

IN THE CIRCUIT COURT FOR MONTGOMERY COUNTY

Case Number: 482915V

ASSATEAGUE COASTAL TRUST

Petitioner

v.

LAND AND MATERIALS ADMINISTRATION, MARYLAND DEPARTMENT OF THE ENVIRONMENT

Respondent

For Judicial Review of the Final Determination of the Maryland Department of the Environment to Re-issue the General Discharge Permit for Animal Feeding Operations, NPDES Permit Number MDG01, State Permit No. 19AF.

MEMORANDUM IN SUPPORT OF ASSATEAGUE COASTAL TRUST'S PETITION FOR JUDICIAL REVIEW

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ON JUDICIAL REVIEW OF)	
)	
NPDES Permit Number MDG01)	
State Permit No. 19AF)	
)	
Assateague Coastal Trust)	
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Petitioner)	
)	Case No.: 482915V
v.)	
)	
Maryland Department of the Environment)	
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Respondent)	
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MEMORANDUM IN SUPPORT OF ASSATEAGUE COASTAL TRUST’S PETITION FOR JUDICIAL REVIEW

Petitioner, Assateague Coastal Trust, (“Petitioner”) respectfully submits this memorandum in support of its Petition for Judicial Review (“Petition”) of the Maryland Department of the Environment’s (“MDE” or “the Department”) final determination to re-issue with modifications the General Discharge Permit for Animal Feeding Operations, NPDES Permit Number MDG01, State Permit No. 19AF.

STATEMENT OF THE CASE

Animal Feeding Operation (“AFO”) is a term used to generally describe a facility where hundreds or thousands of animals are kept. These facilities have been subject to regulation under the federal Clean Water Act (“CWA”) for decades in recognition of their significant impact on our nation’s water quality. A modern AFO can produce more waste than a large city and requires a sophisticated permitting process to properly manage and regulate that magnitude of waste. There are more than 500 AFOs in Maryland. The vast majority of these facilities raise chickens on the eastern shore of Maryland on land that drains to the Chesapeake Bay. (R. at 0473.)

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; and (2) The flood plain of free-flowing waters determined by the Department of Natural Resources on the basis of the 100-year flood frequency.

Md. Code Ann. Envir. § 9-101(1).

Because Maryland’s definition of “Waters of the State” is substantially broader than the federal definition of “Waters of the United States,” which covers only some subset of surface waters, and neither groundwater nor flood plains, a much greater quantity of pollutants emitted from an AFO will inevitably reach a Water of the State under state jurisdiction than a Water of the United States under federal jurisdiction by depositing into numerous small streams, ponds, wetlands, and other surface waters not subject to federal regulation, as well as into certain floodplains and infiltrating to ground waters.

In sum, Maryland’s WPC laws and regulations, which define for key terms “discharge,” “pollutant,” “waste,” “industrial waste,” and “Waters of the State,” leave no doubt that ammonia is a source of water pollution subject to the state’s discharge permitting requirements.

II. THE DEPARTMENT ERRED IN FAILING TO REQUIRE EFFLUENT LIMITATIONS FOR THE CONTROL OF AMMONIA EMISSIONS IN THE GENERAL DISCHARGE PERMIT FOR ANIMAL FEEDING OPERATIONS.

a. The omission of ammonia controls is contrary to the requirements of Maryland’s water pollution control laws governing the issuance of discharge permits.

Discharging water pollutants is unlawful unless in compliance with both state and federal law. Md. Code Ann. Envir. § 9-322; 33 U.S.C. § 1311(a). Thus, in Maryland “a person shall hold a discharge permit issued by the Department before the person may construct, install, modify, extend, alter, or *operate*” specified systems, facilities, or establishments, including an AFO, if the “operation could cause or increase the *discharge of pollutants* into the waters of this State.” Md. Code Ann. Envir. § 9-323 (emphasis added). MDE is authorized to issue “a discharge permit if the

Department finds that the discharge meets: (1) [a]ll applicable State and federal water quality standards and effluent limitations; and (2)[a]ll other requirements of this subtitle.” Md. Code Ann. Envir. § 9-324. MDE regulations further condition its issuance of “State discharge permits or NPDES permits” on consistency with “the provisions and conditions” of several different chapters of state WPC regulations governing water quality standards, discharge limitations, and permitting. COMAR 26.08.04.01. Importantly, the Department’s regulations governing effluent limitations in discharge permits contain a prohibition on “[t]he discharge of any wastes or waste waters regardless of volume unless ... authorized by a discharge permit.” COMAR 26.08.04.01B(2). Once again, the statutory and regulatory definitions in Maryland law clearly demonstrate that the gaseous emission of ammonia that deposits on waters of the State represents a discharge of pollutants subject to regulation.

Because ammonia, after discharge, deposits on waters and watersheds as a form of the pollutant nitrogen (“reduced nitrogen”), it has been recognized by the Chesapeake Bay Program as a major contributor of nitrogen pollution to Maryland’s extensive list of nitrogen-impaired waters, including, most notably, the Chesapeake Bay, but also major tributaries to the Bay. (R. at 0705.) A discharge may only be permitted if the “discharge does not contravene the surface water quality standards.” COMAR 26.08.03.01C. Thus, MDE is required to ensure that ammonia does not contravene water quality standards by causing or contributing to the impairment of waters of the State for either ammonia or nitrogen.

Despite these clear and explicit statutory and regulatory requirements, MDE reissued the AFO general permit without any limitations on ammonia, or even any discussion of this major source of pollution. Not only is the Permit impermissibly silent with respect to ammonia, in its response to comments MDE erroneously concludes that “[a]mmonia emissions/ammonia

The Choptank, Nanticoke, Wicomico, Pocomoke, and other major rivers on Maryland's eastern shore (the "Eastern Shore") are fed by hundreds of thousands of acres into more than 225 miles of rivers as they wind across the Eastern Shore and empty into the Chesapeake Bay, the largest estuary in the United States. Each of these rivers, like the Chesapeake Bay, is designated by Maryland and recognized under the CWA as "impaired" due to nitrogen pollution. The effort to restore the Chesapeake is as unique as the Bay itself, having been recognized as one of the largest ecosystem restoration projects in the world.

This restoration effort, known as the Chesapeake Bay Total Maximum Daily Load ("Bay TMDL"), is widely recognized as the single most comprehensive and rigorous of the more than 70,000 TMDLs in the United States. The federally mandated cleanup plan was established under the CWA after decades of missed deadlines and failed promises by state and local governments. *Id.* The Chesapeake Bay Program, a state-federal partnership, runs one of the most sophisticated watershed models in the world ("Bay Model"), which plays a "critical and valuable" role in implementing the multi-year, multi-jurisdiction Bay TMDL cleanup plan. *Md. Dep't of the Env't v. Riverkeeper*, 447 Md. 88, 107 (2016). The Bay Model estimates that millions of pounds of nitrogen pollution from permitted animal waste reach the Chesapeake Bay every year. (R. at 0706; R. at 0478; Ex.A.)

Chicken waste, like other poultry and livestock waste, releases ammonia gas. To mitigate the high levels of ammonia produced in a poultry AFO house, the gaseous ammonia pollution is blown out through high-powered ventilation fans. Instead of merely blowing "away," most of the ammonia gas ultimately falls onto local lands and waters. Over the last several decades a growing body of scientific literature has enabled researchers, as well as regulatory agencies and the courts, to understand the magnitude of ammonia pollution coming from AFOs. (R. at 0484-85; Ex.B.)

