that, under the discharge permit, concentrated animal feeding operations were required to submit to the Department for approval a Comprehensive Nutrient Management Plan, which would address methods of

protecting water quality, and that such plans were subject to public review and comment before approval. See id. at 721, 28 A.3d at 211. The Appellate Court concluded: "It was within the province of [the Department] to determine that this process is sufficient to ensure that the issuance of new permits will not cause or contribute to the violation of water quality standards. We will not substitute our judgment for that of the agency on this issue." Id. at 721, 28 A.3d at 211-12.

Application of the Principles Above to this Case

In my view, a remand is necessary for the circuit court to decide whether the Department's final determination to use Best Management Practices Subsection IV.D.2 of the discharge permit to address ammonia emissions is supported by substantial evidence and not arbitrary and capricious. Stated otherwise, a remand is necessary to determine whether substantial evidence supports the Department's position that Best Management Practices Subsection IV.D.2 regulates ammonia emissions from an animal feeding operation that impact water quality. If the circuit court is satisfied that there is such substantial evidence, it would then be necessary for the court to determine whether Part IV.D.2 complies with Maryland's water pollution control statutes.

Before this Court, the Department has agreed that Maryland law identifies ammonia emissions as a pollutant and contends that it devised site-specific evaluations in Best Management Practices Subsection IV.D.2 to address such emissions. But the record reflects that the Department developed the best management practices at a time that it claimed that it was not required under the Clean Water Act or Maryland law to regulate ammonia emissions. Thus, the best management practices provisions were plainly not

developed for the purpose later stated by the Department.

Subsection IV.D.2 is labeled "Other Best Management Practices" and states in its entirety: "For poultry: If outdoor air quality is determined to be a resource concern, use appropriate [Natural Resources Conservation Service] Practice Standards to address the concern." By its plain language, Subsection IV.D.2 concerns outdoor air quality, not water pollution; indeed, there is no indication in the language of Subsection IV.D.2 that its ultimate purpose is to regulate water pollution. Subsection IV.D.2 allows animal feeding operations owners to hire licensed plan writers to determine whether there is a resource concern and then to determine whether to recommend practices such as putting up hedges or adding amendments to chicken litter to address the concern. The Department is not involved in these decisions at all.

Under these circumstances, Best Management Practices Subsection IV.D.2 does not appear to even effectively regulate air quality, let alone water pollution. Part IV.A.1.b provides that, if the "plan writer"[18] identifies a resource concern, it is up to the plan writer

[18]Under Part III.B.5, the person responsible for identifying resource concerns at a concentrated animal feeding operation is not an employee of the Department, but rather is the same person who writes the concentrated animal feeding operation's comprehensive nutrient management plan. A comprehensive nutrient management plan includes a nutrient management plan and a conservation plan. See COMAR 26.08.01.01B(13-1). In turn, a nutrient management plan addresses management of "the amount, placement, timing, and application of animal manure, fertilizer, biosolids, or other plant nutrients to minimize nutrient loss or runoff and to maintain the productivity of soil when growing agricultural products." COMAR 15.20.08.03B(27). Meanwhile, a conservation plan—also known as a soil conservation and water quality plan—addresses, among other things, "[s]torage for animal manure and litter[.]" COMAR 26.08.01.01B(83-1)(a). The person who writes the concentrated animal feeding operation's comprehensive nutrient management plan will be either an employee of the concentrated animal feeding operation or someone hired by the concentrated animal feeding operation.

which Conservation Practice Standards, issued by the Natural Resources Conservation Service, the concentrated animal feeding operation should use to address the concern. To be sure, the plan writer must be certified by the Maryland Department of Agriculture, but the plan writer is either a nutrient management consultant hired by the concentrated animal feeding operation itself or a person who owns, operates, or has a legal interest in the concentrated animal feeding operation. See Md. Code Ann., Agric. (1974, 2016 Repl. Vol.) § 8-803(a), (g)(1); COMAR 15.20.04.02B(1).