This research is important because ammonia is recognized as one of the most significant pollutants generated by AFOs. 40 C.F.R. § 412.2. Ammonia is a form of nitrogen, one of the three pollutants governed by the Bay TMDL due to its role in creating the “dead zones” that have choked life out of the Chesapeake for decades. (R. at 0228.)

As far back as 2005, the United States Court of Appeals for the Second Circuit described the potential impact of ammonia from AFOs on water quality through “discharge to the air coupled with subsequent redeposition on the landscape.” *Waterkeeper All., Inc. v. United States EPA*, 399 F.3d 486, 494 (2d Cir. 2005). Meanwhile, in response to a 2002 National Academy of Sciences report, EPA began in 2005 to examine methods for estimating AFO ammonia emissions. Since at least 2009, Marylanders have been urging MDE to address the significant amount of agricultural ammonia deposition that the Chesapeake Bay Program Watershed Model demonstrated. (R. at 0706.) While different experts might quibble about exactly how much ammonia an average AFO emits, or precisely how far the ammonia travels through the air before depositing on the ground or surface waters, the one thing that is clear through the research is that AFOs deposit an enormous quantity of ammonia, including millions of pounds on Maryland’s Eastern Shore and the Chesapeake and Atlantic Coastal bays every year. (R. at 0485; see Ex.C at 2.)

The federal CWA has established an ambitious objective “to restore and maintain the chemical, physical, and biological integrity of the Nation’s waters” and eventually reach the goal to “eliminate the discharge of pollutants.” 33 U.S.C. § 1251. The Maryland General Assembly set an even greater goal. Maryland law incorporates federal law as the minimum level of protection for its waters, requiring effluent standards to be “at least as stringent as those specified by the federal CWA’s National Pollutant Discharge Elimination System” (“NPDES”), the federal CWA permit program. Md. Code Ann. Envir. § 9-302(a); COMAR 26.08.04.07. Maryland’s water

pollution control (“WPC”) laws then go well beyond this floor set by federal law and “provide additional and cumulative remedies to prevent, abate, and control pollution of the waters of this state.” Md. Code Ann. Envir. § 9-302(a). In establishing discharge permits, Maryland regulations compel MDE not only to “satisfy the regulatory requirements of the National Pollutant Discharge Elimination System under the Federal Act,” but also the “provisions and conditions” in state regulations. COMAR 26.08.04.01(A). Thus, MDE may only issue a discharge permit if it “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.” Md. Code Ann. Envir. § 9-324(a). Moreover, MDE regulations governing the issuance of discharge permits are exceedingly strict in requiring a permit before allowing a “discharge into the waters of this State any waste or wastewater regardless of volume.” COMAR 26.08.04.01(B)(1).

Another aspect of Maryland’s WPC framework that makes it particularly stringent relative to the federal CWA is through much broader statutory and regulatory definitions. In short, a “discharge” of “pollutants” or “wastes” to “Waters of the State” encompasses a much greater amount of pollution from a far larger universe of sources when those definitions arise from Maryland law, compared to a “discharge of a pollutant” to a “navigable water” under federal law. Most notably for this case, Maryland’s WPC law is not limited to the discharge of liquid effluent. State WPC law expressly covers “gaseous” substances that are “emitted” from a source and reach surface or groundwater and, with respect to surface waters, it does not matter if the receiving water is navigable or not. Maryland WPC jurisdiction also expressly covers pollutants that deposit in a floodplain or infiltrate to groundwater. Md. Code Ann. Envir. § 9-101(l). Therefore, ammonia emitted from an AFO that deposits onto surface waters, or onto land that drains to waters, requires a permit.

Despite what the law says and what the best available science and data overwhelmingly demonstrate, MDE has declined to regulate ammonia emitted from AFOs even though it is one of the largest sources of water pollution generated by an AFO, and one of the largest sources of nitrogen pollution to the Bay. (R. at 0706.) The permit is silent with respect to ammonia and MDE's response to numerous comments erroneously states 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." (R. at 0278.) (emphasis added). Not only has MDE failed to address ammonia to the extent permissible, it has failed to address ammonia to the extent mandated by Maryland law. In so doing, MDE has committed a clear legal error.

MDE has similarly ignored its responsibility under state and federal law to establish pollution controls that are mandatory for permitted facilities located near highly polluted waters designated as "impaired" under the CWA. The Chesapeake Bay is perhaps the most famous impaired waterway in the United States, and is now subject to the Bay TMDL. And, even though agricultural pollution is by far the largest source of nutrient pollution to the Bay, and Maryland's Eastern Shore is significantly lagging behind other regions of the state and Bay watershed in reducing nutrient pollution, MDE has declined to include the required "water quality-based effluent limitations" in the AFO permit as required by state and federal law to aid in the ongoing efforts to clean up the Chesapeake. (Ex.D; Ex.E.) By contrast, other major CWA permits issued by MDE have included such pollution controls for impaired waters. The AFO permit and MDE's response to comments are silent as to why these mandatory pollution controls are missing in this permit, and the only acknowledgement of the massive cleanup effort underway to restore the Chesapeake Bay is one short section that begins with a conclusory statement that "[p]ermit requirements are consistent with existing Total Maximum Daily Loads (TMDLs) for impaired

water bodies” followed by a few provisions that merely provide guidance for management practices for a particular AFO. (R. at 0033.) MDE is attempting to exercise discretion it does not possess under state or federal law. Moreover, despite the undisputed conclusions of best available science reflected in the administrative record showing that AFOs contribute significant pollution to state Waters, MDE purports to regulate AFOs under a “zero discharge” standard in the permit, meaning that MDE has assumed as fact the impossible and factually unsupported proposition that an AFO can operate while generating no pollution reaching Waters of the State.

By ignoring one of the largest sources of pollution and one of the fundamental obligations of a permitting authority in issuing a discharge permit, MDE is abdicating its duties under state and federal law and has abused its discretion in a way that substantially interferes with the enormous regional efforts by dozens of governments and millions of people to restore the Chesapeake Bay and protect local water quality. Because the Department’s omission of controls on ammonia and water quality-based effluent limitations are contrary to state and federal law, arbitrary and capricious, and unsupported by the record, we ask this court to remand the Permit to the Department.

QUESTIONS PRESENTED

- I. Are gaseous emissions of ammonia from an animal feeding operation that deposit on waters of the State “pollutants” or “wastes” subject to permitting requirements under the state Water Pollution Control subtitle of the Environment Article (§§ 9-322 *et. seq.*)?
- II. Did the Department err in failing to require effluent limitations for the control of ammonia emissions in the General Discharge Permit for Animal Feeding Operations?
- III. Did the Department err by failing to include water quality-based effluent limitations and other conditions designed to ensure that discharges from permitted operations do not cause or contribute to water quality impairments and are consistent with the assumptions of applicable Total Maximum Daily Loads?

STATEMENT OF FACTS

Clean Water Act and Bay TMDL

Congress enacted the CWA "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters." 33 U.S.C. § 1251(a). The CWA requires Maryland to identify those waters that are 'impaired' as demonstrated by their current pollutant concentrations. 33 U.S.C. § 1313(d)(1)(A). The Chesapeake Bay and its rivers and streams are virtually all impaired by nitrogen pollution that robs them of oxygen to support underwater grasses and wildlife habitat. (R. at 0475.) As a result, MDE is required by the CWA to establish the TMDL "at a level necessary" to help the impaired rivers and streams to improve and eventually achieve "water quality standards...." 33 U.S.C. § 1313(d)(1)(C). A discharge is not allowed to an "impaired water body" without a permit containing discharge limitations "necessary to meet water quality standards...or schedules of compliance." *Id.* MDE failed to follow the CWA mandate to assure the actual impaired quality of a receiving water will be taken into account in deciding the appropriate discharge limit to impose on a polluting facility.