The Department is not involved in either of these determinations—identifying a resource concern or identifying Conservation Practice standards to address the concern—which are made by the plan writer, who is hired by the animal feeding operation or is associated with the animal feeding operation. In short, nothing in the discharge permit or the applicable COMAR requires the Department to independently determine under Subsection IV.D.2 whether resource concerns exist or which Conservation Practice Standards the animal feeding operation should use to address such concerns.

Plainly, the Department could have imposed different requirements in the discharge permit to address ammonia emissions but did not do so. At oral argument, the Court pointed out that the discharge permit allows animal feeding operations to identify resource concerns and choose Conservation Practice Standards. The Court asked the Department's counsel whether it would be possible for the Department to impose requirements or best management practices under its control rather than the animal feeding operations. The Department's counsel responded: "It would be possible."

To be sure, members of the public may comment on and challenge comprehensive

nutrient management plans. And, the Department must notify the public when it receives a notice of intent or a comprehensive nutrient management plan. See COMAR 26.08.04.09N(3)(b), (d). The Department must also notify the public when it preliminarily approves the plan, and the notice must provide for a thirty-day period for public comment. See COMAR 26.08.04.09N(3)(j). The Department must conduct a public hearing on the preliminary approval upon timely request, and the Department may conduct one on its own initiative. See COMAR 26.08.04.09N(3)(k)(i), (ii). A person aggrieved by the Department's final approval of the plan may request a contested case hearing. See COMAR 26.08.04.09N(3)(l)(ii).

But, this process does not mean that Subsection IV.D.2 effectively regulates ammonia emissions. At oral argument, the Court asked the Department's counsel how, as a practical matter, a member of the public would be able to challenge a comprehensive nutrient management plan that did not identify outdoor air quality as a resource concern. In other words, the Court asked how anyone other than an animal feeding operation plan writer would be able to identify a resource concern under Best Management Practices Subsection IV.D.2. The Department's counsel responded that, although ammonia is invisible, ventilation fans in poultry houses expel other materials, such as dust, feathers, litter, and dry poultry manure, which may be detected by the public. The Department's counsel stated that, at public hearings on comprehensive nutrient management plans, there are often many local residents who complain of odors or have otherwise made their own assessments without entering the property of the animal feeding operation.

These anecdotal circumstances are not an effective substitute for the Department's

regulation of ammonia emissions. It would be unreasonable to expect local residents and other interested parties (who cannot enter the property of an animal feeding operation) to determine for themselves whether ammonia emissions are causing a resource concern, or to hire their own nutrient management consultant (who could not enter the property at issue). From my perspective, there is no effective way that an interested party could challenge a comprehensive nutrient management plan that does not indicate that ammonia emissions pose a resource concern. And, even if there were such a challenge, it is unclear whether noncompliance with the best practice set forth in Subsection IV.D.2 would have any consequence at all.

The Department contends that Subsection IV.D.2 regulates ammonia emissions but in actuality the Department drafted the provision while it was under the mistaken belief that it was not allowed to regulate such emissions. The record demonstrates this. In its response to public comments that the discharge permit did not adequately address ammonia emissions, the Department stated that "[a]mmonia emissions/ammonia deposition have been considered and addressed to the extent permissible under the Clean Water Act and the state's water pollution control law[.]" In a memorandum filed in the circuit court, the Department stated that the discharge permit did not place controls on ammonia emissions because "regulating air emissions through a water discharge permit is outside the scope of both the [Clean Water] Act and Maryland's water pollution control statutes." Following this explanation, in a footnote, the Department stated that "[n]evertheless, the Department, in response to public comments it received on the draft GDP, included several provisions that require the implementation of BMP's to minimize nuisance odors and to address

outdoor air quality if it is determined to be a resource concern." The Department's own statements demonstrate that it did not design Best Management Practices Subsection IV.D.2 for the purpose that it now maintains that the provision serves—*i.e.*, the regulation of ammonia emissions.[19]

I would remand the case to the circuit court to allow the parties to address, and the court to determine, whether Part IV.D.2 regulates ammonia emissions as water pollution, and, if so, whether the provision passes muster under Maryland's water pollution control statutes. Judicial review of the Department's issuance of a discharge permit in the circuit court is based on the administrative record. See EN §§ 1-601(d)(1), 1-606(c). One possible outcome is that the circuit court would remand the case to the Department so that it could issue a new statement or fact sheet explaining the basis for its decision, which is a required part of the administrative record under EN § 1-606(c)(4).[20] In any event, from my perspective, it is clear that a remand to the circuit court is necessary to assess the Department's contention that Subsection IV.D.2 regulates ammonia emissions as water pollution.