The Chesapeake Bay is a "national treasure" that stretches from Havre de Grace, Maryland down to Virginia Beach, with a surrounding watershed of 64,000 square miles, including over 150 rivers and streams that drain into the Bay. Pub. L. 106-457, title II, §202, Nov. 7, 2000, 114 Stat. 1967. The Bay is vital to Maryland's economic health, supporting at least \$26 billion of Maryland's economy each year. (Maryland Phase III Watershed Implementation Plan at D-4.) Over the past several decades, it became clear that nutrient pollution (nitrogen and phosphorus) and sediment together were choking the Bay and its tributaries, starving aquatic life of oxygen, blotting out the sunlight to aquatic vegetation, and causing massive dead zones and die-offs of both animals and plants. (R. at 0475.)

To protect the Bay, Maryland, along with Pennsylvania, Virginia, the District of Columbia, the U.S. Environmental Protection Agency (“EPA”), and the Chesapeake Bay Commission signed the Chesapeake Bay Agreement in 1983, beginning a partnership to reduce pollution to the Bay. Under this Agreement, the state-federal Chesapeake Bay Program led an effort to create a suite of models collectively referred to as the Bay Model, an elaborate multiphase modelling program that establishes watershed inputs and impacts to the Bay. But by the late 2000s, it became clear that the voluntary agreement was failing and so the Chesapeake Bay Program and EPA developed a TMDL for the Bay that quantifies how much nitrogen, phosphorus and sediment must be reduced to meet the Bay’s water quality standards. *Id.* The plans to meet these requirements are implemented through Maryland’s Watershed Implementation Plan.

Poultry AFOs and Ammonia

The poultry industry looms large on Maryland’s Eastern Shore. Over the last several decades, agriculture has changed dramatically, with small farms increasingly replaced by industrial-sized facilities that confine hundreds of thousands of animals in small, enclosed areas. Poultry represents most of the AFOs in Maryland, and the vast majority of AFOs on the Eastern Shore. The more than 500 poultry AFOs on the Eastern Shore produce over 300 million birds (“broilers”) every year. (R. at 0484-86.) Furthermore, the industry has expanded over the past decade. The standard poultry house is 60 by 600 feet, with a single poultry house density of up to 50,000 birds, per flock; the typical poultry AFO produces over 500,000 broilers annually (R. at 0483-85; see Ex.F at 15-16.) Each year the average broiler weight goes up, increasing 12 percent over the past decade to six pounds each. (R. at 0485, see Ex.F at 17.) With these immense production numbers comes waste, hundreds of millions of pounds of it. In 2017, poultry broiler production in Maryland generated approximately 440 million pounds of manure. *Id.*

One of the largest contributions of nitrogen pollution to the Bay and its tributaries on the Eastern Shore is nitrogen in the form of ammonia emitted from animal waste. (R. at 0706.) Ammonia (“NH₃”), a form of nitrogen, is emitted from poultry waste via a process called volatilization, whereby ammonia changes composition and converts to a gas emitted by manure inside poultry houses and manure storage sheds. (R. at 0290-91; 0484-86.) Everyone has experienced the smell of manure caused by these gases. The ammonia-nitrogen emitted moves through the air and deposits onto the surrounding acreages and surface water. *Id.* (see 40 C.F.R. § 122.23(b)(8)). Emissions rates from broiler operations have been studied for decades. (R. at 0483-85; see e.g. Ex.B; Ex.F at 14.) Ammonia emissions estimates are derived from a range of studies, both by university agricultural extensions and by EPA. *Id.* Most studies predict daily emissions rates on a per bird, per day basis, between 0.4 and 0.6 grams of ammonia per bird, per day. *Id.* Modelling of ammonia emissions from poultry AFOs on the Eastern Shore alone yields well over 10,000 tons, or 20 million pounds of ammonia emitted, each year. (R. at 0485; see Ex.C at 2, 25; Ex.F at 16.) At issue here is the fate of those millions of pounds of ammonia-nitrogen, a large portion of which deposits onto the lands and waters of the Eastern Shore and the Chesapeake and Atlantic Coastal bays. *Id.*

At least 18 percent, and up to 40 percent, of ammonia is deposited within 1.5 miles of a poultry house and up to 70 percent is deposited within 30 miles of the AFO. (R. at 0484-85; see Ex.C at *id.*) The amount of ammonia deposition is greatest closest to the source. Even based on the most conservative estimates, lands, wetlands and waters nearest the poultry house are blanketed with at least five pounds of ammonia on average, every year. (R. at 0484; see 40 C.F.R. §

122.23(b)(4)).¹ As far out as a quarter-mile from a poultry AFO, ammonia deposits onto every acre of land and/or water at a rate of at least one pound per year.² Collectively, the more than 500 poultry AFOs on Maryland's Eastern Shore deposit over 7,000 tons, or 14 million pounds, of ammonia-nitrogen directly onto the Eastern Shore. *Id.* (Ex.C at 50 (Table 1); Ex.G.) Of that total, more than 1,000 tons, or 2 million pounds, falls directly onto the 285,297 acres of freshwater and estuarine tributaries and wetlands on Maryland's Eastern Shore. *Id.* Finally, the Bay Model estimates that millions of pounds of that nitrogen are transported via waters of the State into the mainstem of the Chesapeake Bay, with an additional 400 tons, or 800,000 pounds of ammonia from AFOs directly depositing onto the Bay itself. (R. at 0475, 485; Ex.C at 50 (Table 1).) The immensities of these loadings are difficult to put in perspective. For comparison, all municipal sewage treatment plants combined sent about 8.4 million pounds of nitrogen to the Bay in 2019, according to the Chesapeake Bay Program website.

In 2008, EPA promulgated rules requiring concentrated animal feeding operations ("CAFOs" under federal law) to obtain a NPDES permit. *Assateague Coastkeeper v. Md. Dep't of the Env't*, 200 Md. App. 665, 674 (2011); 73 FR 70418, 70419. Under Maryland law this requirement is applicable to all such facilities in Maryland. On September 4, 2019, MDE made a tentative determination to reissue its General Discharge Permit for AFOs with revisions (the "Permit"). (R. at 0266.) Exhaustive public participation and comments included extensive

¹ The rate of ammonia deposition, or its "deposition velocity", varies based on the surface types onto which the ammonia deposits. (R. at 0484-85; see Ex. C at 7.) Specifically, the deposition velocity is higher for land with thick forest, approximately 2.4 centimeters per second ("cm/s"), while agricultural lands range from 0.7 to 1.4 cm/s, and surface water is 1.0 cm/s. (R. at 0484-85; see Ex. C at 12-13.) Based on the more conservative, lower deposition velocity, 1.0 cm/s, the ammonia loading rate is still staggering. *Id.*

² As described above, these estimates are based on the smallest sized federal designation for a poultry CAFO: 125,000 bird capacity, per flock, and also on the more conservative deposition velocity estimate of 1.0 cm/s. (R. at 0485-86.)

discussions about deficiencies and omissions in the Permit, including, inter alia, accounting for and controlling ammonia, compliance with TMDL and impaired waters requirements, siting issues, and others. (R. at 0286-517.) On June 2, 2020, the Permit was issued by MDE with minor revisions. (R. at 0266.)