---

[19]Although in its response to comments from the public, the Department acknowledged that it was authorized to impose requirements more stringent than those of the Act and stated that it had included in the Permit best management practices "to reduce nuisance odors and address any air quality resource concerns using appropriate NRCS Practice Standard(s)[,]" this statement does not mean, or make clear at all, that the Department accepted or understood that it was authorized to regulate ammonia emissions as a pollutant under Maryland law.

[20]Under EN § 1-605(c), an action for judicial review of the Department's issuance of a discharge permit "shall be conducted in accordance with the Maryland Rules." In turn, under Maryland Rule 7-209, a court may remand an action for judicial review "to the agency for further proceedings[.]"

The record demonstrates that the Department's Final Determination to include Best Management Practices to regulate ammonia emissions as impacting water quality was based not on an exercise of discretion by the Department, a finding of fact by the Department, or use of the Department's expertise in environmental science, but rather was based on the Department's conclusion that it was not authorized to address ammonia emissions as water pollution through the Permit. This is made clear by, among other documents, the Permit itself, whose real operative provisions do not mention ammonia emissions. By its plain language, Subsection IV.D.2 of the Permit (through which, the Department argues, it regulates ammonia emissions as water pollution) applies only where "outdoor air quality"—not water quality—"is determined to be a resource concern[.]" Even though Subsection IV.D of the general permit addresses air emissions from poultry operations where a site-specific evaluation finds that water quality impacts would occur, this determination is made without input from the Department and by plan writers who are compensated by the poultry operation owners, and would be difficult for any member of the public to meaningfully challenge. In my view, the Department was required to exercise its discretion and apply its expertise in environmental science to determine how to regulate ammonia emissions as water pollution through the Permit, and it is not clear from the record that the Department has done so.

The plain language of the Permit demonstrates that ammonia emissions are not, and were not intended by the Department to be, subject to regulation as water pollution through the Permit. The word "ammonia" appears only in the table of contents of the Permit—specifically, in the title of the advisory Best Management Practices Subsection IV.D.2

("Reduction of ammonia, dust, and feathers") of the Permit. As explained, Subsection IV.D.2 of the Permit states in its entirety: "If outdoor air quality is determined to be a resource concern, use appropriate [Natural Resources Conservation Service] Practice Standards to address the concern." Nothing in the provision reflects that ammonia emissions impact water quality, not just air pollution. Subsection IV.D.2 of the Permit places no effluent limitations whatsoever—whether technology-based or water quality-based—on ammonia emissions as water pollution.

Even for what it is—namely, a provision relating to air pollution rather than water pollution—Subsection IV.D.2 of the Permit is toothless. Under the best management practice, it is up to an individual who writes the Required Plan for an animal feeding operation to determine whether "outdoor air quality" is "a resource concern[.]" The writer of a Required Plan and the animal feeding operation are, at a minimum, in a contractual relationship. Thus, the writer, although trained and certified, may have a financial incentive not to make a determination that would be costly for the animal feeding operation to address. To put it colloquially, having a writer of a Required Plan determine whether outdoor air quality is a resource concern is like having a fox guard the henhouse.