JURISDICTION AND STANDING

This Court has jurisdiction over this petition for judicial review pursuant to Subtitle 6 of the Environment Article of the Annotated Code of Maryland. A final determination issued by MDE for the issuance or renewal of a permit to discharge to waters of the State is subject to judicial review at the request of any person that meets the threshold standing requirements under federal law and who participated in the public participation process through the submission of written or oral comments. Md. Code Ann. Envir. § 1-601(a)(3),(c). A petition for judicial review may be filed with the Circuit Court for the county where the application for the permit states that the proposed activity will occur. Md. Code Ann. Envir. § 1-601(e). As discussed below, Petitioner has standing under federal law and participated in the comment period through the submission of written and oral comments, which are included in the administrative record transmitted by MDE. This court has jurisdiction because the proposed activity which the permit regulates may occur anywhere in Maryland.

I. Assateague Coastal Trust Meets Federal Standing Requirements.

To satisfy federal standing requirements, one must show that “(1) it has suffered an 'injury in fact' that is (a) concrete and particularized and (b) actual or imminent, not conjectural or hypothetical; (2) the injury is fairly traceable to the challenged action of the defendant; and (3) it is likely as opposed to merely speculative, that the injury will be redressed by a favorable decision.” *Patuxent Riverkeeper v. Md. Dep't of the Env't*, 422 Md. 294, 299-300 (2011) (quoting *Friends of the Earth, Inc. v. Laidlaw Envtl. Servs. (IOC), Inc.*, 528 U.S. 167, 180-81 (2000)). An

organization has standing if “its members would otherwise have standing to sue in their own right, the interests at stake are germane to the organization’s purpose, and neither the claim asserted nor the relief requested requires the participation of individual members in the lawsuit.” *Patuxent Riverkeeper*, 422 Md. at 300 (quoting *Friends of the Earth*, 528 U.S. at 181).

Injury in fact may consist of “a negative impact on the organizational representatives’ recreational or aesthetic appreciation of the affected area” or a negative impact on a person’s economic interests. *Patuxent Riverkeeper*, 422 Md. at 300 (citing *Friends of the Earth*, 528 U.S. at 181-82). Referring to *Friends of the Earth*, the Court of Appeals observed, “[t]he Court noted that an injury to aesthetic, recreational or economic interests need not be consummated, so long as an individual can demonstrate reasonable concerns about the effects of the challenged activity.” *Patuxent Riverkeeper*, 422 Md. at 300 (citing *Friends of the Earth*, 528 U.S. at 183-84). In *Patuxent Riverkeeper*, the Court of Appeals held that the organization had standing to challenge a wetlands and waterways permit for a road extension and a stream crossing for a commercial development. The injury that the court found sufficient was harm to the recreational, aesthetic, and economic interests of one of its members who was “a frequent recreational paddler’ on the Western Branch of the Patuxent River” and also had an “aesthetic interest in the beauty of the river and the cleanliness of its water,” as well as an economic interest due to maps and guides he made and sold. *Id.* at 308 (quoting in part the Circuit Court’s findings). Despite making these findings, the Circuit Court in *Patuxent Riverkeeper* had dismissed for lack of standing, asserting that any injury to the member was conjectural or speculative. *Id.* at 308-09. The Court of Appeals disagreed. It held that the Circuit Court had “failed to credit the reasonable concern that [the member] manifested about future harm to the ecology of the Western Branch” downriver of the permitted project. *Id.* The court found the necessary causal nexus was present because of

allegations that “stream crossings at headwaters and wetlands can cause” adverse impacts on the watershed downstream. *Id.* at 310.

To establish traceability, one need only show that the permit allows the facility to discharge pollution that "causes or contributes to the kinds of injuries alleged in the specific geographic area of concern." *Friends of the Earth, Inc. v. Gaston Copper Recycling Corp.*, 204 F.3d 149, 161 (4th Cir. 2000) (internal quotations omitted). The traceability requirement "does not mean that plaintiffs must show to a scientific certainty that defendant's effluent . . . caused the precise harm suffered by the plaintiffs." *Piney Run Pres. Ass'n v. Cty. Comm'rs*, 268 F.3d 255, 263-64 (4th Cir. 2001) (quoting *Natural Res. Def. Council, Inc. v. Watkins*, 954 F.2d 974, 980 n.7 (4th Cir. 1992)) (internal quotation marks omitted). Finally, to demonstrate redressability "it must be likely, and not merely speculative, that a favorable decision will remedy the injury." *Gaston Copper*, 204 F.3d at 154.

Kathy Phillips is a resident of Ocean City, and has lived in Worcester County for more than 40 years. (Ex.H at 1). Ms. Phillips is a frequent recreational user of water in the Atlantic Coastal Bays, Indian River, Herring Creek, and elsewhere in the Chesapeake watershed. *Id.* These activities include swimming, boating, kayaking, and canoeing in the Maryland Coastal Bays and bird watching and hiking throughout the watershed. *Id.* Ms. Phillips also paddles occasionally on the Pocomoke River in the Chesapeake Bay watershed. *Id.* Ms. Phillips is also the Executive Director of the Assateague Coastal Trust and the Assateague Coastkeeper. *Id.* As Executive Director and Coastkeeper, Ms. Phillips is acutely aware of the degraded state of the region's waters and concerned about the potential impacts polluted waters can have on her health and the health of her organization's members, who rely on her water quality monitoring to make decisions about whether and when to recreate on waterways. *Id.* Ms. Phillips worries about the health of the waters she recreates on and about the damage caused by nutrient pollution and pathogens, including those

generated by AFO waste. *Id.* at 1-2. Ms. Phillips submitted comments during the comment period and testimony during the public hearing. (R. at 0469-504; 0531.) Remanding the Permit to ensure that it includes sufficient controls on water pollution would help to alleviate Ms. Phillips' concerns and address her injuries. Therefore, Ms. Phillips would have standing to sue in her own right.

Monica Brooks is a resident of Salisbury. (Ex.I at 1.) Ms. Brooks regularly visits and recreates on waters in Wicomico and Somerset counties, including the Wicomico River and Wicomico Creek. *Id.* Ms. Brooks is a member of Assateague Coastal Trust's Board of Directors and also a member of the Concerned Citizens Against Industrial CAFOs. *Id.* Ms. Brooks is well-educated about the environmental and public health impacts of AFO pollution and concerned about the health impacts of gaseous and particulate pollutants emanating from AFO house ventilation fans and runoff carried by stormwater from AFOs, which contaminate local groundwaters that her family and neighbors rely on for drinking water and residential uses. *Id.* Ms. Brooks submitted comments during the comment period. (R. at 0469-504.) Remanding the Permit to ensure that it includes sufficient controls on water pollution would help to alleviate Ms. Brooks' concerns and address her injuries. Therefore, Ms. Brooks would have standing to sue in her own right.

The interests at stake are germane to the Petitioner's mission. The mission of the Assateague Coastal Trust is to promote and encourage the protection of the health, productivity, and sustainability of the Coastal Bays watershed of Delmarva including the Pocomoke, Indian, and Herring Rivers, through advocacy, education, and conservation. (Ex.H at 1.)

Petitioner's members do not need to be individually involved in the lawsuit because Petitioner requests prospective relief, not specific damages or remedies for each person. When an association seeks prospective relief, "it can reasonably be supposed that the remedy, if granted, will inure to the benefit of those members ... actually injured." *Warth v. Seldin*, 422 U.S. 490, 515

(1975). Here, Petitioner seeks a remand of the Permit to MDE with instructions to establish controls on the discharge of ammonia and the inclusion of water quality-based effluent limitations that will help the Assateague and Chesapeake bays and the waters draining to these bodies to attain water quality standards. Therefore, Petitioner meets the threshold standing requirements under federal law.