Even in the event that the writer of a Required Plan would determine that outdoor air quality is a resource concern, Subsection IV.D.2 of the Permit merely sets forth the aspirational directive to "use appropriate" Conservation Practice Standards "to address the concern." Nothing in the best management practice provision requires use of any particular Conservation Practice Standard, any particular number of such standards, or any particular method of following such standards. Nor does Subsection IV.D.2 of the Permit set forth

any benchmarks, parameters, or criteria for determining whether an animal feeding operation's use of Conservation Practice Standards has sufficiently addressed the resource concern related to outdoor air quality (such as by, say, reducing dust emissions by a specified percentage or limiting feather emissions to a specified weight). Indeed, under Subsection IV.D.2 of the Permit, an animal feeding operation is not required to end, resolve, or even mitigate a resource concern relating to outdoor air quality—to the contrary, the animal feeding operation need only "address the concern" and that is solely if it chooses to do so. In sum, given that Subsection IV.D.2 of the Permit is not even a mandatory regulation of ammonia emissions as air pollution in any meaningful way, the provision certainly is not a regulation of ammonia emissions that affect water quality.

On this point, as explained above, not one, but two other documents reinforce what the plain language of the Permit makes clear—namely, that ammonia emissions are not, and were not intended by the Department to be, subject to regulation as water pollution through the Permit. First, in the Department's response to comments from Assateague and other advocacy organizations about the failure of the Permit to adequately address ammonia emissions, the Department stated that "[a]mmonia emissions/ammonia deposition have been considered and addressed to the extent permissible under the Clean Water Act and the state's water pollution control law and implementing regulations with the requirement of several [Natural Resources Conservation Service] practices including litter amendments and hedgerows/shelterbelts." This statement—which expressly refers to the Clean Water Act and the water pollution control statutes of Maryland—demonstrates that the Department's failure to regulate ammonia emissions beyond the best management

practices was based on its described interpretation of those statutes, rather than an exercise of discretion, fact-finding, or the use of any expertise. In its response, the Department said the quiet part out loud and made clear that it had reasoned that the most that it was authorized to do with regard to ammonia emissions in the Permit was to direct animal feeding operations to use Conservation Practice Standards where outdoor air quality is determined to be a resource concern.[21]

The Department's memorandum in the circuit court is the second document showing the same. In its memorandum, the Department stated that Assateague "argue[d] that the [Permit] is legally deficient because it does not place controls on the gaseous emissions of pollutants from [concentrated animal feeding operations], including ammonia, that might later be deposited into state waters from the atmosphere." Next, the Department stated: "The simple reason for this omission is that **regulating air emissions through a water discharge permit is outside the scope of both the Act and Maryland's water pollution control statutes.**" (Emphasis added) (footnote omitted). In no uncertain terms, the

[21]It is of no moment that, in the Department's response to public comments about animal feeding operations using industrial exhaust fans to blow ammonia emissions out of poultry houses, the Department stated that "[m]odern poultry houses have internal ventilation and cooling systems[,]" which "result[] in less particulate matter to be discharged into the atmosphere." For one thing, the Department's vague statement leaves unclear how many (if any) animal feeding operations in Maryland have internal ventilation and cooling systems, what percentage (if any) of animal feeding operations in Maryland have such systems, and whether poultry houses with such systems lack industrial exhaust fans. Additionally, even where a poultry house lacks industrial exhaust fans, that circumstance would not prevent ammonia emissions from being discharged onto the waters of this State. As Assateague and other advocacy organizations pointed out in their letter to the Department, "if we are to presume that an [animal feeding operation] does not 'discharge[,]' we would be forced to accept as reality an illogical and physically impossible result: that what goes into a poultry house never comes out."

Department candidly acknowledged that it had not regulated ammonia emissions through the Permit and that the reason why was that it was of the view that doing so would have been outside the scope of the Clean Water Act and the water pollution control statutes of Maryland. Together with the plain language of Subsection IV.D.2 and the Department's response to public comments, the Department's memorandum in the circuit court eliminates any doubt that, based on its earlier interpretation of the Clean Water Act and the water pollution control statutes of Maryland, the Department designed the Permit without considering regulating ammonia emissions as water pollution.

The Department has abandoned this interpretation on appeal. In its opening brief in this Court, the Department argues that "[t]he dispute before this Court thus is not *whether* [the Department] can regulate gaseous emissions under State law[,]" that "the plain language of the general permit demonstrates that the Department has that authority[,]" and that, "[r]ather, the dispute here is over *how* [the Department] has chosen to assess and regulate gaseous emissions discharging to State waters." (Emphasis in original). And, in its opening briefs in both appellate courts, the Department asserted that, based on "the science[,]" the Department determined that "site-specific" (as opposed to "across-the-board") regulation of ammonia emissions from animal feeding operations was appropriate.