II. Assateague Coastal Trust Participated in the Public Participation Process.

Petitioner actively participated in the public participation process. Members of the Assateague Coastal Trust provided oral comments at a public hearing following the tentative determination to renew the General Discharge Permit for Animal Feeding Operations. (R. at 0531.) Petitioner also timely filed extensive written comments to MDE during the comment period. (R. at 0469-504.)

STANDARD OF REVIEW

Maryland law provides for judicial review of discharge permits. Md. Code Ann. Envir. § 1-601(a)(3),(c). This review is limited to issues presented in the administrative record before the Department. Md. Code Ann. Envir. § 1-601(d). The standard of review and corresponding levels of deference depend on whether a court is reviewing an agency's fact findings, discretionary decisions, or legal conclusions. *Md. Dep't of the Env't v. Cty. Comm'rs of Carroll Cty.*, 465 Md. 169, 201 (2019) (citing *Riverkeeper*, 447 Md. at 118-21). The substantial evidence and arbitrary and capricious standards apply where a statute provides for judicial review without a contested case hearing or a specified standard of review. *Riverkeeper*, 447 Md. at 118. When reviewing an agency's conclusions of law, a court reviews the correctness of those decisions using the de novo standard. *Schwartz v. Md. Dep't of Nat. Res.*, 385 Md. 534, 554 (2005).

An administrative agency's findings of fact must meet the “substantial evidence” standard. *Gore Enter. Holdings, Inc. v. Comptroller of the Treasury*, 437 Md. 492, 504 (2014). In applying

“pesticides applied in this way and later affecting the water are necessarily ‘discarded,’ ‘superfluous,’ or ‘excess’ chemical” and ultimately subject to CWA jurisdiction. *Id.* at 940. Similarly, the Second Circuit held that the source of aerial pesticide spraying was in fact a point source subject to the CWA. *Peconic Baykeeper, Inc. v. Suffolk Cty.*, 600 F.3d 180, 188-89 (2d Cir. 2010).

The undisputed administrative record demonstrates that roughly 40,000 pounds of ammonia are emitted each year from even a small AFO with the capacity to confine 125,000 chickens. (R. at 0484; see Ex.F at 2, 15.) Between 18 and 40 percent of this ammonia emitted by an AFO deposits entirely within a 1.5 mile radius of the AFO. (R. at 0485; Ex.C at 23, Fig.10.) The United States Supreme Court recently discussed the connection or proximity between a point source of pollution and a Water of the United States. *Cty. of Maui v. Haw. Wildlife Fund*, 140 S. Ct. 1462, 206 L.Ed.2d 640 (2020). The Court emphasized the importance of analyzing “time and distance” in querying whether the “result” of a discharge is sufficiently similar to a “direct discharge” and, if so, it constitutes the “functional equivalent” of a discharge subject to CWA jurisdiction. *Id.* at 1476. Given the magnitude of ammonia emissions from an AFO and the relatively short transport distances of ammonia to the waters so prevalent on the Eastern Shore, it was not and cannot be disputed that a substantial quantity of ammonia will deposit directly to the Bay, its rivers and streams, or on non-agricultural fields from which it will percolate or run off to Waters of the State.

c. The omission of controls on ammonia is arbitrary and capricious and cannot be supported by the record.

The Department’s omission of controls on a well-known water pollutant that constitutes one of the largest waste streams generated by an AFO is also arbitrary and capricious, and cannot be supported by the facts included in the record before the agency. The record is undisputed

the substantial evidence standard, a reviewing court defers to the facts found and inferences drawn by the agency when the record supports those findings and inferences. *Cty. Comm'rs of Carroll Cty.*, 465 Md. at 201 (citing *Riverkeeper*, 447 Md. at 120). In particular, where factual issues involve scientific matters within an agency's area of technical expertise, the agency is entitled to “great deference.” *Riverkeeper*, 447 Md. at 120. Ultimately, a court seeks to understand “whether a reasoning mind reasonably could have reached the factual conclusion the agency reached.” *Id.* (quoting *Najafi v. Motor Vehicle Admin.*, 418 Md. 164, 173 (2011)). The substantial evidence standard has also been applied by Maryland courts to “mixed questions” of law and fact. *See Gore*, 437 Md. at 504; *Schwartz*, 385 Md. at 553.

A reviewing court applies the “arbitrary and capricious” standard of review with respect to matters committed to agency discretion and to a review of the agency’s application of the law to the facts. *Cty. Comm'rs of Carroll Cty.*, 465 Md. at 202; *Para v. 1691 Ltd. P'ship*, 211 Md. App. 335, 354 (2013). The arbitrary and capricious standard of review is “extremely deferential” to the agency. *Harvey v. Marshall*, 389 Md. 243, 296-99 (2005).

In applying the arbitrary and capricious standard, a reviewing court may look for guidance to case law applying the similar standard in federal administrative law. *Cty. Comm'rs of Carroll Cty.*, 465 Md. at 202. The U.S. Supreme Court has held that a reviewing court is not to substitute its own judgment for that of the agency and should affirm decisions of “less than ideal clarity” so long as the court can reasonably discern the agency's reasoning. *Bowman Transp., Inc. v. Arkansas-Best Freight System, Inc.*, 419 U.S. 281, 285-86 (1974). Specifically in the context of a CWA discharge permit, the U.S. Court of Appeals for the Second Circuit applied the Supreme Court's leading case on the arbitrary and capricious standard, by inquiring as to whether the agency: (1) relied on factors which Congress has not intended it to consider; (2) entirely failed to consider an

important aspect of the problem; (3) offered an explanation for its decision that runs counter to the evidence before the agency, or (4) is so implausible that it could not be ascribed to a difference in view or the product of agency expertise. *Riverkeeper*, 447 Md. at 120-21 (citing *Motor Vehicle Mfrs. Ass'n v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43 (1983)). Although this standard is highly deferential to the agency, it is not meant to reduce judicial review to a “rubber stamp” of agency action. *Sparrows Point LNG, LLC v. Wilson*, 589 F.3d 721, 733 (4th Cir. 2009) (quoting *Ethyl Corp. v. EPA*, 176 U.S. App. D.C. 373, 541(1976)). While the standard of review is narrow, the court must nonetheless engage in a searching and careful scrutiny of the record. *Id.*

Unlike for agency findings of fact or an exercise of discretion, courts owe less deference to an agency’s legal conclusions. A court reviews an agency’s conclusions of the law de novo for correctness. *Schwartz*, 385 Md. at 554. A court is under no constraints in reversing an administrative decision based solely upon an erroneous conclusion of law. *People's Counsel for Balt. Cty. v. Md. Marine Mfg. Co.*, 316 Md. 491, 497 (1989). However, a court is to give careful consideration to the agency's interpretation of a statute it has been charged with administering. More deference is appropriate when the interpretation of a statute that the agency administers results from a process of “reasoned elaboration”, when the agency has applied that interpretation consistently over time, or when the interpretation is the product of contested adversarial proceedings or formal rulemaking. *Cty. Comm'rs of Carroll Cty.*, 465 Md. at 203-04 (citing *Baltimore Gas & Electric Co. v. Public Service Commission*, 305 Md. 145, 161-62 (1986)).

ARGUMENT

I. KEY DEFINITIONS ESTABLISHED IN MARYLAND’S WATER POLLUTION CONTROL LAWS COVER GASEOUS SUBSTANCES SUCH AS AMMONIA AS A WATER POLLUTANT SUBJECT TO REGULATION.

The record contains overwhelming and undisputed evidence that ammonia is emitted in enormous quantities from both poultry houses and manure storage facilities within an AFO. (R. at

0290-91; 0484-85; 1389; and 1522.) Under certain circumstances, the deposition of gaseous emissions represents a discharge of a pollutant to waters of the State. (R. at 0484-85.)

Maryland's WPC law defines a "discharge" much more broadly than the CWA. Under Maryland law, a discharge is defined as "[t]he addition, introduction, leaking, spilling, or *emitting* of a pollutant into the waters of this State; or ... [t]he placing of a pollutant in a location where the pollutant is likely to pollute." Md. Code Ann. Envir. § 9-101(b) (emphasis added). A pollutant is defined as "*[a]ny waste* or wastewater that is discharged *from ... [a]n industrial source*; or *[a]ny* other liquid, *gaseous*, solid, or other *substance* that will pollute any waters of this State." Md. Code Ann. Envir. § 9-101(g) (emphasis added). This definition is extraordinarily broad and would include ammonia, a well-recognized water pollutant under state and federal law. (R. at 0792; 1359; 1522); *see also* 33 U.S.C. § 1311(g); COMAR 26.08.02.03-2.

In addition to qualifying as a "pollutant" by virtue of being a "gaseous ... substance," ammonia is also a "waste" from an "industrial source". "Waste" is defined in Maryland regulations as "industrial waste and *all other* liquid, *gaseous*, solid, *or other substances* which will pollute any waters of this State," and "industrial waste" is defined as "*any* liquid, *gaseous*, solid, *or other waste substance*, or combination thereof, resulting from ... [a]ny process of industry, manufacturing, trade or business; or ... [t]he development of any natural resource, *including agriculture*." COMAR 26.08.01.01 (emphasis added). Moreover, it should be noted that the State has specifically established water quality criteria for ammonia. COMAR 26.08.02.03-2. These include criteria for ammonia toxicity at both chronic and acute levels, in both freshwater and estuarine water segments. *Id.*

Finally, Maryland's definition of "Waters of the State" includes:

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,

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 federal Natural Resource Conservation Service (“NRCS”) practices including litter amendments and hedgerows/shelterbelts.” (R. at 0278) (emphasis added). This legal conclusion is unsupported by any analysis. Nowhere in the Department’s response to comments, or in the rest of the administrative record, is there an explanation as to how ammonia is regulated “to the extent permissible” under state and federal law. Moreover, this statement appears to be a clearly erroneous interpretation of Maryland law. As described above, ammonia is a water “pollutant” and “waste” under Maryland’s WPC laws and regulations. Maryland regulations clearly prohibit “the discharge of any wastes or waste waters regardless of volume unless . . . authorized by a discharge permit.” COMAR 26.08.03.01. Finally, providing a list of NRCS “practices” as guidance does not satisfy the requirements that such discharges must have a permit.

b. The omission of ammonia controls is contrary to the Clean Water Act.

Ammonia emissions from concentrated animal feeding operations (CAFOs) are also a discharge of a pollutant from a point source subject to regulation through the CWA permitting program.³ Ammonia is a statutorily designated water pollutant (listed as a “nonconventional pollutant”) under the CWA. 33 U.S.C. § 1311(g).

The United States Court of Appeals for the Fifth Circuit has examined a similar issue of airborne emissions from an AFO. *Nat'l Pork Producers Council v. United States EPA*, 635 F.3d 738 (5th Cir. 2011). The court noted that “[t]he term pollutant is defined very broadly in the CWA.” *Id.* at 748 (quoting a January 16, 2009 guidance letter Benjamin H. Grumbles, Assistant

³ The CWA defines “discharge of a pollutant” as “(A) any addition of any pollutant to navigable waters from any point source, (B) any addition of any pollutant to the waters of the contiguous zone or the ocean from any point source other than a vessel or other floating craft.” 33 U.S.C. § 1362(12).

Administrator for the EPA's Office of Water to Senator Thomas R. Carper of Delaware). The Court discussed in detail “EPA letters,” which provided guidance that “[p]otential sources of such pollutants at a CAFO could include . . . litter released through confinement house ventilation fans.” *Id.* The EPA guidance letters further explained that “stormwater that comes into contact with these materials and reaches waters of the United States **is a violation of the CWA unless authorized** by a [permit].” *Id.* (emphasis added). Notably, the EPA letters were written by current Secretary of MDE, Benjamin H. Grumbles.

Ammonia is another example of a pollutant that is “released through ... ventilation fans” of poultry houses, as well as from large manure storage sheds. Both confinement houses and storage sheds are part of the CAFO production area, which is included in the definition of a “point source” under the CWA. 33 U.S.C. § 1362(14); 40 C.F.R. § 122.23(b)(8). To address the water pollution impacts of ammonia emissions from poultry AFOs, courts have specifically found that deposition of ammonia pollution from poultry AFOs are discharges.

The North Carolina Superior Court found that ammonia blowing from poultry house exhaust fans onto the surrounding lands and then discharging into waters and wetlands, constituted an unpermitted discharge. *Rose Acre Farms Inc. v. N.C. Dep’t of Env’t & Natural Res.*, No. 12-CVS-10, 2013 WL 459353 (N.C. Super. Ct. Jan. 4, 2013). In addition, the court in *Rose Acre Farms Inc.* found that the CWA agricultural exemption does not apply to any pollutants expelled by ventilation fans that reach waters of the State. *Id.*

The Sixth Circuit Court of Appeals examined a case where “a chemical pesticide is initially applied to land or dispersed in the air” and “[a]t some point following application, excess pesticide or residual pesticide finds its way into the navigable waters of the United States.” *Nat’l Cotton Council of Am. v. United States EPA*, 553 F.3d 927, 936-37 (6th Cir. 2009). The court found that

regarding the enormous emissions of ammonia pollution, its deposition to the land, and the loading of pollution directly to waters of the State, from AFOs. MDE cannot offer “an explanation for its decision that runs counter to the evidence before the agency” nor can the Permit be lawfully issued by MDE when it has “entirely failed to consider an important aspect of the problem.” *State Farm*, 463 U.S. at 43.

The record refers to guidance documents offering several cost-effective and well-studied pollution controls available to reduce the millions of pounds of nitrogen from ammonia deposition. (R. at 0725; 1134; 3320; Ex. C.). Because MDE refused to acknowledge ammonia emissions, deciding erroneously that gaseous AFO emissions are nothing more than “nuisance odors” or generalized “air quality” concerns, the final determination on the Permit fails to assure that ammonia-controlling practices are required of AFOs to reduce ammonia. MDE suggests that nuisance odor or general air quality management practices could reduce emissions. There is no basis in the record for assuming operators have applied ammonia management to their operations, or whether they have actually implemented any of the NRCS guidance that may address ammonia emissions. As a result, MDE has failed to control the dischargers’ enormous ammonia emissions or considered their harmful impact to the Bay.

As a permitting agency with the delegated authority to implement the CWA, MDE has a standard process for controlling the discharge of pollutants through discharge permits, recently described by the Maryland Court of Appeals.

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.

Cty. Comm'rs of Carroll Cty., 465 Md. at 187-88.