The record belies multiple aspects of the Department's assertions. For one thing, as discussed above, by its plain language, the Permit does not subject ammonia emissions to regulation as water pollution at all—whether on a "site-specific" basis or on an "across-the-board" basis. In addition, "site-specific" regulation and "across-the-board" regulation are not mutually exclusive. Furthermore, the Department does not bring to the Court's

attention, and I could not find, anything in the record that indicates that its decision to implement Subsection IV.D.2 to address ammonia emissions that impact water quality was based on science. To the contrary, as discussed above, both the Department's response to public comments and its memorandum in the circuit court show that the Department's decision was based on an interpretation of the Clean Water Act and the water pollution control statutes of Maryland that it has now abandoned.

Because ammonia meets the definition of a "pollutant" in EN § 9-101(g) and animal feeding operations' actions with regard to ammonia meet the definition of "discharge" in EN § 9-101(b), under EN § 9-324(a)(2), the Department was not authorized to issue the Permit without regulating ammonia emissions as water pollution through the Permit. Although I would conclude that the Department must regulate ammonia emissions as water pollution through the Permit and the record does not establish that it has done so, I would refrain from offering an opinion on how the Department must do so. In other words, I would decline Assateague's invitation to hold that the Department was required to implement across-the-board water quality-based effluent limitations on ammonia emissions. The question of how to regulate ammonia emissions that impact water quality through the Permit is a matter committed to the Department's discretion and expertise, and I would not invade the Department's province by prescribing the methods that the Department must use to discharge its statutory duties. The problem is that it is not at all clear that the Department exercised its discretion in the first place to determine how to regulate ammonia emissions as water pollution through the Permit.

A remand of the case would further the purpose of the water pollution control

statutes of Maryland "to establish effective programs and to provide additional and cumulative remedies to prevent, abate, and control pollution of the waters of this State." EN § 9-302(a). It would also honor the General Assembly's express policy "[t]o improve, conserve, and manage the quality of the waters of this State" "[b]ecause the quality of the waters of this State is vital to the interests of the citizens of this State" and "because pollution is a menace to public health and welfare[.]" EN § 9-302(b)(1). In addition, a remand of the case would help to ensure that Maryland does its part to meet the goal under the Chesapeake Bay Total Maximum Daily Load "that all pollution control measures needed to fully restore the Bay and its tidal rivers are in place by 2025[.]" *Chesapeake Bay TMDL Executive Summary* at 1.[22]

For the above reasons, I would remand the case to the circuit court for a determination as to whether substantial evidence supports a finding that Best Management Practices Subsection IV.D.2 in fact regulates ammonia emissions as water pollution on a site-specific basis and whether the Best Management Practices comply with the requirements of the Act and Maryland statutes.

---

[22]Both the EPA and the Chesapeake Bay Foundation have determined "that Maryland and other bay states are not on track to meet the 2025 deadline for reducing pollution in the Chesapeake Bay, a goal established in 2010 by the EPA under the federal Clean Water Act." Cadence Quaranta, *Clean water advocates and elected officials urge next Maryland governor to do more to protect the Chesapeake Bay*, *The Baltimore Banner* (Oct. 19, 2022), https://www.thebaltimorebanner.com/community/climate-environment/clean-water-advocates-and-elected-officials-urge-next-maryland-governor-to-do-more-to-protect-the-chesapeake-bay-FGXLPX4B7VAV7DJUPHVGID55MM/ [https://perma.cc/MG4V-2VGD]. The executive director of the Environmental Integrity Project has stated that "'[f]orty-two percent of the nitrogen, 55% of the phosphorus and 60% of the sediment in the bay comes from agriculture. . . . We've relied on voluntary programs and exhortation to persuade the agricultural industry to do its part, [and] it's just not working.'" Id.

Therefore, respectfully, I dissent.