In the Permit, MDE has required neither technology-based nor water-quality-based effluent limitations for ammonia. As discussed, the Permit is devoid of provisions applicable to ammonia emissions or nitrogen deposition. Even if MDE had included ammonia specifically along with its treatment of “odors” or “air quality” concerns, the provisions in the Permit governing those concerns do not include mandatory effluent limitations. Furthermore, even if the Permit included mandatory management practices for odors and air quality concerns, these would not be effective effluent limitations because most are not designed for the reduction of ammonia emissions from an AFO production area, but are instead designed for land application of fertilizer.

Because every poultry AFO in Maryland emits substantial and significant quantities of ammonia, MDE must at least attempt to regulate these emissions through the use of mandatory management practices understood to reduce ammonia emissions like vegetative buffers, litter amendments, and biofilters. Currently, the Permit requires only that each applicant submit a plan and identify resource concerns. An operator must include practices that are “in accordance with an appropriate NRCS Practice Standard.” (R. at 0017.) However, the permit categorically excludes specific controls for ammonia emissions, and nowhere in the Permit does MDE require even a consideration of ammonia controls.

Finally, MDE’s explanation for not regulating ammonia emissions provided in its response to comments, set forth below, is misleading, inaccurate, and fails to explain the role of the CWA in addressing ammonia pollution of waterways.

EPA does not regulate *odors or air quality* through its CAFO permitting program. See generally 40 C.F.R. 122.23. While MDE derives much of its NPDES permitting authority from EPA and the CWA, it is authorized, as a delegated program, to impose requirements that are more stringent than what is required by the CWA or EPA’s regulations. Therefore, MDE included in the draft General Discharge Permit provisions *that require* AFO owners or operators to implement [best management practices] 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.

(R. at 0277.) (emphasis added).

First, despite this statement that the Permit provisions “require” the implementation of management practices for controlling pollution, the Permit does not do so. The permit leaves discretion to the comprehensive nutrient management plan writer contracted by the AFO owner or operator to decide “if outdoor air quality is determined to be a resource concern.” Second, even if an “outdoor air quality resource concern” were identified, the management practices that may be selected by the operator are designed to reduce “nuisance odors” or address “any air quality resource concerns,” not reduce water pollution caused by ammonia deposition.

Ammonia is emitted in large quantities by every single AFO. Only by requiring a standard suite of management practices designed to reduce ammonia releases to receiving waters could MDE claim to be addressing ammonia through an effective effluent limitation. Instead, MDE has deliberately mislabeled ammonia pollution of waterways as nothing more than an “odor” or “air quality” concern. By doing so, MDE has covered its eyes and ears and effectively maintains that if it sees no evil and hears no evil, it will not have to speak to ammonia deposition and address one of the single largest sources of nitrogen pollution in the Bay region and a major contributor to water quality impairments.

III. MDE ERRED BY FAILING TO INCLUDE WATER QUALITY-BASED EFFLUENT LIMITATIONS TO PROTECT IMPAIRED WATERS.

a. State and federal law require water quality-based effluent limitations where technology-based limits are insufficient.

The CWA requires that Maryland develop water quality standards for waters within its boundaries that are sufficient to “protect the public health or welfare, enhance the quality of water and serve the purposes of this Act.” 33 U.S.C. § 1313(c)(2)(A). Every NPDES permit must ensure

that discharges comply with all applicable water quality standards for the water segment that receives those discharges. 33 U.S.C. § 1342(a)(1). A discharge is unlawful unless it includes “any ... limitations ... necessary to meet water quality standards.” 33. U.S.C. § 1311(b)(1)(C). “No permit may be issued when the imposition of conditions cannot ensure compliance with the applicable water quality requirements of all affected States.” 40 C.F.R. § 122.4(d) (internal punctuation omitted).

Water quality standards “by themselves have no effect on pollution; the rubber hits the road when the state-created standards are *used as the basis for specific effluent limitations in NPDES permits.*” *American Paper Inst. v. EPA*, 996 F.2d 346, 350 (D.C. Cir. 1993) (emphasis added). The process of giving effect to these standards begins with the establishment of TMDLs for water quality limited segments, which are part of each state’s required continuing planning process under the CWA. 33 U.S.C. § 1313(e). Once a TMDL is established, permitting agencies are required to ensure that discharge permits issued are consistent with the “assumptions and requirements of any available wasteload allocation” contained in applicable TMDLs. 40 C.F.R. § 122.44. These wasteload allocations “constitute a type of water quality-based effluent limitation.” 40 C.F.R. § 130.2(h).

State law mirrors these requirements, which is necessary to receive delegation of authority to administer the Clean Water Act. 33 U.S.C. § 1342(b). MDE is authorized to issue “a discharge permit if the Department finds that the discharge meets ... [a]ll applicable State and federal water quality standards.” Md. Code Ann., Envir. § 9-324; *see also* COMAR 26.08.04.01A. A discharge may only be permitted if “the discharge does not contravene the surface water quality standards established by this state.” COMAR 26.08.03.01C(1). If best available technology is determined to be insufficient to achieve “compliance with the established water quality standards,” MDE

regulations specify that “additional treatment shall be (i) [r]equired; and (ii) [b]ased on waste load allocation.” COMAR 26.08.03.01C(2). Thus, under both state and federal law, where required technology-based effluent limitations are insufficient to achieve the applicable water quality standard, the Permit must include any more stringent permit requirements necessary to achieve those standards. *Cty. Comm'rs of Carroll Cty.*, 465 Md. at 186.

The Chesapeake Bay TMDL is one of many TMDLs in effect in Maryland designed to bring water quality in line with the standards established by MDE. To give effect to these TMDLs, MDE is charged with routinely establishing water quality-based effluent limitations into discharge permits of all types, whether small or large, or individual or general permits. An example of a similar general permit to the AFO permit is the General Permit For Discharges of Stormwater Associated With Industrial Activity, which contains water quality-based effluent limitations, including explicit “Chesapeake Bay Restoration Requirements.” (Maryland Discharge Permit No. 12SWA, NPDES Permit NO. MDR000, Part III.) The Court of Appeals recently examined a nearly identical water quality-based effluent limitation written by MDE, and emphasized the importance of such permit requirements to maintain consistency between discharge permits and water quality standards, via TMDLs, even where such limitations are in narrative form and not strictly numeric reflections of waste load allocations within a TMDL. *Cty. Comm'rs of Carroll Cty.*, 465 Md. at 222.

Unlike these other individual and general discharge permits that MDE issues, the AFO permit is silent with respect to water quality-based effluent limitations and only briefly discusses TMDLs or water quality standards. Part VII.K of the Permit opens with a conclusory statement that “[p]ermit requirements are consistent with existing Total Maximum Daily Loads (TMDLs) for impaired water bodies.” (R. at 0033.) The Permit then *authorizes* MDE to require “additional

[management practices] and controls” based on “the assumptions and requirements of the Chesapeake Bay TMDL” or “additional or alternative controls or monitoring” based on additional TMDLs. *Id.* MDE is interpreting its role with respect to the incorporation of water quality-based effluent limitations into discharge permits not as the mandate that it is, but as a discretionary exercise. This fails to comply with the requirements of Maryland and federal law cited above that the permit must include limitations on discharges which will ensure compliance with applicable water quality standards and TMDLs.

EPA’s Permit Writer’s Manual clearly envisions inclusion of water quality-based effluent limitations for AFO permits:

“Even for CAFOs subject to a no-discharge, technology-based standard for the production area, situations could arise where the permitting authority needs to impose more stringent requirements for allowable discharges. Specifically, more stringent discharge limitations are necessary in instances where CAFOs discharge from a production area to a waterbody listed under CWA section 303(d) as impaired due to nutrients, dissolved oxygen or bacteria, or where an analysis of frequency, duration and magnitude of the anticipated discharge (consisting of potential overflows of manure, litter, or process wastewater) indicates the reasonable potential to violate applicable water quality standards.”

(R. at 0475-76.) (emphasis added).

Thus, even EPA, which administers the less stringent provisions under federal law, directs its permit writers to establish water quality-based effluent limitations for AFOs located in nutrient-impaired watersheds, whether or not the AFOs are governed by a no-discharge permit. Instead of water quality-based effluent limitations, the Permit in this case relies on “best practicable control technology currently available” (BPT) to ensure that no wastewater is discharged from the production area. 40 C.F.R. § 412.43(a); 40 C.F.R. § 412.31(a)(1). These BPTs are implemented through optional management practices incorporated into the Permit by reference to the NRCS recommended practices in the NRCS National Planning Procedures Handbook, Part 600.6,

selected by the operator to potentially address any resource concerns identified by the operator. (R. at 0009).⁴ These are manifestly inadequate to satisfy the requirements described above.

Where management practices do not assure a zero discharge of any pollutants from the facility, the Permit must impose water quality-based limits. While the AFO permit references management practices generally, pursuant to 40 C.F.R. § 412.4, the Permit neither addresses discharges of ammonia nor requires management practices. As noted above, the Permit is required to regulate discharges of ammonia because it is a discharged pollutant that lands on the water. However, this Permit provides no requirements at all to limit ammonia emissions or deposition. Instead, the Permit avoids discussion of ammonia entirely.

b. The "no discharge" standard is arbitrary, capricious, and inconsistent with Maryland law because it does not acknowledge ammonia as a pollutant or the fact that AFOs discharge pollutants to Waters of the State.

The AFO Permit's section governing "authorized discharges" establishes a "no discharge" standard and a qualified "no discharge" standard, for new AFOs and existing AFOs, respectively. (R. at 0008.) In essence, the Permit relies on a legal fiction that assumes no discharges are occurring, except for certain AFOs after a rainfall above a certain magnitude. This legal fiction is

⁴ The NRCS Handbook includes a discussion of impacts from the AFO production areas on air quality broadly regarding the production area, and specifically for ammonia:

During the CNMP development process, AFO operators and/or owners need to consider 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.

(R. at 792.) (emphasis added).

Despite this admonition by the NRCS, MDE's Permit requires no controls of ammonia emissions despite the inevitable emissions and subsequent local deposition of significant quantities of this pollutant from the production areas of poultry AFOs into nearby waters.

problematic for a number of reasons important for this case, most notably that it allows MDE to assume ammonia pollution does not exist at all and it negates the need to establish water quality-based effluent limitations.

The "no discharge standard" effectively creates a legal loophole whereby MDE - at its discretion - issues permits without the legally mandated effluent limitations. This may seem like an absurd proposition, yet this is precisely the problem we are confronted with in the present case. Millions of pounds of nitrogen pollution in Chesapeake Bay waters are simply assumed not to exist, thus effectively allowing the Department to justify waiving the requirement to impose water quality-based effluent limitations to control pollution to impaired waters.

The "no discharge" standard is a product of federal law. 40 C.F.R. § 412.46; *see also* 68 FR 7176, 7202 (February 12, 2003). But whatever regulatory practices have evolved at the federal level with respect to AFO permits issued by EPA cannot be sustained when they are less comprehensive or less stringent than Maryland's law. As discussed above, the definitions in Maryland's WPC laws and regulations are much more expansive than their counterparts under federal law and Maryland law is far more protective of water quality. Thus, even assuming for the sake of argument the no discharge standard was predicated on sound science applied based on federal standards and definitions, because a "discharge," "pollutant," and "Water of the State" are defined under Maryland law to be significantly broader than a "discharge of a pollutant" to "navigable waters" under federal law, MDE cannot simply apply a federal standard to Maryland's WPC statute. MDE has a duty to issue this discharge permit consistent with all "provisions and conditions" in State WPC regulations governing water quality standards, discharge limitations, and permitting standards. COMAR 26.08.04.01. Nothing in Maryland's statute or regulations authorizes MDE to ignore certain pollutants or establish exclusions within permits. As stated

above, under Maryland law, ammonia emitted from AFOs meets the legal definition of a discharge of a pollution to waters of the state. Because discharges of ammonia from AFOs are landing in the water and substantially impacting water quality, these discharges must be regulated so as to minimize those adverse impacts.

Moreover, the record contains little to no analysis regarding the validity of, or scientific basis for, this no discharge standard. In response to comments, MDE merely repeats the language of the relevant provisions of the Permit and concludes that their use of the term discharge is “consistent with applicable state and federal law.” (R. at 0273-74.) Interestingly, in reissuing the AFO permit, which is generally very similar to the prior permit, MDE inserted the definition of “discharge” contained in Maryland’s WPC statute. (R. at 0010.) This new reference in the Permit to “discharge,” as it turns out, is quite unhelpful to MDE in justifying the no discharge standard, because, as noted, the state definition of “discharge” is far more expansive than the comparable federal definition, on which the federal “no discharge” standard was derived. *Id.*

The record also includes a document produced in 2011 by EPA staff, titled *Clarification on CAFO Loads and TMDL Allocations*. (R. at 0673.) Rather than explaining or justifying the no discharge standard, this document acknowledges that there are discharges from AFOs. The document posed the question “why, if CAFO permits are ‘zero discharge,’ the Bay TMDL still assigns loads associated with a CAFO production area?” *Id.* The response provided by EPA states that “there can be discharges from parts of the production area at some CAFOs or other discharges from CAFOs not covered by the ‘no discharge’ standard; e.g., precipitation-based discharges that come in contact with dust, dander, feathers, and/or manure on the ground between the buildings or in ventilation systems [deposited within the production area].” *Id.*

Given that a “discharge” of a “pollutant” under Maryland law encapsulates an extremely large universe of pollution, it defies logic or physics to explain how an AFO could possibly achieve a “no discharge” standard based on Maryland law. For one thing, knowing that all AFOs emit large quantities of ammonia, a no discharge standard would require assuming that what goes up does not come down. Thankfully the scientists and modelers at the Chesapeake Bay Program do not concern themselves with legal fictions, but are interested in actually developing estimates of pollution based on reality, relying on the best available science and data. Year after year, the annual Bay Model outputs show that “permitted feeding spaces,” which is the Model’s term for AFOs, discharge hundreds of thousands of pounds of nitrogen from Maryland to the Chesapeake Bay, *in addition to ammonia*. (R. at 0478; Ex.G.) The Department’s failure to establish water quality-based effluent limitations for discharges of ammonia from AFOs in the Permit was arbitrary, capricious, and contrary to the applicable legal requirements.

CONCLUSION

State and federal laws require permitting authorities to effectively regulate water pollution, such as ammonia, when it is discharged from facilities such as AFOs. The record in this case is devoid of any legal or technical justifications for ignoring the massive quantity of ammonia depositing on or flowing into Waters of the State from AFOs. Moreover, the failure to include any water quality-based effluent limitations for permits discharging into highly impaired waters, including those subject to the most visible TMDL in U.S. history, is contrary to state and federal law and lacking any basis of support in the record. For these reasons, the permit should be remanded for the agency to mandate effluent limitations for ammonia and other water quality based effluent limitations to protect impaired waters.